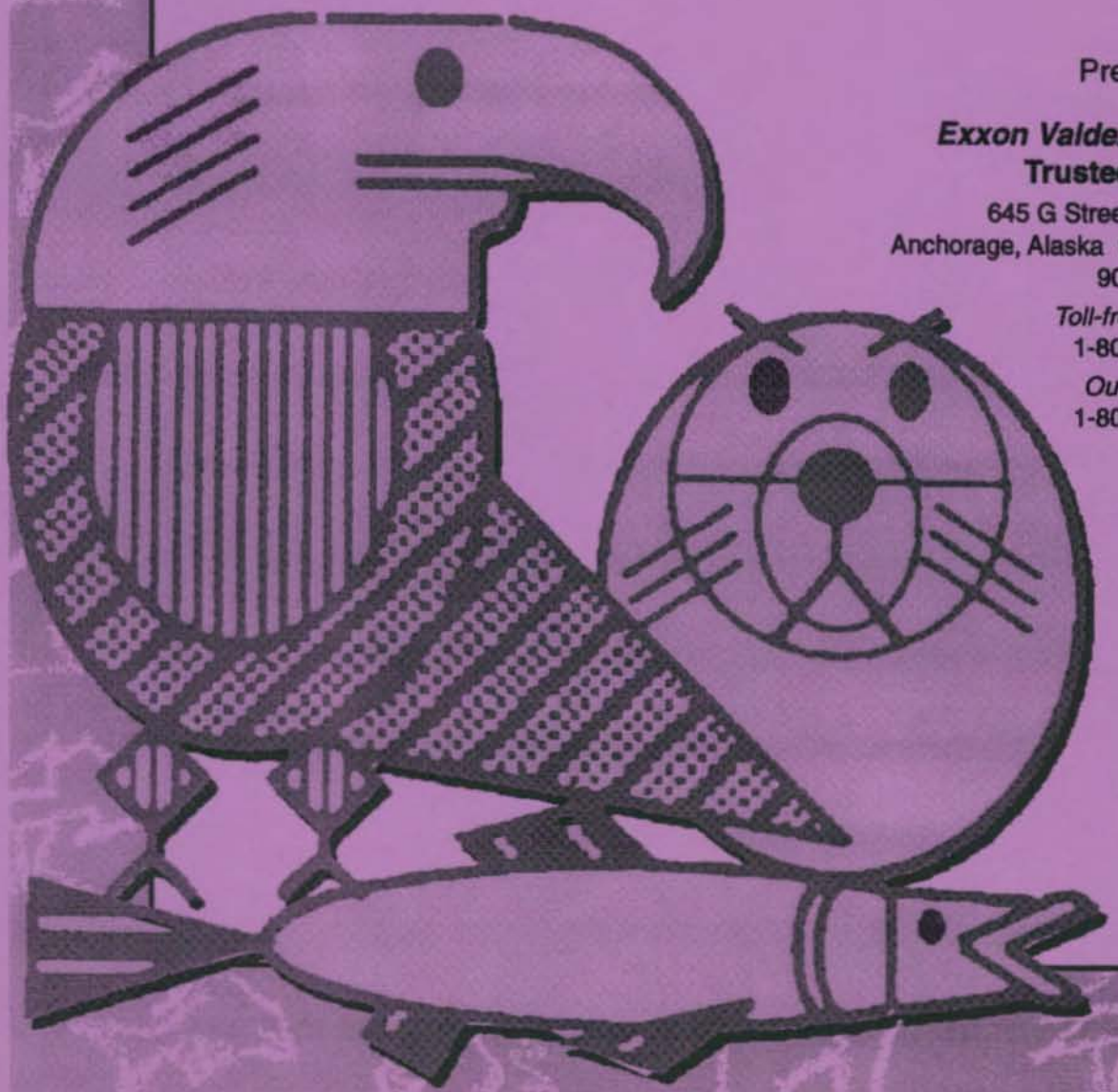
Fiscal Year 1997 Work Plan

December 1996



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12.8.7

Supplementation Criteria

(Extract from *Invitation to Submit Restoration Projects forFederal Fiscal Year 1996 and Draft Restoration Program: FY 96 and Beyond,* March 1995, pages 34-35.)

Discussion

Supplementation describes artificial techniques that provide on-site survival benefits to natural fish populations. By this definition, supplementation must provide benefits to natural populations in the localities where they complete their life cycle. Examples of supplementation include constructing spawning channels to increase spawning habitat, using rearing pens to increase marine survival, or providing remote-release salmon runs for the purpose of drawing fishing pressure away from injured wild stocks.

The Trustee Council recognizes that supplementation techniques are important tools for restoration of certain fish stocks. However, supplementation also has the potential to injure stocks of fish. Because of this potential, each supplementation proposal must show that they do not carry unacceptable risks.

SUPPLEMENTATION CRITERIA. To explore the opportunities and potential risks of supplementation, the Trustee Council sponsored a workshop on the subject in January 1995. The criteria and guidelines developed in the workshop will be used by the Trustee Council when considering supplementation projects for possible Trustee Council funding. They are summarized below.

Benefits of Supplementation. To be considered for Trustee Council funding, a supplementation proposal must demonstrate that its benefits outweigh its risks. Examples of benefits are rehabilitating of wild populations, providing additional population for harvest, or protecting subpopulations that may be in danger of extinction.

Genetic Risk. Genetic risk involves risk to the natural stocks being targeted, or to other non-targeted stocks. Genetic risk operates through the forces of natural selection, genetic drift, gene flow and mutation. The risks may have the effect of decreasing the adaptation of natural populations to their environment, or making them more vulnerable to natural and human changes. The risks include: loss of genetic variation within natural breeding populations; changes in genetic composition of the population through natural selection; or hybridization of the natural stock with supplemental stock of a different genetic character. All of these can lead to poor survival in future generations and loss of production. They can also make a local population less able to rebound from a change such as a year of overharvest, or a year of poor survival at sea. If a population or subpopulation has not been reduced from historic population levels, and is not in danger of extinction, supplementation proposals that involve significant genetic risk are not likely to be funded by the Trustee Council.

Mixed-stock Fisheries. Supplementation proposals must not create or exacerbate problems in

mixed-stock fisheries. Mixed-stock fisheries, like those of Prince William Sound, create the potential for additional risk and benefits. In some circumstances, the pressure for additional harvest that accompanies successful supplementation may cause overharvest of an unsupplemented stock. For example, pink salmon returns to the Coghill District of Prince William Sound have not always met escapement goals. Fish returning to this district must "run the gauntlet" of fishing vessels in the southwest and western parts of Prince William Sound at the time when the fleet is focused on the large hatchery return in these areas. Thus, supplementation that increases the concentration of fishing vessels in this district has the potential to exacerbate this problem. Conversely, supplementation efforts, including techniques such as establishing alternative remote-release runs, which draw the fleet from these areas, may have the effect of allowing the Coghill District stocks to more regularly meet escapement goals.

Monitoring and Evaluation. Because of the potential for significant risk an evaluation program is necessary to assess the likelihood of success and potential for risk. Once a proposal is implemented, monitoring is necessary to assess whether the program succeeded and whether significant harm was avoided. The degree of evaluation and monitoring should be dependent upon the level of risk. Those proposing higher risk projects should be willing to incur higher monitoring and evaluation costs than those proposing projects with lesser potential risk.

Economic Criteria. To the extent it is available, information regarding the economic costs and benefits of a project must be provided for the Trustee Council to evaluate a project. However, quantifiable economic data may not capture intangible values, such as the value of preventing the extinction of a subpopulation of a resource, and the Trustee Council may elect to approve a project with a quantified benefit/cost ratio of less than one after considering these non-quantified values.

Procedural Criteria. The State of Alaska requires permits for some types of supplementation: for example, a fish transport permit, or approval by the Regional (Salmon) Planning Team. These permits bring the substantial expertise of Alaska fisheries managers to the evaluation of supplementation projects. Proposals for Trustee Council funding should have cleared these requirements *before* the Council is asked to approve a project. Federal law requires an evaluation of potential environmental effects according to the standards of the National Environmental Policy Act. Because of the potential for risk, the analysis may require significant cost or time, but it must be completed before a final decision is made concerning funding a supplementation project.

12.8.7

FY 97 WORK PLAN -- ADDENDUM (Projects Approved February 14, 1997)

Proj No	Project Title	Proposer	Lead Agency	New or Cont'd	FY97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	Total FY97-02 Estimate
97100(supp1)	Supplement. Administration, Science Management, and Public Information (Archaeology Planning)	All Trustee Council Agencies	ALL	Supp	$12.1	$0.0	$0.0	$0.0	$12.1

Project Abstract

These additional funds will supplement the public outreach portion of the administration/public information budget. The funds will be used to print additional copies of the *Comprehensive Community Plan for the Restoration of Archaeological Resources in Prince William Sound and Lower Cook Inlet* (prepared under Project 96154), and to conduct meetings on the plan in communities in Prince William Sound and Lower Cook Inlet.

Chief Scientist's Recommendation

Proposal not reviewed

Trustee Council Action

Fund. These supplemental funds will support the necessary next step in the Trustee Council's deliberations over facilities to store and display archaeological artifacts recovered as a result of the spill cleanup, damage assessment, and restoration. [NOTE: These funds were approved by the Trustee Council on December 6, 1996 and are part of the Public Information/Science Management/Administration part of the FY 97 Work Plan]

12.8.7

FY 97 WORK PLAN -- ADDENDUM (Projects Approved February 14, 1997)

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	Total FY97-02 Estimate
97100(supp2)	Supplement. Administration, Science Management, and Public Information (Video Production)	All Trustee Council Agencies	ALL	Supp	$71.4	$29 3	$0.0	$0.0	$100.7

Project Abstract

These additional funds will supplement the public outreach portion of the administration/public information budget The funds will be used to contract, through competitive bid, with an independent film crew and a still photographer to produce a 10-minute video (for use at public meetings and press briefings), a 30-minute documentary (to be aired on public and private stations), and photographs (for use in newspapers, magazines, and other publications) covering Trustee Council restoration projects and accomplishments Additional raw footage will be produced for video press releases and release to independent documentary filmmakers

Chief Scientist's Recommendation

Proposal not reviewed.

Trustee Council Action

Fund This proposal stems from Trustee Council consideration of a proposal (97301) to produce a TV pilot. The Council's action in December 1996 on Project 97301 was to "consider further the possibility of funding some elements of this proposal together with media footage to be used for various educational/outreach efforts." Currently, the Council is unable to respond to requests for such footage, significantly limiting our ability to inform the public of the progress of restoration Members of the Public Advisory Group have expressed a strong interest in this project as an important step in getting restoration information to the public on a broader scale Filming is scheduled for Summer 1997 and production is scheduled for Winter 1997-98 so that the products will be available in advance of the 10th anniversary of the spill. [NOTE: These funds were approved by the Trustee Council on February 14, 1997 and are part of the Public Information/Science Management/Administration part of the FY 97 Work Plan]

FY 97 WORK PLAN -- ADDENDUM (Projects Approved February 14, 1997)

Proj No	Project Title	Proposer	Lead Agency	New or Cont'd	FY97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	Total FY97-02 Estimate
97162(supp)	Supplement: Investigations of Disease Factors Affecting Declines of Pacific Herring Populations in PWS	G. Marty/UC Davis R Kocan/Univ. Washington	ADFG	Supp	$34 3	$0.0	$0.0	$0 0	$34.3

Project Abstract

When the Pacific herring population in Prince William Sound crashed in 1993, commercial fisheries were closed. Viral hemorrhagic septicemia virus was a major cause of population decline. In 1994, the virus was isolated from 5% of fish in Prince William Sound, but in 1996 the virus was not isolated from any fish sampled from Prince William Sound or Sitka Sound. By comparison, the virus was isolated from 21% of fish sampled from the 1996 spawn-on-kelp pound fishery in Craig, Alaska Because the pound fishery will be reopened in Prince William Sound in 1997, this project will study the prevalence of virus in fish and water associated with the pounds. Results will be compared with approved field and laboratory studies to determine if virus in pound fisheries threatens population recovery.

Chief Scientist's Recommendation

The investigators are highly qualified, and their work to date has been excellent. Disease was implicated in the herring population crash in 1993, and the reopening of the pound fishery in Spring 1997 provides an excellent opportunity to investigate the possible association between this disease and the Prince William Sound pound fishery The proposed supplement to project 97162 has direct bearing on future management and recovery of this ecologically and commercially important species I recommend that the supplement be funded in FY 97

Trustee Council Action

Fund This supplement to the ongoing Pacific herring disease project will enable researchers to monitor disease levels associated with the pound fishery in Prince William Sound. This fishery is opening in 1997 for the first time since 1993 The project is supported by the affected fishing interests, and the results are very important to the management and conservation of a key injured species. Any follow-up to this supplementary work, however, should be considered as part of the ongoing Project \162 in the context of the FY 98 work plan. [NOTE: These funds were approved by the Trustee Council on February 14, 1997]

FY 97 WORK PLAN -- ADDENDUM (Projects Approved February 14, 1997)

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	Total FY97-02 Estimate
97254	Delight and Desire Lakes Restoration	N. Dudiak/ADFG	ADFG	New 1st yr. 2-yr. project	$123 1		$0.0	$0.0	$123.1

Project Abstract

The project is intended to accelerate the recovery of the currently depressed wildstock sockeye salmon of Delight and Desire lakes through lake fertilization. Application of liquid fertilizer would increase the forage base for rearing sockeye salmon fry through nutrient enrichment. The expected result would be larger, more numerous sockeye smolt with a corresponding increase in marine survival rates

Chief Scientist's Recommendation

I have several concerns about the ultimate cost and underlying rationale and need for a Delight and Desire lakes fertilization project, if it were to be undertaken. However, the initial limnological work, which is proposed in FY 97, appears reasonable and will be of value in itself in terms of better understanding the ecology, carrying capacity, and management of these recently glaciated lake systems On this basis, I recommended funding only the FY 97 limnological work

Trustee Council Action

Fund. The purpose of this project is to conduct a limnological study at Delight and Desire lakes on the outer Kenai coast to improve understanding and management of these sockeye rearing lakes. The project will be undertaken by the Alaska Department of Fish and Game, working cooperatively with the U.S. Department of the Interior Depending upon the results of the limnological work, there may be a request for Trustee Council support of lake fertilization, but the Council's support of this limnological work is not a commitment at this time to also support fertilization. [NOTE: These funds were approved by the Trustee Council on February 14, 1997.]

FY 97 WORK PLAN -- ADDENDUM (Projects Approved February 14, 1997)

Proj No	Project Title	Proposer	Lead Agency	New or Cont'd	FY97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	Total FY97-02 Estimate
97320T(supp)	SEA-Juvenile Herring. Documentation of Herring and Other Forage Fish Natural History through Local and Traditional Ecological Knowledge	J. Seitz and B. Norcross/UAF	ADFG	Supp 1st yr. 2 yr project	$46.9		$0.0	$0 0	$46 9

Project Abstract

These additional funds will supplement the juvenile herring component of the Sound Ecosystem Assessment. The funds will be used to collect historical and contemporary knowledge about the ecology of herring and other forage fish. A comprehensive literature review and primary archival records search will complement in-person interviews of individuals and groups regarding the distribution of herring and other forage fish The project will reconstruct a historical overview of the natural history of herring in Prince William Sound, lower Cook Inlet, and Kodiak Researchers will map information on their distribution, create an ascii file of maped data, and create a subject index of textual information on the ecology and life cycle of the fish by species. Data and reports will be provided to affiliated research projects, particularly APEX (\163)

Chief Scientist's Recommendation

This project could contribute to the redevelopment of confidence in fish resources by subsistence users, and provide useful information to supplement and complement information currently being developed through the SEA (\320) and APEX (\163) projects in regard to the distribution and life history of herring and other forage fish. I believe strongly, however, that the goal should be to integrate knowledge from traditional and local sources and from scientific research for the benefit of these fisheries resources. I have questions about the cost of the project, which seems high, but believe that it should be funded in FY 97

Trustee Council Action

Fund contingent on final approval of the Detailed Project Description and budget. This proposal was deferred in August and again in December pending hiring of a TEK Specialist under Project 97052B. The revised proposal was developed with the assistance of Henry Huntington, TEK Specialist, and supplements and complements the effort currently underway in Project 97320T/SEA-Herring to review archival data on the historical distribution and population size of herring This project will represent the Trustee Council's first effort to actively integrate local/traditional knowledge with an ongoing research project, using the TEK Protocols adopted by the Council in December 1996 and the expertise of our TEK Specialists (\052B) and network of community facilitators (\052A) This project will address restoration objectives for herring by contributing traditional and local knowledge on herring distribution and population size Information on other forage fish will be documented as the opportunity arises The PIs will work with residents of four spill-area communities in FY 97 Depending on the outcome of the FY 97 effort, funds may be provided in FY 98 to work with additional communities [NOTE: These funds were approved by the Trustee Council on February 14, 1997]

FY 97 Work Plan:	$15,999.5
Addendum to FY 97 Work Plan:	$204.3
New FY 97 Total:	$16,203.8

Public Info/Sci Mgt/Admin - Approved to Date:	$2,869.2
Addendum to Public Info/Sci Mgt/Admin:	$83.5
New FY 97 Total:	$2,952 7

12.8.7

Fiscal Year 1997
Work Plan

December 1996

Prepared by:
Exxon Valdez Oil Spill
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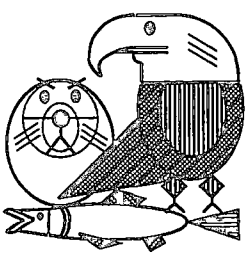

For More Information...

For more information about projects in this Work Plan or for general information about the activities of the *Exxon Valdez* Oil Spill Trustee Council, contact the Council's Anchorage Restoration Office.

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Fiscal Year 1997 Work Plan
December 1996

Table of Contents

List of Tables

Dear Reader,

Each year since the 1991 settlement of a lawsuit concerning the 1989 *Exxon Valdez* oil spill, the *Exxon Valdez* Oil Spill Trustee Council has funded activities to restore the resources and services injured by the spill. In the settlement, Exxon Corporation agreed to pay the United States and the State of Alaska $900 million over ten years. This Work Plan describes the research, monitoring, and general restoration projects funded by the Council for federal fiscal year 1997, and touches on the other activities of the Council as well.

In general, the collection of projects funded for FY 97 represents a continued emphasis on ecosystem-level analyses and understanding. Nearly half of the $16 million in FY 97 Work Plan funding is for three ongoing ecosystem studies: the Sound Ecosystem Assessment, Project 97320; the Nearshore Vertebrate Predator Project, Project 97025; and the Alaska Predator Ecosystem Experiment, Project 97163. The ecosystem approach maximizes the efficiency of research and monitoring efforts and should lead to scientific results with wide application and lasting benefits.

In addition, the FY 97 Work Plan includes research projects designed to lead to long-term improvements in resource management (such as the pink salmon genome project, Project 97190), projects that monitor the recovery of injured resources (such as productivity monitoring of harlequin ducks, Project 97427), and what are known as general restoration projects that are designed to improve the rate of natural recovery by directly manipulating the environment (such as stocking of Solf Lake, Project 97256).

Overall, the FY 97 Work Plan reflects three priorities of the Trustee Council.

- First, the Council is committed to involving local communities in the restoration process. Local youth will continue to be involved in ongoing restoration efforts through Project 97210. A network of liaisons in oil spill communities will continue to participate in the Council's decision making process through Project 97052. Of the 64 research, monitoring, and general restoration projects approved by the Council for FY 97, 17 were submitted by spill-area communities or at the request of communities.
- Second, with the 10th anniversary of the spill approaching, the Council has increased its emphasis on informing the public of the progress of restoration. Project 97300 will begin the process of synthesizing across projects and among species and habitats the information collected to date on the recovery of injured species. In addition, funds have been approved for preparation of a number of manuscripts for publication in the scientific literature.

- Third, the Council has adopted a declining schedule of expenditures for the annual Work Plan to coincide with the final payment from Exxon Corporation in the year 2001. Specifically, funds authorized for research, monitoring, and general restoration projects have declined from $18 million in FY 96 to $16 million in FY 97. Administrative costs of the restoration program have declined from $3.4 million in FY 96 to $2.9 million in FY 97.

In addition to the research, monitoring, and general restoration projects described in this Work Plan, the Trustee Council funds habitat acquisition and sets aside funds in the Restoration Reserve for use after Exxon's final payment in the year 2001. Together, the activities funded by the Council represent the comprehensive, balanced approach to restoration outlined in the *Restoration Plan* adopted by the Trustee Council in November 1994.

Public interest and input are essential to the Trustee Council process. Please feel free to contact me if you would like more information on the activities of the Council or if you have comments and suggestions on the Council's restoration efforts.

Sincerely,

Molly McCammon

Molly McCammon
Executive Director

The Work Plan Process

Table 1 describes milestones in development of the FY 97 Work Plan. The work plan process began with a restoration workshop in January 1996. The Trustee Council made most of its funding decisions in late August so that projects could begin on October 1, the beginning of the federal fiscal year. A few funding decisions were deferred until December to allow time for review of results from the FY 96 field season or further deliberation over project objectives and work plan priorities.

Table 1. Milestones for FY 97 Work Plan

Jan. 16-18, 1996	Annual Restoration Workshop discussed results of FY 95 work and directions for FY 97.
Feb. 15, 1996	*Invitation to Submit Restoration Proposals for Federal Fiscal Year 1997* was issued.
April 15, 1996	Restoration Office received 120 research, monitoring, and general restoration proposals requesting $33.2 million for FY 97.
May 16-18, 1996	Chief Scientist and core reviewers met to discuss the scientific and technical merits of proposals.
May 23, 1996	Executive Director discussed proposals with agencies, Chief Scientist, and Public Advisory Group representatives and drafted preliminary recommendations.
June 5, 1996	Public Advisory Group discussed proposals and preliminary recommendations and advised Executive Director.
June 24, 1996	*FY 97 Draft Work Plan* was distributed for public comment.
Aug. 6, 1996	Public hearing was held on *FY 97 Draft Work Plan.*
Aug. 7, 1996	Public Advisory Group met to advise Trustee Council on final work plan.
Aug. 28, 1996	Trustee Council approved 58 research, monitoring, and general restoration projects totaling $15,390,300 for *FY 97 Final Work Plan*, and deferred projects that required further review or deliberation.
Oct. 1, 1996	Fiscal year 1997 (FY 97) began.
Dec. 6, 1996	Trustee Council approved 6 additional research, monitoring, and general restoration projects for *FY 97 Final Work Plan.* This action brought the FY 97 authorization total to $15,999,500.

Summary of Fiscal Year 1997 Projects

For FY 97, the Trustee Council received 120 research, monitoring, and general restoration proposals requesting a total of $33,195,200. In August and December 1996, the Council authorized 64 projects totaling $15,999,500. The table on the following page summarizes the Trustee Council's funding decisions by "resource cluster," as well as the expected cost of completing the projects authorized in FY 97. (Note: Regarding future year costs, a "$0" in the table means that no funding is expected. A blank space means that the estimated funding level is not known or that a decision on future funding has not been made.)

Many of the projects funded are the continuation of efforts also funded in FY 96. As illustrated in Table 2, several new projects were also funded.

Table 2. New and Continuing Projects

	Number of Projects Funded	Total Cost of Projects Funded
New Projects	14	$1,038,300
Continuing Projects	50	$14,961,200

In addition to funding research, monitoring, and general restoration projects, the Trustee Council authorized funds for the administrative costs of the restoration program ($2.86 million, primarily for public information, independent scientific review, and operating expenses), habitat protection support ($1.29 million, for services such as negotiations, land surveys, and appraisals), and the fourth $12 million payment to the Restoration Reserve. The Council also authorized funds for two capital construction projects. These are discussed beginning on page 23 of this document.

Table 3. Summary of Funding by Resource Cluster

Resource Cluster	FY 97 Approved	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	Total FY97-02
Pink Salmon	$1,921.7	$966.3	$293.4	$32.0	$3,213.4
Pacific Herring	$899.6	$493.6	$0.0	$0.0	$1,393.2
SEA and Related Projects	$3,733.6	$2,062.2	$115.0	$75.0	$5,985.8
Sockeye Salmon	$462.8	$0.0	$0.0	$0.0	$462.8
Cutthroat Trout and Dolly Varden	$266.5	$108.0	$0.0	$0.0	$374.5
Marine Mammals	$810.6	$308.1	$50.0	$0.0	$1,168.7
Nearshore Ecosystem	$2,232.0	$1,753.7	$524.8	$224.4	$4,734.9
Seabird/Forage Fish and Related Projects	$2,366.7	$1,958.1	$1,903.8	$189.2	$6,417.8
Archaeological Resources	$231.2	$201.3	$158.9	$415.0	$1,006.4
Subsistence	$1,433.6	$1,332.4	$441.6	$1,054.2	$4,261.8
Reduction of Marine Pollution	$267.5	$0.0	$0.0	$0.0	$267.5
Habitat Improvement	$667.2	$759.6	$0.0	$0.0	$1,426.8
Ecosystem Synthesis	$64.9	$260.0			$324.9
Project Management	$641.6	$560.0	$480.0	$960.0	$2,641.6
Total Research, Monitoring, and General Restoration Projects:	$15,999.5	$10,763.3	$3,967.5	$2,949.8	$33,680 1
Habitat Protection/Acquisition Support	$1,282.6	$770.0	$565.0	$215.0	$2,832 6
Public Information/Science Mgt./ Admin	$2,857.1	$2,800.0	$2,500.0	$4,700.0	$12,857.1
Restoration Reserve	$12,000.0	$12,000.0	$12,000.0	$36,000.0	$72,000.0
Other Projects	$1,713.5	$75.0	$0.0	$0.0	$1,788.5
Total All Activities:	$33,852.7	$26,408.3	$19,032.5	$43,864.8	$123,158.3

Description of FY 97 Projects

This section describes the research, monitoring, and general restoration projects funded by the Trustee Council for FY 97. It also includes a brief description of the Council's other activities.

RESEARCH, MONITORING, AND GENERAL RESTORATION PROJECTS

The research, monitoring, and general restoration projects described on the following pages are arranged by "resource cluster." Each cluster description includes the Trustee Council's restoration strategies (which were established in the *Restoration Plan* and are updated as needed each year through the annual work plan), the projects authorized to implement those strategies, and the expected cost of completing the projects authorized in FY 97. (Note: Regarding future year costs, "$0" means that no funding is expected. A blank space means that the estimated funding level is not known or that a decision on future funding has not been made.)

Appendix A contains a numerical listing of all projects funded by the Trustee Council. It contains the text of the Chief Scientist's evaluation and the Trustee Council's decision for each project. It also indicates who proposed each project, which Trustee agency is responsible for project management, and whether the project is continuing (i.e., was also funded by the Council in FY 96) or new.

A detailed project description (DPD) and budget are on file at the Anchorage Restoration Office for each of the projects summarized in this section.

Restoration Strategies for Fiscal Year 1997

Research and Monitor the Toxic Effects of Oil

- Continue egg mortality project (97191A), which is monitoring recovery of pink salmon embryos and examining whether genetic damages occurred as a result of exposure to oil during early life stages.
- Continue straying project (97076), which is examining effects of oil exposure during embryonic development on the straying, marine survival, and gamete viability of pink salmon.
- Conduct spawning habitat project (97194), which will examine level of oil in pink salmon streams following the spill relative to embryo mortalities.

Provide Stock Separation and Management Information

- Continue coded wire tag project (97186), to ensure two years of overlap with otolith thermal mass marking, discussed below.
- Continue otolith thermal mass marking project (97188), which is more effective than coded wire tags at marking fish for management purposes.
- Continue genetic stock identification project (97196), which is examining the geographic extent of genetic differences in Prince William Sound pink salmon.
- Continue genetic linkage project (97190), which is constructing a genetic map to aid understanding of straying, stock structure, and marine survival of pink salmon.

Supplement Populations

- Continue Little Waterfall barrier bypass project (97139A1), which in FY 97 will evaluate the effectiveness of decreased grades and added resting pools at increasing spawning habitat for pink and coho salmon.
- Continue Port Dick Creek habitat project (97139A2), which in FY 97 will evaluate the effectiveness of excavation of the spawning tributary at increasing spawning habitat for pink and chum salmon.
- Complete Montague habitat project (97139C1), which in FY 97 will evaluate the effectiveness of instream structures at increasing spawning habitat for pink and chum salmon in three streams on Montague Island.

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97076	Effects of Oil on Straying	$618.8	$234.6	$0.0	$0.0	$853.4
97139A1	Little Waterfall Barrier Bypass	$26.4		$0.0	$0.0	$26.4
97139A2	Port Dick Spawning Channel	$76.5	$49.7	$39.7	$32.0	$197.9
97139C1	Montague Riparian Rehab.	$9.3	$0.0	$0.0	$0.0	$9.3
97186	Coded Wire Tag Recovery	$273.8	$279.4	$90.0	$0.0	$643.2
97188	Otolith Thermal Mass Marking	$120.1	$108.4	$55.0	$0.0	$283.5
97190	Genome Linkage Map	$254.5				$254.5
97191A	Oil Related Embryo Mortality	$208.5	$164.2	$58.7	$0.0	$431.4
97194	Spawning Habitat Recovery	$138.3		$0.0	$0.0	$138 3
97196	Genetic Structure	$195.5	$130.0	$50.0	$0.0	$375.5
	TOTAL	$1,921.7	$966.3	$293.4	$32.0	$3,213.4

NOTE: Project 97320, a multi-year ecological investigation of the factors influencing populations of Prince William Sound pink salmon and Pacific herring, is discussed in the Sound Ecosystem Assessment cluster.

Restoration Strategies for Fiscal Year 1997

Investigate Causes of the Crash

- Continue herring disease project (97162), which is investigating the potential link between oil exposure and disease in Pacific herring, and between disease and the Pacific herring population decline in Prince William Sound.

Provide Management Information

- Continue herring natal habitats project (97166), which is monitoring the abundance of Pacific herring.
- Continue genetic stock identification project (97165), which is addressing questions about the genetic composition of Prince William Sound Pacific herring in relation to other North Pacific populations.

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97162	Disease Factors	$517 7	$437.6	$0 0	$0.0	$955.3
97165	Genetic Discrimination	$41.6	$56.0	$0.0	$0.0	$97.6
97166	Herring Natal Habitats	$340.3			$0.0	$340.3
	TOTAL	$899.6	$493.6	$0.0	$0.0	$1,393 2

NOTE: Project 97320, a multi-year ecological investigation of the factors influencing populations of Prince William Sound pink salmon and Pacific herring, is discussed in the Sound Ecosystem Assessment cluster.

Restoration Strategies for Fiscal Year 1997

Investigate Ecological Factors

- Continue Sound Ecosystem Assessment (97320), which is exploring and developing models of the processes influencing productivity of pink salmon and Pacific herring in Prince William Sound.

Monitor Pristane Levels

- Continue pristane monitoring project (97195), which is collecting and measuring pristane in mussels as a measure of marine productivity.

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97195	Pristane Monitoring	$115 3	$115.0	$115 0	$75.0	$420.3
97320	SEA	$3,618.3	$1,947.2			$5,565.5
	TOTAL	$3,733.6	$2,062.2	$115 0	$75 0	$5,985 8

Restoration Strategies for Fiscal Year 1997

Provide Stock Separation and Management Information

- Complete sockeye genetics project (97255), which has developed improved techniques for sockeye stock assessment and identification.

Research Overescapement

- Complete Kenai/Kodiak overescapement project (97258A), which is examining the mechanism and extent of overescapement injury to the Kenai River system and Red and Akalura lakes on Kodiak Island.
- Complete Akalura Lake project (97251), which is conducting smolt emigration studies on Akalura Lake to determine the recovery status of sockeye in the Akalura system.

Supplement Populations

- Complete Coghill Lake fertilization project (97259), which has brought primary and secondary productivity and smolt production to acceptable levels, and produced adult escapements within the optimum range in the Coghill Lake system.

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97251	Akalura Lake	$43.7	$0 0	$0.0	$0.0	$43.7
97255	Sockeye Genetics	$158 3	$0.0	$0 0	$0 0	$158.3
97258A	Sockeye Overescapement	$214.0	$0 0	$0.0	$0.0	$214.0
97161	Coghill Lake Fertilization	$46 8	$0.0	$0 0	$0.0	$46.8
	TOTAL	$462 8	$0.0	$0.0	$0.0	$462.8

NOTE: Additional projects that benefit sockeye salmon are discussed in other clusters: Project 97180, which is restoring habitat along the Kenai River, is in the habitat improvement cluster. Project 97256B, which will stock Solf Lake near Chenega Bay with sockeye, is in the subsistence cluster. One additional project, 97254, which would stock Delight and Desire lakes with sockeye salmon, is still under consideration by the Trustee Council

Restoration Strategies for Fiscal Year 1997

Research and Monitor Populations

- Continue population research project (97145), which is determining the relationship between resident and anadromous forms of Dolly Varden and cutthroat trout.

Supplement Populations

- Complete habitat improvement project (97043B), which in FY 97 will evaluate the effectiveness of habitat improvement structures at increasing populations of cutthroat trout and Dolly Varden at four sites in Prince William Sound.

Develop Restoration Strategies

- Conduct inventory project (97302), which will investigate a number of remote lakes and streams in Prince William Sound to determine whether cutthroat trout and Dolly Varden are present.

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97043B	Habitat Improvement	$24.0	$8.0	$0.0	$0.0	$32.0
97145	Anadromous/Resident Forms	$229.7	$100.0	$0.0	$0.0	$329.7
97302	PWS Inventory	$12 8	$0.0	$0.0	$0.0	$12.8
	TOTAL	$266.5	$108.0	$0.0	$0.0	$374.5

Restoration Strategies for Fiscal Year 1997

Monitor Harbor Seals and Research the Decline in Harbor Seals

- Continue harbor seal research project (97001), which is documenting the body condition and nutritional status of harbor seals.
- Continue harbor seal monitoring project (97064), which is examining possible causes of the decline in harbor seals including disease, reproduction, food limitations, and killer whale predation.
- Continue stable isotope study (97170), which is assessing food webs in Prince William Sound in an effort to determine the reasons for the decline of harbor seals.

Monitor Killer Whales

- Continue killer whale investigation (97012-BAA), which is analyzing the long-term effects of the oil spill on resident and transient pods of killer whales in Prince William Sound.

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97001	Harbor Seal Condition and Health Status	$192.0	$48 1	$0 0	$0.0	$240.1
97012	Killer Whale Investigation	$157.5				$157.5
97064	Harbor Seal Monitoring	$317.8	$150 0	$50 0	$0.0	$517 8
97170	Isotope Ratio Studies	$143 0	$110 0	$0 0	$0.0	$253 3
	TOTAL	$810 6	$308.1	$50 0	$0 0	$1,168 7

NOTE: An additional project that benefits harbor seals is discussed in the Subsistence Cluster: Project 97244, which enables Native hunters to provide harbor seal samples for ongoing restoration projects

Restoration Strategies for Fiscal Year 1997

Monitor Recovery

- Continue harlequin duck monitoring project (97427), which is monitoring the reproductive success, population structure, and productivity of harlequin ducks.
- Prepare for publication results of sea otter population biology studies (97223).

Research Mechanisms Limiting Recovery

- Continue nearshore vertebrate predator project (97025), which is examining whether recruitment processes, continuing exposure to oil, or food availability are constraining the recovery of sea otters, river otters, harlequin ducks, and pigeon guillemots.
- Continue harlequin duck genetics project (97161), which is examining whether harlequin recovery can occur only as a function of recruitment or also through immigration of harlequins from unoiled areas.

Monitor the Fate and Persistence of Oil

- Continue hydrocarbon database project (97290), which is analyzing hydrocarbon samples collected through other Trustee Council projects.
- Prepare for publication results of mussel bed restoration project (97090).
- Complete report writing on microbial and chemical sediment project (97026).

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97025	Nearshore Vertebrate Predators	$1,736.3	$1,669.4	$450 0	$0.0	$3,855 7
97026	Microbial Sediments Report	$15 1	$0.0	$0.0	$0 0	$15 1
97090	Mussel Bed Publications	$10.0	$0 0	$0.0	$0.0	$10 0
97161	Harlequin Duck Genetics	$98.8	$9.5	$0.0	$0 0	$108 3
97223	Sea Otter Publications	$43.0	$0 0	$0.0	$0.0	$43.0
97290	Hydrocarbon Database	$76.3	$74.8	$74 8	$224.4	$450.3
97427	Harlequin Duck Monitoring	$252.5				$252 5
	TOTAL	$2,232 0	$1,753 7	$524 8	$224.4	$4,734.9

Restoration Strategies for Fiscal Year 1997

Research Mechanisms Limiting Recovery

- Continue Alaska Predator Ecosystem Experiment (APEX, 97163), which is investigating link between availability of forage fish and productivity of seabirds.
- Begin marbled murrelet project (97231), which will investigate link between forage fish and marbled murrelet productivity and will complement APEX project.
- Begin genetics project (97169), which will study relationships between different populations of common murres, marbled murrelets, and pigeon guillemots.
- Begin sand lance project (97306), which will study basic ecology, distribution, and demographics of this forage fish in lower Cook Inlet.

Research and Monitor Populations

- Continue Kittlitz's murrelet project (97142-BAA), which is evaluating abundance, distribution, habitat use, productivity, and trophic position of this seabird.
- Continue common murre project (97144), which is monitoring populations.
- Prepare for publication results of marine bird survey project (97159), which gathered information on status and recovery of seabirds in Prince William Sound.
- Curate remaining seabirds salvaged from the oil spill (97167-BAA).

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97142	Kittlitz's Murrelets	$188.5		$0.0	$0.0	$188.5
97144	Common Murres	$73 8	$50.0	$0 0	$0 0	$123.8
97159	Marine Bird Surveys	$60.1				$60.1
97163	APEX	$1,800.0	$1,800.0	$1,800 0	$176.4	$5,576.4
97167	Seabird Curation	$32 1	$0 0	$0 0	$0.0	$32.1
97169	Genetics	$59.4	$78 1	$83.8	$12 8	$234.1
97231	Marbled Murrelet Productivity	$120.0				$120.0
97306	Sand Lance Ecology	$32 8	$30 0	$20.0	$0 0	$82.8
	TOTAL	$2,366.7	$1,958 1	$1,903 8	$189.2	$6,417.8

Restoration Strategies for Fiscal Year 1997

Monitor Archaeological Sites

- Continue index site monitoring project (97007A), which is periodically checking on sample ("index") sites to detect further damage from vandalism and looting and to gauge the effect of oiling on archaeological deposits.

Restore and Protect Archaeological Sites

- Continue site stewardship project (97149), which is providing training and coordination for volunteers to monitor vandalized archaeological sites.
- Prepare for publication and public presentation results of site restoration project (97007B).

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97007A	Index Site Monitoring	$145.0	$135 0	$145.0	$415 0	$840 0
97007B	Site Restoration	$19.9	$0 0	$0 0	$0 0	$19 9
97149	Site Stewardship	$66.3	$66.3	$13.9	$0.0	$146 5
	TOTAL	$231.2	$201 3	$158 9	$415.0	$1,006.4

Note: In November 1996 the Restoration Office received the final report for the archaeological restoration planning project funded by the Trustee Council in FY 96 (96154) The report addresses options for artifact repositories, display facilities, traveling exhibits, and site stewardship programs After legal and public review, the Council may decide to issue a special invitation for archaeological restoration projects The review process will include public meetings in affected communities in Prince William Sound and Lower Cook Inlet in early 1997

Restoration Strategies for Fiscal Year 1997

Restore Injured Subsistence Resources

- Complete octopus project (97009D), which is determining the local density of octopus and identifying the characteristics of good octopus habitat.

Enhance or Replace Injured Subsistence Resources

- Continue Tatitlek remote release project (97127), which is creating a coho salmon run near the community of Tatitlek.
- Complete Chenega remote release project (97272), which is creating a chinook salmon run near the community of Chenega Bay.
- Continue Port Graham pink salmon project (97225), which is increasing the availability of pink salmon near the community of Port Graham.
- Begin Kametolook River project (97247), which will enhance a coho salmon run near the community of Perryville.
- Continue Solf Lake stocking project (97256B), which is stocking Solf Lake near the community of Chenega Bay with sockeye salmon.
- Continue Eastern PWS streams project (97220), which is installing log structures in streams near the Native Village of Eyak in an effort to increase wild salmon production.
- Begin Port Graham streams project (97263), which will perform habitat improvement techniques to enhance salmon streams near the community of Port Graham.
- Continue clam restoration project (97131), which is working to reestablish populations of littleneck clams near Port Graham, Nanwalek, Tatitlek, Chenega Bay, and Ouzinkie.

Increase Involvement of Subsistence Users in the Restoration Process

- Continue community involvement project (97052A), which is facilitating communication and interaction among the Trustee Council, scientists, and residents of communities impacted by the oil spill.
- Begin traditional ecological knowledge (TEK) project (97052B), which will explore and facilitate the use of TEK in the restoration process.
- Continue youth area watch project (97210), which is involving local junior high and high school students in ongoing restoration projects.
- Continue community-based harbor seal project (97244), which is enabling Native hunters to provide harbor seal samples for ongoing restoration projects.

- Begin elders-youth conference project (97286), which will plan a conference for subsistence users and EVOS researchers to be held in FY 98.
- Complete harbor seal video project (97214), which will communicate local knowledge and observations about harbor seals to the scientific community and others.

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97009D	Octopus Survey	$48.0	$0.0	$0.0	$0 0	$48.0
97052A	Community Involvement	$248.4	$250.0	$250.0	$750.0	$1,498.4
97052B	Traditional Knowledge	$94.5				$94.5
97127	Tatitlek Coho Salmon Release	$11.1	$12.0	$12.0	$0.0	$35.1
97131	Clam Restoration	$365.0	$365.0			$730.0
97210	Youth Area Watch	$150.0	$150.0			$300.0
97214	Harbor Seal Documentary	$12.1	$0.0	$0.0	$0 0	$12.1
97220	Eastern PWS Salmon Habitat	$115.0	$12.0	$0.0	$0.0	$127 0
97225	Port Graham Pinks	$74.4	$75.0	$75.0	$75 0	$299.4
97244	Community Harbor Seal	$114.9	$85.0	$0.0	$0.0	$199.9
97247	Kametolook River	$31 4	$13.8	$14.1	$44 1	$103.4
97256B	Solf Lake Stocking	$50.0	$143.5	$78.5	$185.1	$457.1
97263	Port Graham Streams	$58.0	$115.0	$12.0	$0.0	$185.0
97272	Chenega Chinook Release	$45.0	$0 0	$0.0	$0.0	$45.0
97286	Elders/Youth Conference	$15 8	$111 1	$0.0	$0.0	$126.9
	TOTAL	$1,433 6	$1,332.4	$441.6	$1,054.2	$4,261.8

Note. Additional projects that benefit subsistence are discussed in other clusters. In general, all projects which address resources used by subsistence harvesters are subsistence restoration projects. One additional project, 97248, which would collect indigenous knowledge on herring and other forage fish, is still under consideration by the Trustee Council.

Restoration Strategies for Fiscal Year 1997

Reduce Marine Pollution

- Develop island-wide waste management plan for Kodiak Island (project 97304), to remove chronic sources of marine pollution and solid waste that may be affecting recovery of injured resources.

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97304	Kodiak Waste Management Plan	$267.5	$0.0	$0.0	$0.0	$267.5

NOTE: Project 97115, which will implement a portion of the Prince William Sound waste management plan, is discussed in the Other Projects section.

Restoration Strategies for Fiscal Year 1997

Protect and Restore Habitat

- Continue Kenai habitat restoration project (97180), which is restoring degraded habitat along the banks of the Kenai River.
- Conduct Valdez Duck Flats project (97230), which will develop a concept plan for protection of habitat on the Duck Flats.

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97180	Kenai Habitat Restoration	$599.4	$759.6	$0 0	$0.0	$1,359.0
97230	Valdez Duck Flats	$67.8	$0 0	$0.0	$0.0	$67 8
	TOTAL	$667.2	$759 6	$0.0	$0.0	$1,426.8

NOTE: The Trustee Council's program to acquire land and conservation easements as a means of protecting the habitat of injured resources is discussed in the Habitat Protection and Acquisition section.

Restoration Strategies for Fiscal Year 1997

Prepare a Model of Research Results

- Begin synthesis project (97300), which will work with EVOS principal investigators and ecological modelers to facilitate synthesis of data collected through the restoration process into mathematical and written descriptions of the spill area ecosystem and how it changes in response to anthropogenic and natural events.

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97300	Ecosystem Synthesis	$64.9	$260.0			$324.9

Project Management

In FY 97, the costs of project management are identified in project 97250. Project management is provided by resource managers in the six trustee agencies and provides essential accountability to the work plan process. It includes such functions as tracking the progress of restoration projects; ensuring that projects meet their stated goals, objectives, and schedules; monitoring project expenditures; and ensuring that all reports and other contract deliverables are properly performed. Prior to FY 97, project management funds were included in each individual restoration project's budget.

As illustrated below, the estimates of future years' funding reflect a reduction in project management effort consistent with the decline in the annual funding targets for the overall work plan.

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97250	Project Management	$641.6	$560.0	$480.0	$960 0	$2,641.6

HABITAT PROTECTION AND ACQUISITION

The *Exxon Valdez* Trustee Council funds the acquisition and protection of land in order to protect the habitat of injured resources and services. Project 97126 continues the support services necessary for these land acquisitions, such as title reports, appraisals, on-site inspections, hazardous materials surveys, land surveys and timber cruises.

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97126	Habitat Acquisition Support	$1,282.6	$770 0	$565.0	$215.0	$2,832.6

As of December 1996, the Council has committed $210.3 million to protect 491,000 acres of land in large parcels, including inholdings in Kachemak Bay State Park, land adjacent to Seal Bay/Tonki Cape on Afognak Island, commercial timber rights on land along Orca Narrows, a parcel on Shuyak Island, and lands owned by Akhiok-Kaguyak, Inc., Old Harbor Native Corporation, Koniag, Inc., Chenega Corporation, and Tatitlek Corporation. Final acceptance of the offer from the Tatitlek Corporation depends on a vote of shareholders. Negotiations continue with five landowners to protect additional habitat. The landowners are Eyak Corporation, Port Graham Corporation, English Bay Corporation, Afognak Joint Venture, and Koniag, Inc.

The Council has also authorized offers to purchase 37 small parcels of land at appraised fair market value, a contribution of $4 million to acquire a package of lands owned by the Kenai Natives Association, and up to $1 million to acquire key waterfront parcels that were forfeited to the Kodiak Island Borough for tax delinquency. Fourteen additional small parcels are under active consideration.

Interests in the lands protected by the Council range from acquisition of fee simple title to various forms of conservation easements

PUBLIC INFORMATION/SCIENCE MANAGEMENT/ADMINISTRATION

The cost of the administrative functions necessary to efficiently implement the restoration program (project 97100) continue to decline in FY 97 -- from $4.2 million in FY 95 to $3.4 million in FY 96 to $2.9 million in FY 97. Further reductions are expected through FY 2002, consistent with the planned transition to the Restoration Reserve in FY 2003.

Project 97100 includes funds for the independent scientific review of project proposals and results, the Trustee Council's 17-member Public Advisory Group (PAG), the Oil Spill Public Information Center (OSPIC), the Council's Annual Restoration Workshop, public meetings and other communication efforts such as the Council's newsletter and radio program, operations and staff support for the Trustee Council itself, an annual financial audit, and a variety of smaller items.

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97100	Public Info/Science Mgt/ Administration	$2,857 1	$2,800.0	$2,500.0	$4,700 0	$12,857 1

RESTORATION RESERVE

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 annual payment is received from Exxon Corporation in September 2001. For FY 97, the Trustee Council deposited $12 million in the reserve account. This deposit, the Council's fourth, brings the total in the account to $48 million. Annual deposits of $12 million in each of the next five years would provide a reserve of $108 million plus interest.

Allocation of the funds to specific restoration activities has not yet been made. During FY 97, Trustee Council staff will develop options for the future management and use of the reserve account. During the fall and winter of 1998, public workshops on the options will be conducted throughout the spill area as well as in Anchorage, Fairbanks, and Juneau. The Council is scheduled to make a decision on the future of the Restoration Reserve by March 1999.

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97424	Restoration Reserve	$12,000.0	$12,000 0	$12,000.0	$36,000.0	$72,000.0

NOTE During the fiscal years 1994 through 1996, the Trustee Council deposited $36 million in the Restoration Reserve, bringing today's total to $48 million and the projected total in the year 2002 to $108 million plus interest.

OTHER PROJECTS

In addition to the projects and activities described on the preceding pages, the Trustee Council also authorized funds for two proposals submitted for capital construction projects. These "other projects" are summarized below, and described in more detail in Appendix A.

- Continue Sound Waste Management Plan project (97115), which in FY 97 will construct "environmental operations stations" in communities in Prince William Sound to facilitate proper disposal of oily and solid wastes.
- Begin fish pass project (97197), which will construct a fish pass at the Alaska SeaLife Center in Seward to be used for propagation of experimental runs of salmon for genetic studies to be conducted at the Center.

Funding Authorized for Fiscal Year 1997

Project Number and Title		FY 97 Authorized	FY 98 Estimate	FY 99 Estimate	FY 00-02 Estimate	TOTAL
97115	Sound Waste Management Plan	$1,167.9	$75 0	$0 0	$0.0	$1,242.9
97197	SeaLife Center Fish Pass	$545.6	$0.0	$0.0	$0.0	$545.6
	TOTAL	$1,713 5	$75 0	$0.0	$0.0	$1,788.5

Note: One additional capital construction project, 97151, which would expand the Prince William Sound Science Center in Cordova, is still under consideration by the Trustee Council.

Appendix A -- Description of Projects and Trustee Council Action

How to read Appendix A:

Proposer	The individual, organization, or Trustee agency that submitted the project proposal.
Lead Agency	The Trustee agency (DOI, NOAA, USFS, ADEC, ADF&G, or ADNR) to which the project has been assigned for project management purposes.
New or Cont'd.	What year FY 97 is in the Trustee Council's funding of the project, followed by the total number of years Council funding is expected to be sought (e g., 3rd year of a 5-year project).
FY 97 Approved	The amount of funding approved by the Trustee Council for FY 97.
FY 98 Estimate	For multi-year projects, the estimated project cost for FY 98.
FY 99 Estimate	The estimated project cost for FY 99.
FY 00-02 Estimate	Sum of the estimated project cost from FY 2000 to FY 2002.
FY 97-02 Estimate	Sum of the estimated project cost for all years, beginning in FY 97 and ending with FY 2002 -- or the project's completion, whichever is sooner.
Project Abstract	A brief summary of the project
Chief Scientist's Recommendation	A summary of the Chief Scientist's review of the project's technical merit.
Trustee Council Action	An explanation of the Trustee Council's decision on project funding for FY 97.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97001	Recovery of Harbor Seals From EVOS: Condition and Health Status	M. Castellini/UAF	ADFG	Cont'd 3rd yr. 4 yr. project	$192.0	$48.1	$0.0	$0.0	$240.1

Project Abstract

This project focuses on the health of harbor seals, a marine mammal species that is not recovering in Prince William Sound. Personnel from the University of Alaska in cooperation with the Alaska Department of Fish and Game will continue and expand work with harbor seals to assess their health, blood metabolites, blubber chemistry and size in relation to their ecological and nutritional requirements. The project addresses potential health and nutritional problems that may be impeding harbor seal recovery. In FY 97, the project greatly expands collaborative work with Native hunters through the Alaska Native Harbor Seal Commission and will initiate work in FY 98 at the Alaska SeaLife Center

Chief Scientist's Recommendation

This ongoing project is measuring the body condition and health of harbor seals in the oil spill area. Considerable progress is being made and an additional year of data in FY 97 is needed. Fund

Trustee Council Action

Fund. This project will document the body condition and nutritional status of harbor seals to help explain the decline in the Prince William Sound harbor seal population. This project complements Project /064 and will enable managers, subsistence hunters, and others to focus their concerns and efforts on the most probable sources of population decline. In FY 97, the focus of this project will shift to the health of juvenile harbor seals.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97007A	Archaeological Index Site Monitoring	D. Reger/ADNR		Cont'd 3rd yr 8 yr project	$145.0	$135.0	$145.0	$415 0	$840.0

Project Abstract

Monitoring of archaeological sites on public land injured by vandalism and oiling will concentrate on a sample of index sites in the three regions of the spill. Oiled sites will be tested for reintroduced oil. The project will end in FY 99 if monitoring shows no continued injury.

Chief Scientist's Recommendation

Conceptually, this is a good project that continues to address "recovery" at injured archaeological sites This project should be funded as now proposed

Trustee Council Action

Fund continuation of index site monitoring program, which provides for monitoring of archaeological sites injured by vandalism and oiling. The original proposal also included monitoring an additional four sites on Kodiak and Shuyak islands newly acquired through the Trustee Council's habitat protection program. This concept has merit, but warrants further deliberation.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97007B-CLO	Site Specific Archaeological Restoration	L Yarborough/USFS	USFS	Cont'd 3rd yr 3 yr. project	$19.9	$0.0	$0.0	$0.0	$19.9

Project Abstract

This project will provide funding for an additional phase of the Forest Service's archaeological restoration at sites SEW-440 and SEW-488. The final report on the restoration project having been completed in FY 96, this phase of the project will complete presentation of the results to the professional and general public The Principal Investigator will disseminate the findings of the excavations of SEW-440 and SEW-488 through a peer-reviewed journal article and presentations of results at a major professional conference and to community groups.

Chief Scientist's Recommendation

This is an on-going and successful project to assess and extract information from archaelogical sites. This project deserves continued support Fund

Trustee Council Action

Fund. This project will disseminate the findings of the excavations of SEW-440 and SEW-488 through a peer-reviewed journal article and presentations of results at a major professional conference and to community groups These excavations provided significant insights into early occupants of Prince William Sound.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97009D-CLO	Survey of Octopuses in Intertidal Habitats	D Scheel/Prince William Sound Science Center		Cont'd 3rd yr 3 yr. project	$48.0	$0.0	$0 0	$0.0	$48 0

Project Abstract

This project addresses concerns that octopus and chiton have been depleted by EVOS and that subsistence uses are impaired In this proposal, close-out costs are requested for FY 97, the third year of the project. The first year (FY 95) was to establish the feasibility of working with octopus in Prince William Sound, identify suitable study sites, and evaluate techniques. The second year (FY 96) is focusing on the factors in nearshore habitats that are important to octopus, and on the turnover rates of octopus in those habitats

Chief Scientist's Recommendation

This is a good project to analyze and report data on a two-year study of octopus in PWS. It has addressed the concerns of local people about the abundance of octopus and chitons and has identified octopus habitat in Prince William Sound. Fund

Trustee Council Action

Fund This project provides close-out funds for a two-year survey of octopus designed to address the concern that octopus stocks were depleted by the oil spill and that subsistence use of this resource is impaired Funding is included for providing study results to communities who participated in the study

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97012-BAA	Comprehensive Killer Whale Investigation in Prince William Sound	C Matkin/North Gulf Oceanic Society	NOAA	Cont'd 5th yr 5 yr. project	$157.5				$157.5

Project Abstract

This project continues the monitoring of the damaged AB pod and other Prince William Sound killer whales that has occurred on a yearly basis since 1984 It provides further analysis of a GIS database on killer whales. When coupled with genetic and acoustic data, the analysis will evaluate recovery of killer whales, recognize changes in behavioral ecology, estimate killer whale predation on harbor seals, and estimate impacts of the harbor seal decline on the potential recovery of killer whales. Year round residency of killer whales will be assessed using a remote hydrophone system. Environmental contaminant levels in the blubber of specific whales will be determined and potential effects on recovery evaluated.

Chief Scientist's Recommendation

This proposal is excellent, combining well-established techniques and some innovative methods. The publication record of the principal investigator has improved. A successful review was held in November 1996 and I recommend that the work proposed for FY 97 be funded. Funding beyond FY 97 will be contingent on developing objectives and milestones for completion of this project

Trustee Council Action

Fund. However, funding beyond FY 97 will be contingent on developing objectives and milestones for completion of the project. 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 and correlates the effects in part to their prey

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97025	Mechanisms of Impact and Potential Recovery of Nearshore Vertebrate Predators (NVP)	L. Holland-Bartels, et al/NBS-DOI	DOI	Cont'd 3rd yr. 5 yr. project	$1,736.3	$1,669.4	$450 0	$0.0	$3,855.7

Project Abstract

The Nearshore Vertebrate Predator project (NVP) makes 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 Primary hypotheses are 1) Recovery of nearshore resources injured by EVOS is limited by recruitment processes, 2) Initial and/or residual oil in benthic habitats and in or on benthic prey organisms has had a limiting effect on the recovery of benthic foraging predators; and 3) EVOS-induced changes in populations of benthic prey species have influenced the recovery of benthic foraging predators

Chief Scientist's Recommendation

This project uses an ecosystem approach to examine recovery of injured species in the nearshore ecosystem It was reviewed in depth at a workshop in February 1996 Recently, the results from the avian copredator work have become available, indicating that some continuing work on Barrow's goldeneyes and gulls is advisable but that other aspects of the work can be safely eliminated. In addition, funds to prepare pre-NVP sea otter publications should be contingent on acceptance by the Chief Scientist of reports from Project MM6. Budget increases over previous projections for on-going components (i.e., not including the avian copredator component) were substantial, but the project proposers have reduced these budgets. Fund.

Trustee Council Action

Fund, including an additional $30,500 for the final year of limited avian copredator work which was deferred by the Trustee Council in August (final analyses in FY 98 will be conducted within the $1,669,400 expected to be approved for FY 98). Funding for preparation of sea otter publications ($10,000 approved in August) is contingent on acceptance by the Chief Scientist of the reports from Project MM6 The researchers conducting sea otter surveys under this project should explore ways of involving local sea otter hunters in their research/monitoring efforts In general, the nearshore ecosystem, including intertidal habitat and organisms, was the area hardest hit by the oil spill. This project monitors recovery of intertidal organisms and closely linked vertebrate predators and addresses the question of whether continuing contamination is slowing recovery of vertebrate predators.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97026-CLO	Report Writing: Integration of Microbial and Chemical Sediment Data	J Braddock/UAF	ADEC	Cont'd 1st yr. 1 yr. project	$15.1	$0.0	$0.0	$0 0	$15.1

Project Abstract

This project will provide funds to complete final data analysis and report writing begun under Project 95026/Hydrocarbon Monitoring: Integration of Microbial and Chemical Sediment Data. In FY 95, work began late on the project due to a delay in the processing of an RSA from the Department of Environmental Conservation to the University of Alaska Fairbanks The $15,100 requested here is an amount equal to the amount of FY 95 funds that lapsed before the project could be completed The analysis of the combined microbial/chemical data sets will allow estimates of removal rates of hydrocarbons from contaminated sediments by biological processes.

Chief Scientist's Recommendation

Funding for additional analyses are recommended for completion of this project with the stipulation that the results of this work be published in open, peer-reviewed scientific literature.

Trustee Council Action

Fund. This project will conclude the analysis and report writing begun under Project 95026, and includes preparation of a manuscript for publication.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97043B	Monitoring of Cutthroat Trout and Dolly Varden Habitat Improvement Structures	D. Gillikin/USFS		Cont'd 4th yr. 5 yr project	$24.0	$8.0	$0.0	$0.0	$32.0

Project Abstract

This project provides for monitoring of habitat improvement structures and their effects on cutthroat trout and Dolly Varden populations These structures were installed in 1995 under Project 95043B. There has been concern raised that habitat structures may inadvertently increase coho salmon populations, and thereby increase competition stress on Dolly Varden and cutthroat trout populations. This monitoring will seek to address those questions and concerns.

Chief Scientist's Recommendation

FY97 funding for this project will complete this multi-year study and allow determination of the performance of habitat improvements made to restore injured fish species. Fund.

Trustee Council Action

Fund final year of monitoring This project monitors the effectiveness of cutthroat trout and Dolly Varden habitat improvement structures installed in FY 95. The structures were monitored in FY 96 and should be monitored one additional year. Project close-out (data analysis and report writing) will be funded in FY 98

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97052A	Community Involvement	P. Brown/Chugach Regional Resources Commission	ADFG	Cont'd 3rd yr. 8 yr. project	$248.4	$250 0	$250.0	$750.0	$1,498.4

Project Abstract

This project will increase community involvement in the restoration process The Spill Area-Wide Coordinator 's work will continue through a contract with the Chugach Regional Resources Commission (CRRC) Through direct communication with a network of local facilitators, the Spill Area-Wide Coordinator will continue to actively involve local residents in the restoration program, particularly ongoing scientific studies. (Local facilitators will be located in Tatitlek, Chenega Bay, Port Graham, Nanwalek, Cordova, Seward, Seldovia, Valdez, Kodiak, and Alaska Peninsula.)

Chief Scientist's Recommendation

This is a key program for fostering participation of local residents of the oil spill area in the EVOS restoration program. The program is successfully organized and functioning and needs to turn its attention to concrete achievements in FY 97. Fund.

Trustee Council Action

Fund, including addition of a community facilitator in Seldovia and additional travel for community facilitators to EVOS workshops The proposal has been revised to eliminate funding of a computer network (a decision on this should be deferred until the communities and their regional organizations -- in particular, Chugach Regional Resources Commission, Chugach Heritage Foundation, Kodiak Area Native Association, and Kodiak Island Borough -- come forward with a collaborative plan to establish a network, train communities to use the network, and provide for maintenance and other operational costs of the network). In addition, the traditional knowledge component of the project is now included in Project 97052B/TEK. Project 97052A continues a program to facilitate communication and interaction among the Trustee Council, scientists, and residents of communities impacted by the oil spill.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97052B	Traditional Ecological Knowledge	P. Brown-Schwalenberg/CRRC	ADFG	New 1st yr	$94.5				$94 5

Project Abstract

This project will hire a Traditional Ecological Knowledge (TEK) Specialist to (1) compile a reference guide to existing TEK data on resources injured by the oil spill, (2) provide technical assistance to restoration project PIs who plan to use, or for whom it would be appropriate to use, TEK, (3) serve as a contact point for spill area communities, the community facilitators and spill-area-wide coordinator hired under Project /052, and principal investigators on issues related to TEK, and (4) evaluate the feasibility of developing a comprehensive TEK database. The TEK Specialist will work under the guidance of an Advisory Group

Chief Scientist's Recommendation

It is desirable to combine the traditional ecological knowledge elements of the various natural resource projects into one project that can coordinate the way in which this information is gathered and treated. This project will accomplish that goal. The emphasis of the project should be on how traditional knowledge and that from scientific studies can inform each other Fund.

Trustee Council Action

Fund. This project would continue work begun under Project /052A to explore and facilitate the use of traditional knowledge in the restoration of injured resources.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97064	Monitoring, Habitat Use, and Trophic Interactions of Harbor Seals in PWS	K. Frost/ADFG		Cont'd 3rd yr. 5 yr. project	$317.8	$150 0	$50.0	$0.0	$517.8

Project Abstract

This project will monitor the status of harbor seals in Prince William Sound and investigate the possible causes for the ongoing decline. Aerial surveys will be conducted to determine whether the population continues to decline, stabilizes, or increases. Seals will be satellite-tagged to describe their movements, use of haulouts, and hauling out and diving behavior. Samples of blood, blubber, whiskers, and skin will be collected to study diet, health and condition, and genetic relationships to other harbor seal populations

Chief Scientist's Recommendation

This project continues to investigate the decline of harbor seals in the oil spill area. The research addresses the most potentially useful lines of investigation. The investigators are well qualified and the costs of the research appear reasonable Fund.

Trustee Council Action

Fund. This study explores reasons for the long-term decline in harbor seals' food limitations, disease, reproduction and killer whale predation. The results of this study will enable resource managers, subsistence users, and others to focus their efforts and concern on the most probable causes of harbor seal population decline In FY 97, the focus of this project will shift to the survival and health of juvenile harbor seals.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97076	Effects of Oiled Incubation Substrate on Straying and Survival of Wild Pink Salmon	A. Wertheimer/NOAA	NOAA	Cont'd 3rd yr. 4 yr. project	$618.8	$234 6	$0 0	$0.0	$853 4

Project Abstract

This project examines the effects of oil exposure during embryonic development on the straying, marine survival, and gamete viability of pink salmon. The objectives are to conduct a related series of controlled experiments on straying of pink salmon to determine the role of oil and other factors so that field studies of straying in Prince William Sound after the oil spill can be interpreted; to determine if the return rate of pink salmon to adult is reduced when they have been exposed to oiled gravel during embryonic development; and to continue investigations into whether such exposure causes heritable damage to reproductive fitness of pink salmon.

Chief Scientist's Recommendation

The greatest value of this project is that it supports an understanding of the effects of oil on nominal straying rates, reproduction, and early developmental stages of pink salmon. The weaknesses identified by the reviewers still exist, i.e , the difficulty of projecting results obtained in Southeast Alaska, and the lack of a genetic component If straying rates are in fact lower than projected, an even more expensive field effort will be needed to complete this project

Trustee Council Action

Fund. Although the Chief Scientist has raised questions about this project, NOAA has been responsive to prior concerns and funding this project in FY 97 will get the most return out of what has been a significant investment of Trustee Council dollars This project will help with the interpretation of previous results on straying in relation to oil and should aid evaluation of when pink salmon recovery objectives are achieved. In addition, this project will provide useful information on marine survival of pink salmon that will have broad application to salmon management.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97090-CLO	Mussel Bed Restoration and Monitoring	M. Babcock/NOAA		Cont'd 6th yr. 6 yr. project	$10.0	$0.0	$0 0	$0.0	$10.0

Project Abstract

This proposal is for finalizing three additional manuscripts from the four-year, comprehensive final report due September 30, 1996.

Chief Scientist's Recommendation

This is a solid proposal to publish the results of important work on oiled mussel beds. The investigator has a good record of producing results and publications. Recommend funding at $10.0

Trustee Council Action

Fund contingent on receipt of report on 95090 (due 9-30-96). This project will complete reporting/publication requirements for the five years of studies funded by the Trustee Council on the persistence of oiling in mussel beds in Prince William Sound and the Gulf of Alaska and restoration of 12 of these beds.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97100	Administration, Science Management, and Public Information	All Trustee Council Agencies	ALL	Cont'd Annual	$2,857.1	$2,800.0	$2,500.0	$4,700.0	$12,857.1

Project Abstract

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

Chief Scientist's Recommendation

Proposal not reviewed.

Trustee Council Action

Fund. This project provides overall support for administration and implementation of the restoration program. The budget has been significantly reduced from the FY 96 authorization of $3,439,600

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97115	Implementation of the Sound Waste Management Plan: Environmental Operations and Used Oil Management System	P. Roetman/Prince William Sound Economic Development Council		New 3rd yr 4 yr project	$1,167.9	$75.0	$0.0	$0.0	$1,242 9

Project Abstract

This project will help prevent marine pollution that is generated from land-based sources within the five Prince William Sound communities. The Sound Waste Management Plan was developed to address community-based sources of marine pollution. This project will provide a portion of the funding needed to implement two of the five recommendations contained in the plan: 1) construction of Environmental Operation Stations to improve the overall management of solid and oily wastes; and 2) creation of a comprehensive used oil management system in each community. The communities will provide substantial funding to help implement the recommendations.

Chief Scientist's Recommendation

This is a logical and effective proposal to implement the planning work on management of chronic wastes that affect the marine ecosystem and injured species The communities involved have done an outstanding job, and they propose to contribute significant in-kind resources to this project. Fund.

Trustee Council Action

Fund. This project will decrease pollution entering Prince William Sound by providing a sheltered space and equipment necessary to safely collect and store used oil, household hazardous wastes and recyclable solid wastes in Valdez, Cordova, Tatitlek, Chenega and Whittier. Environmental Operations Stations ("EVOS" stations) will be modular structures erected in convenient locations in each community to encourage residents and visitors to properly dispose of wastes. By reducing chronic pollution, this project will reduce stress on recovering resources and services. *NOTE: This is a capital project that was funded outside of the regular FY 97 work plan of research, monitoring, and general restoration projects.*

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97126	Habitat Protection and Acquisition Support	C. Fries/ADNR, D. Gibbons/USFS	ADNR	Cont'd 4th yr.	**$1,282.6**	$770.0	$565.0	$215.0	$2,832.6

Project Abstract

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

Chief Scientist's Recommendation

This project is intended to provide baseline data that enables comparison of resource values on different lands under possible consideration for acquisition by the Trustee Council. This support is essential to the Trustee Council's small parcel acquisition program. The budget should receive additional review, and the on-going role of the Habitat Work Group, if any, needs clarification. Fund.

Trustee Council Action

Fund. This project provides funds to support the habitat protection program, including negotiation staff, appraisals, closing costs, etc. *NOTE: Funds for this project are provided through the Trustee Council's habitat protection program, not through the regular FY 97 work plan of research, monitoring, and general restoration projects.*

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97127	Tatitlek Coho Salmon Release	G. Kompkoff/Tatitlek IRA Council		Cont'd 3rd yr. 5 yr project	**$11.1**	$12 0	$12.0	$0 0	$35.1

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 ADFG 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.

Chief Scientist's Recommendation

This is a good replacement resource project. Fund.

Trustee Council Action

Fund. Fund through FY 99 (one coho life cycle). Project will create a coho salmon run near Tatitlek as a replacement resource for subsistence resources injured by the oil spill

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97131	Chugach Native Region Clam Restoration	D. Daisy/Chugach Regional Resources Commission	ADFG	Cont'd 3rd yr. 5 yr. project	$365.0	$365.0			$730.0

Project Abstract

Cost effective procedures for establishing safe, easily accessible subsistence clam populations near Native villages in the oil spill region will be established The Qutekcak hatchery in Seward will annually provide about 800,000 juvenile littleneck clams and cockles. Historical information, local and agency expertise, and research will be used to identify areas to seed and what method to use. Total seeded area during the project will not exceed five hectares. Follow-up research on success of seeding will be conducted. Development work will be confined to areas near the Native villages of Eyak, Tatitlek, Nanwalek, and Port Graham.

Chief Scientist's Recommendation

FY 1997 is the third year of a 5-year project. The proposers have shown that they can spawn and grow little-neck clams in a nursery environment There are substantial concerns about the grow-out phase of the project, but the proposers have been responsive to these concerns. Fund

Trustee Council Action

Fund. This project is intended to establish subsistence clam populations as replacement for subsistence resources injured by the oil spill.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97139A1	Salmon Instream Habitat and Stock Restoration - Little Waterfall Barrier Bypass Improvement	S. Honnold/ADFG		Cont'd 3rd yr. 4 yr. project	$26.4		$0.0	$0.0	$26 4

Project Abstract

This proposal will evaluate the barrier bypass improvement at Little Waterfall Creek, as indicated by pink and coho salmon use of the bypass. The renovation of the bypass (decreased grades and addition of resting pools) was completed in FY 96 and is expected to facilitate increased spawning habitat use by pink and coho salmon. Studies in FY 97 will include bypass inspections to document salmon passage, spawner enumeration, and juvenile salmon abundance monitoring.

Chief Scientist's Recommendation

This project will evaluate the effects of improvements to Little Waterfall Creek bypass, and it seems appropriate to determine the performance of the improvements. However, there is concern about the lack of attention to interspecific competition and interactions with other species. FY 98 funding is contingent on addressing these questions; funding in FY 99 is not recommended. Fund as requested in FY 97.

Trustee Council Action

Fund FY 97 only. Project is intended to increase available spawning habitat and thus provide additional pink and coho salmon for harvest as a replacement for salmon lost due to the oil spill. FY 97 work will be monitoring and evaluation of the barrier bypass modification, as required by the Trustee Council's supplementation criteria. Funding for further monitoring in FY 98 will be considered only if questions raised by the Chief Scientist concerning interspecific competition and interaction with other species are addressed.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97139A2	Port Dick Creek Tributary and Development	N Dudiak/ADFG	ADFG	Cont'd 2nd yr. 5 yr. project	$76.5	$49.7	$39.7	$32.0	$197.9

Project Abstract

The goal of this project is the restoration of the native Port Dick Creek salmon stocks. Actual restoration of the spawning habitat took place in June 1996. If natural colonization rates are not adequate to fully seed the restored habitat, on-site fish culture techniques will be incorporated using the native pink and chum salmon stocks to maintain genetic integrity Water temperature, water level, salinity and stream velocity will be monitored. Additional post construction substrate monitoring will also be conducted.

Chief Scientist's Recommendation

This is a continuing project in which it is important to evaluate the effects of improvements on Port Dick Creek. The increased funding to monitor bedload transport and salmon survival is appropriate given past peer review comments. Fund, including additional monitoring.

Trustee Council Action

Fund, including new objectives related to bedload transport monitoring and increased salmon fry evaluation. This project is intended to increase available spawning habitat and thus provide additional pink and chum salmon for harvest as a replacement for salmon lost in the oil spill

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97139C1-CLO	Montague Riparian Rehabilitation Monitoring	D. Schmid/USFS		Cont'd 4th yr 4 yr project	$9.3	$0 0	$0.0	$0.0	$9 3

Project Abstract

This is a close-out of Project 96139C1 Originally, FY 96 was to be the close-out year, but some instream structures failed In FY 96, the structures which failed will be repaired using better anchoring techniques. Crowded stands of Sitka spruce, which were thinned to accelerate growth, will also be monitored. In FY 97, the repaired structures will be monitored to make sure they have withstood the high flows associated with the spring runoff, the final data on spruce growth will be collected, and the final report will be written.

Chief Scientist's Recommendation

Final year of this project. Fund

Trustee Council Action

Fund project close-out. This project is designed to evaluate the results of a previous Trustee Council effort to improve habitat for pink salmon and chum salmon on Montague Island. FY 96 was to be the final year of funding for the project (monitoring and report writing). However, some of the instream structures failed and the FY 96 funds were reprogrammed to repair the structures. FY 97 funding will allow the desired monitoring to occur.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97142-BAA	Status and Ecology of Kittlitz's Murrelets in Prince William Sound	R. Day/ABR, Inc.	NOAA	Cont'd 2nd yr. 3 yr. project	$188.5		$0.0	$0.0	$188.5

Project Abstract

This proposal would fund a second year of investigations on the status and ecology of Kittlitz's murrelet, a rare seabird breeding in glaciated fjords of Prince William Sound. The study would continue to evaluate the abundance, distribution, habitat use, productivity, and trophic position of this little-known seabird in northwestern Prince William Sound. Given uncertainty about the effects of the oil spill on this species, a better understanding of its status and ecology is required to ensure its long-term conservation.

Chief Scientist's Recommendation

This is a continuing project gathering basic information on a species recently added to the injured species list, which is also being considered for listing under the U.S. Endangered Species Act. The proposal has been supplemented to describe the nature of correction factors to be applied to survey data and the rationale for the statistical model (paired t-test) to be used Fund, but additional recommendations for this project may be provided after review of FY 96 results.

Trustee Council Action

Fund. The project may be further modified after review of FY 96 results. This study will gather basic information on the Kittlitz's murrelet, which is a rare, poorly known seabird According to one estimate, a substantial fraction of the world population of this species was killed in the spill. The results of this study may lead to identification of restoration measures.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97144	Common Murre Population Monitoring	D. Roseneau/DOI-FWS		Cont'd 2nd yr. 3 yr. project	$73.8	$50 0	$0.0	$0.0	$123 8

Project Abstract

This project continues a population monitoring study that will be conducted in 1996 Murres will be counted at Barren Islands nesting colonies during FY 96 and FY 97. An optional third year of census work at the Chiswell Islands murre colonies is also proposed to supply complementary data from another injured nesting location that will help evaluate the overall recovery status of common murres in the spill area.

Chief Scientist's Recommendation

This project would continue monitoring murre colony attendance in the Barren Islands. This is a solid, continuing project, and the researchers are very strong. This work will help bring closure to the recovery status of common murres, which were hit hard by the spill. The proposers recommend visiting the Chiswell Islands in FY 98, and I endorse this recommendation. The reviewers also attach great importance to a population trends manuscript slated for preparation in FY 98. This project complements and aids the APEX project (/163). Fund.

Trustee Council Action

Fund This project will monitor common murre populations on the Barren Islands. Population censuses at the Barren Islands will be very helpful in terms of the APEX study (/163), as well as to track murre recovery at this critical group of colonies Murre colonies on the Chiswell Islands should be monitored in FY 98

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97145	Cutthroat Trout and Dolly Varden: Relation Among and Within Populations of Anadromous and Resident Forms	G. Reeves/USFS, Pacific Northwest Research Station	USFS	Cont'd 2nd yr 3 yr. project	$229.7	$100.0	$0.0	$0.0	$329.7

Project Abstract

This project will determine the relation between resident and anadromous forms of Dolly Varden and cutthroat trout within the same watershed and between watersheds in Prince William Sound. It will examine genetic, meristic, and life-history features of each group in FY 96 and FY 97. Results from this study will allow development of a long term, comprehensive and ecologically sound restoration strategy for these fish.

Chief Scientist's Recommendation

This project is extremely critical for developing a restoration strategy for cutthroat trout and Dolly Varden. Several other very good proposals have been made for work on these species, but they cannot be implemented until their relationship to an overall recovery strategy is identified. Therefore, this project's contribution to the development of this strategy is important It will be important to review results obtained after FY 96 field work and data analysis are complete. Fund.

Trustee Council Action

Fund. This project defines relationships among stocks and life history forms (e g., anadromous and resident), refines understanding of the nature and extent of oil spill injury and may confirm whether recovery has occurred. The results of this study will be used to develop a restoration strategy for cutthroat trout and Dolly Varden This information has direct implications for management of sport fisheries in Prince William Sound and nationwide, and the USFS is providing significant support for this project.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97149	Archaeological Site Stewardship	D. Reger/ADNR		Cont'd 2nd yr 4 yr. project	$66.3	$66 3	$13.9	$0 0	$146.5

Project Abstract

The archaeological site stewardship program will provide training and coordination for a cadre of volunteers to monitor vandalized sites in the oil spill area beyond the ability of agency monitoring. Volunteer site stewards will protect damaged sites on the Kenai Peninsula, Kachemak Bay, Uganik Bay, Uyak Bay and the Chignik area of the Alaska Peninsula Further protection will come from increased local awareness of harm from site vandalism

Chief Scientist's Recommendation

Vandalism of archaeological sites was a serious concern in the aftermath of the oil spill. Long-term protection and restoration of injured sites will be most successful if undertaken by local people. This successful project is testing and fostering this approach, and it should be continued. Fund

Trustee Council Action

Fund This is a pilot project that provides training and coordination for volunteers to monitor vandalized archaeological sites in the oil spill area. This effort is currently beyond the ability of normal agency monitoring After FY 98, expenses will be assumed either by volunteer stewards or agency budgets, except for a small amount of closeout funds in FY 99.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97159-CLO	Surveys to Monitor Marine Bird Abundance in Prince William Sound During Winter and Summer: Report and Publication Writing	B. Agler/DOI-FWS	DOI	Cont'd 4th yr.	$60.1				$60.1

Project Abstract

In FY 97, this project will fund report and publication writing. Data collected during March 1990, 1991, 1993, 1994, and 1996 and July 1989, 1990, 1991, 1993, and 1996 will be used to examine trends 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 1989-96 will also be examined. In addition, marine bird damage assessment information will be prepared for publication.

Chief Scientist's Recommendation

This project is developing a valuable long-term dataset regarding recovery status of injured species, and the statistical power to detect trends in these highly variable datasets should be reached with FY 96 data The out-year budgets seem excessive, and any future commitments must be considered annually. Fund at level of revised request, which includes $15,000 for additional statistical analyses. The additional $15,000 should be approved with the stipulation that results of this work be published in the open, peer-reviewed scientific literature.

Trustee Council Action

Fund, including $15,000 for the services of a statistician to assist in preparation of marine bird damage assessment information for publication in the peer-reviewed literature. Funding also includes preparation of a final report (including 1 month to conduct regression analysis) and two other manuscripts (# 4 and #6 in the proposal) on marine bird abundance. The abundance surveys provide basic information on the status and recovery of seabirds (and sea otters) in Prince William Sound and should now be adequate to detect trends in seabird populations. The need for future surveys should be determined after review of the final report.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97161	Differentiation and Interchange of Harlequin Duck Populations Within the North Pacific	B. Goatcher/Katmai National Park		Cont'd 2nd yr. 3 yr. project	$98.8	$9.5	$0.0	$0.0	$108 3

Project Abstract

Restoration efforts for harlequin ducks require an assessment of spatial population structuring and movements among geographic regions to understand the extent of past and ongoing injury, to interpret measures of recovery, and to determine limitations to recovery and restoration strategies. This project will use genetic analyses and color-marking to determine the degree of spatial population structuring among harlequin ducks from broad geographic regions throughout their North Pacific molting and wintering ranges, including areas directly affected by the oil spill.

Chief Scientist's Recommendation

This is a promising attempt to determine population differentiation in harlequin ducks in the northern Gulf of Alaska using two complementary techniques (genetics and banding). I am interested in successful completion of this two-year project Fund, but there may be need for additional guidance based on a review of FY 96 results.

Trustee Council Action

Fund. This project will improve understanding of the population differentiation and movement among geographically separate groups of harlequin ducks in the northern Gulf of Alaska. This information will contribute to restoration and management goals in Prince William Sound and elsewhere in the spill area.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97162	Investigations of Disease Factors Affecting Declines of Pacific Herring Populations in Prince William Sound	G. Marty/UC Davis; R. Kocan/Univ. Wash , C. Kennedy & A. Farrell, Simon Fraser Univ.	ADFG	Cont'd 3rd yr. 4 yr project	$517.7	$437.6	$0.0	$0.0	$955.3

Project Abstract

Field and controlled laboratory studies will focus on viral hemorrhagic septicemia virus and *Ichthyophonus hoferi*, a pathogenic fungus, to determine their role in the disease(s) and mortality observed in Prince William Sound herring since 1993 Herring will be monitored throughout the year for signs of disease and immune status, while specific pathogen-free herring will be used to determine the degree of mortality, blood chemical changes, and pathogenicity produced by these organisms alone and in combination with exposure to stressors such as petroleum hydrocarbons, temperature and crowding

Chief Scientist's Recommendation

This is a technically excellent ongoing project that is contributing greatly to our understanding of the causes of the population crash of herring in 1993-94, and the recovery of the population from pathogenic effects The investigators are well qualified, with laudable publication records The project appears to be cost-effective. Fund

Trustee Council Action

Fund. This project investigates the potential link between oil exposure and disease in herring, and between disease and the herring population decline in Prince William Sound. Understanding the causes of the decline and the lack of recovery is important for restoration of the herring population in Prince William Sound and resumption of the herring fishery

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97163	APEX Alaska Predator Ecosystem Experiment in Prince William Sound and the Gulf of Alaska	D. Duffy, et al/UAA	NOAA	Cont'd 3rd yr 6 yr. project	$1,800.0	$1,800 0	$1,800.0	$176.4	$5,576 4

Project Abstract

This project will compare the reproductive and foraging biologies, including diet, of seabirds in Prince William Sound with similar measurements from Cook Inlet, an area with apparently a more suitable food environment. These measurements will be compared with hydroacoustic and net samples of fish to calibrate seabird performance with fish distribution and abundance, in an effort to determine the extent to which food limits the recovery of seabirds Fish will be sampled to determine whether competitive and predatory interactions or different responses to the environment may be favoring the abundance of one fish species over another.

Chief Scientist's Recommendation

The APEX project is an important, innovative project examining the relationship between the availability of forage fish and productivity in marine birds The study is fundamental to the restoration strategy adopted by the Trustee Council. The PIs are highly qualified and the project has strong leadership The cost of this project has been reduced in response to earlier concerns, and the modeling component (from Project 97253) has been included as requested. There are still several issues which need to be addressed, but these can only be considered following a review of 1996 results These issues include the retention of the forage fish diet overlap component (subproject C). In addition, recommendations on related, new projects -- 97231/Marbled Murrelets and 97305/Stable Isotopes -- may need to be revised in light of APEX priorities following the review this fall or winter

Trustee Council Action

Fund, project incorporates the modeling effort proposed in 97253-BAA ($69.8). Funding for the field sampling component of subproject C (forage fish diet overlap) is contingent on the results of the APEX review session, scheduled for winter 1997. Funding for subproject H (proximate composition of forage fish) is contingent on submittal of the report on Project 95121 The APEX project investigates the link between forage fish and seabird productivity. This work may yield results that will benefit the marine ecosystem in Prince William Sound and the northern Gulf of Alaska.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97165	Genetic Discrimination of Prince William Sound Herring Populations	J. Seeb/ADFG	ADFG	Cont'd 3rd yr. 4 yr project	$41.6	$56.0	$0.0	$0.0	$97 6

Project Abstract

The Prince William Sound herring fishery declined catastrophically in 1992. The Alaska Department of Fish and Game recovery effort includes incorporating knowledge of genetically-derived population structure into harvest management. This continuing project is delineating the structure of Prince William Sound population(s) and related North Pacific populations using both nuclear and mitochondrial DNA analyses. Tests for temporal and spatial diversity within years and temporal stability across years will be conducted.

Chief Scientist's Recommendation

This project has been underway for three years and has substantially met its objectives. In FY 97, the investigators should complete the lab work already underway and plan to produce a final report in FY 98. Fund.

Trustee Council Action

Fund Project 97165 is intended to address basic questions about the genetic composition of Prince William Sound herring in relation to other North Pacific populations When setting harvest limits, it is important to know whether there exists one or more genetically distinct populations.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97166	Herring Natal Habitats	M. Willette/ADFG	ADFG	Cont'd 4th yr. 6 yr project	$340.3			$0 0	$340 3

Project Abstract

The oil spill coincided with the spring migration of Pacific herring to spawning grounds in Prince William Sound. Studies of oil spill injuries to herring documented damage from oil exposure in adult herring, reduced hatching success of embryos, and elevated levels of physical and genetic abnormalities in newly hatched larvae. The Prince William Sound herring spawning population has drastically declined since 1993, and pathology studies have implicated viral hemorrhagic septicemia (VHS) and *ichthyophonus* as potential sources of mortality as well as indicators of stress. This project will monitor the abundance of the herring resource in Prince William Sound using SCUBA and hydroacoustic techniques.

Chief Scientist's Recommendation

This project has been carried out for several years since the oil spill to provide basic information about the spawning biomass of Pacific herring in Prince William Sound. The proposal for FY 97 would compare egg-based estimates of biomass with biomass estimates obtained from acoustic methods. The absence of any absolute abundance measure will make it necessary for the Alaska Department of Fish and Game to eventually choose among age-weight-length analyses from test fishing, aerial surveys of shoreline spawning, hydroacoustic measures, egg-deposition-based abundance and juvenile abundance survey methods developed in the SEA project (/320). The low cost and initial encouraging results from hydroacoustic surveys make this method a likely candidate for a future management tool. Also, 1997 is likely to be a period of continuing rebuilding of the stock. Therefore, the continuation of hydroacoustics is warranted in FY 97. However, it is likely that in FY 98 not all methods now supported by the Trustee Council will be continued.

Trustee Council Action

Fund, including the hydroacoustics component and completion of the herring recruitment model (which were deferred by the Trustee Council in August) In FY 98, fund only one survey method based on peer reviewers' concerns about the difficulty in comparing the herring spawn deposition technique with the hydroacoustic survey. The Alaska Department of Fish and Game has now provided a plan to take over full support of this work after FY 98. This project continues abundance surveys of Pacific herring and supports fisheries management decisions that protect the recovery of the stock

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97167-BAA	Preparation and Curation of Seabirds Salvaged from the *Exxon Valdez* Spill	S. Rohwer/University of Washington Burke Museum	NOAA	New 1st yr. 1 yr. project	$32.1	$0.0	$0.0	$0.0	$32.1

Project Abstract

In 1992 the Burke Museum received emergency funds from the National Science Foundation to salvage about 1,500 of the most valuable bird carcasses from the oil spill A year later the museum received another NSF grant to support the preparation, curation and storage of these specimens, unfortunately, that funding was not adequate to complete these tasks This proposal seeks funds to complete the preparation and curation of the remaining birds salvaged from the spill for the Burke Museum

Chief Scientist's Recommendation

The project will establish a biological legacy that could be very valuable to restoration studies that require a sampling of birds killed by EVOS Potential applications of genetic and other techniques to these samples could uncover additional information about injured bird populations. If there are not enough funds to salvage all of the specimens, as many as possible should be salvaged, giving priority to a combination of carcasses that has the greatest value to the restoration program. Fund at approximately $30.0.

Trustee Council Action

Fund. This project will complete the preparation, cataloging and labeling of a sample of bird carcasses from the spill. This collection has value for restoration studies, including studies under consideration in this Work Plan (e.g., Project 97169) that require a sample of birds that died in the spill. EVOS researchers should be given first priority to work with these specimens. If the reduced budget is not sufficient to salvage all of the carcasses, as many as possible will be salvaged giving priority to those with the greatest value to the restoration program If these carcasses are destroyed, there will be an irretrievable loss of materials to aid restoration studies.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97169	A Genetic Study to Aid in Restoration of Murres, Guillemots, and Murrelets to the Gulf of Alaska	V. Friesen/Queen's University, J. Piatt/DOI-FWS		New 1st yr. 4 yr. project	$59.4	$78.1	$83.8	$12.8	$234.1

Project Abstract

Populations of common murres, pigeon guillemots, and marbled and Kittlitz's murrelets from the Gulf of Alaska are failing to recover from the oil spill. This project will use state-of-the-art genetic techniques to aid in their restoration by 1) determining the geographic limits and structure of populations, i.e , the extent to which colonies are genetically isolated or comprise metapopulations, 2) detecting cryptic species and subspecies, 3) identifying sources and sinks, 4) providing genetic markers for the identification of breeding populations of birds killed by the spill, 5) identifying appropriate reference or control sites for monitoring or reintroductions, and 6) determining the role of inbreeding and small effective population sizes in restricting recovery.

Chief Scientist's Recommendation

The Trustee Council is interested in application of genetic techniques to questions about seabird biology. This project has been revised in response to peer review comments with regard to narrowing the objectives, clarifying use of various genetic methods, and reducing travel costs. This project is now recommended for funding

Trustee Council Action

Fund. The FY 97 Invitation encouraged proposals on the genetics of common murres, marbled murrelets, and pigeon guillemots in order to better understand the relationship between different populations of these species. This proposal was responsive to the Invitation and the PIs have responded to concerns about the objectives and methodologies of the study.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97170	Isotope Ratio Studies of Marine Mammals in Prince William Sound	D Schell/UAF Institute of Marine Science	ADFG	Cont'd 2nd yr. 3 yr. project	$143.3	$110.0	$0.0	$0.0	$253.3

Project Abstract

This project uses natural stable isotope ratios to assess trophic structure and food webs in Prince William Sound and contributes to the studies by ADFG personnel to determine the reasons for the decline of harbor seal populations Through a mix of captive animal studies, comparison of isotope ratios in archived and current marine mammal tissues and their potential prey species in Prince William Sound, insight into environmental changes causing the decline may be possible. In addition, by providing analytical services for mass spectrometry the project contributes to the SEA (/320) program's effort to describe the food chains supporting commercial fishes impacted by the oil spill.

Chief Scientist's Recommendation

This is an excellent proposal that holds good promise for an independent perspective on structure of the Prince William Sound food web supporting Pacific herring, pink salmon, harbor seals, and other injured species. This work is by its nature highly integrated with many other ecological projects being conducted in the oil spill area, including the harbor seal work in Project /244. The investigator has a good track record in the EVOS process and the work promises to be publishable in top-notch journals Progress up to now is excellent. The cost of the work is very reasonable, given the costs for commercial analyses of stable isotopes. Fund

Trustee Council Action

Fund. This project provides technical support for 97064, which may help explain why harbor seal populations have declined The project will also assist the SEA program (/320) by describing the food chains that support important commercial fisheries in Prince William Sound

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97180	Kenai Habitat Restoration & Recreation Enhancement	M. Rutherford/ADNR, M. Kuwada/ADFG		Cont'd 2nd yr. 3 yr. project	$599.4	$759.6	$0.0	$0 0	$1,359.0

Project Abstract

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 are 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.

Chief Scientist's Recommendation

This is a concrete, on-going proposal for habitat restoration on degraded portions of the Kenai River, which are important for recreational services in the oil-spill area. The personnel appear to be well-qualified to do the work, though professional personnel costs seem high relative to the number of sites to be addressed in this project Fund

Trustee Council Action

Fund This project will aid restoration of habitat along the Kenai River for the benefit of sockeye salmon and other fish species of commercial and recreational importance.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97186	Coded Wire Tag Recoveries From Pink Salmon in Prince William Sound	T Joyce/ADFG	ADFG	Cont'd 9th yr. 11 yr. project	$273.8	$279.4	$90.0	$0.0	$643.2

Project Abstract

There is a growing body of evidence indicating that the oil spill has been at least partially responsible for weak pink salmon returns to Prince William Sound Pink salmon runs are dominated by hatchery populations, and efforts to restore injured wild populations through selective harvesting of hatchery fish depend upon the availability of data pertaining to the spatial and temporal abundance of wild fish in the different fishing areas of the Sound. This project will provide accurate real-time and post-season estimates of hatchery and wild contributions to commercial harvests by date and fishing district and also to hatchery cost-recovery harvests This information is important for fisheries managers who must anticipate the effects of fishing strategies on injured populations.

Chief Scientist's Recommendation

Highly valuable on-going project. Technically excellent. Fund.

Trustee Council Action

Fund. Trustee Council funding will be provided again in FY 98 to ensure two years of overlap with the Otolith Thermal Mass Marking Project (/188). Only close-out funds will be provided in FY 99. The project provides information that allows fisheries managers to vary the timing and location of commercial harvest to protect injured wild stocks

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97188	Otolith Thermal Mass Marking of Hatchery Reared Pink Salmon In Prince William Sound	T. Joyce/ADFG	ADFG	Cont'd 3rd yr. 5 yr. project	$120.1	$108.4	$55.0	$0.0	$283.5

Project Abstract

This project will develop otolith marking as a stock separation tool. All hatchery-produced salmon will be marked using this technique. Recoveries of these marks from returning adults caught in mixed-stock fisheries in Prince William Sound will allow improved estimation of the hatchery/wild composition of the catch. Improved estimation will enhance the fishery manager's ability to protect damaged wild pink salmon stocks in mixed-stock fisheries. The project will be conducted over two pink salmon life cycles. Experience with two life cycles is needed to fully develop a program that integrates induced banding code quality, otolith processing rates and costs, and statistical designs for catch sampling

Chief Scientist's Recommendation

This is an excellent ongoing project. The increased funds requested for purchase of equipment appear necessary to process otoliths in a timely manner. Fund at $120.1.

Trustee Council Action

Fund. Trustee Council funding will be provided again in FY 98 to ensure two years of overlap with the Coded Wire Tag Project (/186). Only close-out funds will be provided in FY 99. The project provides information that allows fisheries managers to vary the timing and location of commercial harvest to protect injured wild stocks. Otolith marking is a more accurate and less expensive technology for providing the information now obtained through coded wire tags.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97190	Construction of a Linkage Map for the Pink Salmon Genome	F Allendorf/Univ Montana		Cont'd 2nd yr 5 yr. project	$254.5				$254.5

Project Abstract

This project will construct a detailed genetic linkage map for pink salmon by analyzing the genetic transmission of several hundred DNA polymorphisms. The ability to genetically map the location of oil-induced lesions will allow the thorough identification, description, and understanding of oil-induced genetic damage. This research will also aid other recovery efforts with pink salmon, including estimation of straying rates, description of stock structure, and testing whether marine survival has a genetic basis.

Chief Scientist's Recommendation

The project proposes sound technical approaches. However, there is inadequate description of the experimental design for application of the developed genetic markers to management questions Long-term applications of the developed genetic markers could be very valuable, although a specific link to restoration objectives is not well established in proposal The investigators are qualified and talented, but new to this line of work, and it will take time for them to get the new techniques implemented. No commitments should be made at present to funding beyond FY 97. Concrete evidence of cost sharing by non-EVOS sources is essential for future commitment of EVOS funds. Fund in FY 97 and then review again.

Trustee Council Action

Fund. This project will provide fundamental information which will likely aid restoration of wild stocks of pink salmon and benefit pink salmon management in the future. It is a long-term project with national importance Trustee Council commitment at this time is to provide funding through FY 97 only

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97191A	Field Examination of Oil-Related Embryo Mortalities that Persist in Pink Salmon Populations in PWS	M Willette/ADFG J Seeb/ADFG	ADFG	Cont'd 9th yr. 11 yr. project	$208.5	$164.2	$58.7	$0.0	$431.4

Project Abstract

Elevated embryo mortalities were detected in populations of pink salmon inhabiting oiled streams following the oil spill These increased rates of mortality persisted annually through the 1993 field season, suggesting that genetic damage may have occurred as a result of exposure to oil during early developmental life-stages The consequences of this putative genetic damage include physiological dysfunction of individuals and reduced reproductive capacity of populations The 1994 field results show no statistical difference in embryo mortality between oil-contaminated and reference streams This project will continue to monitor the recovery of pink salmon embryos in the field and would verify and identify the occurrence of genetic damages

Chief Scientist's Recommendation

The recovery of pink salmon streams is planned to be followed through two even-year and two odd-year life cycles, and this objective will be completed in FY 98. No new genetics work should be initiated in FY 97, except that which is needed to support Project 97190. Fund.

Trustee Council Action

Fund stream sampling and embryo mortality component. This project represents the major monitoring project for the ongoing injury to and recovery of pink salmon

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97194	Pink Salmon Spawning Habitat Recovery	M. Murphy/NOAA		New 1st yr. 2 yr. project	$138.3		$0 0	$0 0	$138.3

Project Abstract

This project will examine the level of oil contamination in pink salmon streams in 1989-90 and 1995 by analyzing sediment samples collected in 1989-90 by ADFG and similar samples collected in 1995 by the Auke Bay Laboratory/NOAA Analysis and comparison of the 1989-90 and 1995 data will complete the understanding of the injury to pink salmon by documenting the initial exposure level and subsequent habitat recovery

Chief Scientist's Recommendation

This is a good proposal and it may provide the final results that clarify the impact of the spill on early life stages of pink salmon. The proposal could have been stronger if there was a greater overlap between sediment samples and streams that were studied for embryo morality However, comparison of the data from this project with similar data from laboratory experiments will allow greater understanding of whether field conditions in pink salmon streams in 1989 and 1990 were toxic to early life history stages of pink salmon Fund

Trustee Council Action

Fund This project will tie actual concentrations of oil obtained from field samples in 1989, 1990, and 1995 in pink salmon streams to embryo mortalities and will illuminate the role of direct exposure in potentially causing the observed multi-year effects in pink salmon embryos The level of funding recommended includes funds for preparation of the final report in FY 97.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97195	Pristane Monitoring in Mussels	J. Short/NOAA	NOAA	Cont'd 2nd yr. 5 yr. project	$115.3	$115.0	$115.0	$75.0	$420.3

Project Abstract

This project will continue to monitor pristane in mussels as an indirect index of potential year-class strength for pink salmon and herring and to identify critical pink salmon and herring marine habitat in Prince William Sound.

Chief Scientist's Recommendation

This is an excellent proposal that holds good promise for development of a measurement for the annual importance of copepod production in the Prince William Sound food web, and therefore in interannual variability of larval fish (Pacific herring and pink salmon) production. The investigator has a good track record in the EVOS process and the work promises to be publishable in a first line journal. Progress to date has been excellent. The cost of the work is very reasonable Fund, but commit to five rather than six years of Trustee Council support, pending subsequent evaluations of progress.

Trustee Council Action

Fund. Collecting and measuring pristane in mussels may provide a simple measure of marine productivity, thus allowing predictions about future fisheries production and harvest levels. Project has good community involvement component, working with the participants in the Youth Area Watch (Project /210) and producing an informational brochure.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97196	Genetic Structure of Prince William Sound Pink Salmon	J. Seeb/ADFG		Cont'd 4th yr 6 yr project	$195.5	$130.0	$50.0	$0 0	$375.5

Project Abstract

Wild-stock pink salmon suffered direct lethal and sublethal injuries as a result of the oil spill. An understanding of the population structure of pink salmon in Prince William Sound is essential to assess the impact of these injuries on a population basis and to devise and implement management strategies for restoration. This project is designed to delineate the genetic structure of populations of wild pink salmon inhabiting the Sound

Chief Scientist's Recommendation

This is a good continuing project that potentially will contribute much to the restoration of pink salmon stocks in Prince William Sound. However, there is a need to define what level of genetic variability is important for management of the stocks. There is need for more information on the methods for analysis for the mitochondrial DNA work and to identify which of the 70 polymorphic loci are most useful or promising to pursue. The investigators are technically well qualified but application of the information would benefit from closer integration with agency managers. Fund.

Trustee Council Action

Fund This project is designed to determine geographic extent of genetic differences in Prince William Sound pink salmon. Knowledge of the location of pink salmon stocks and genetic differences among the stocks in Prince William Sound could help refine pink salmon management areas and goals, aiding in the recovery of wild stocks

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97197	Alaska SeaLife Center Fish Pass	J. Seeb/ADFG	ADFG	New 1st yr. 1 yr. project	**$545.6**	$0.0	$0.0	$0.0	$545.6

Project Abstract

This project will design, construct, and install a fish pass at the Alaska SeaLife Center in Seward. The fish pass will be used to propagate experimental runs of Pacific salmon for new and ongoing genetic studies to be conducted at the Center. A cooperative agreement, similar to the agreement for the SeaLife Center, will be written by ADFG with the City of Seward to implement this project.

Chief Scientist's Recommendation

This is a technically excellent idea that will benefit basic research on genetics of salmon and provide an experimental run that is not available in this portion of the state. It also has significant positive benefits for public education The Trustee Council should fund through non-work plan sources after engineering review.

Trustee Council Action

Fund. A fish pass at the SeaLife Center will enhance EVOS research and improve the restoration of injured resources and services. It will allow the effects of variables experienced during early life history to be studied throughout the life cycle of salmonids. Research on the long-term effects of oil, hatchery-wildstock interactions, ecology, disease, genetics, and conservation biology of salmonids requires experimental runs of fish. Without a fish pass, such studies cannot be done efficiently and effectively at the SeaLife Center. The Trustee Council contribution to this project is for the research components of the structure only Visitor enhancements to the structure should be paid for with other funds.
NOTE: This is a capital project that was funded outside of the regular FY 97 work plan of research, monitoring, and general restoration.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97210	Youth Area Watch	R. Sampson/Chugach School District		Cont'd 2nd yr. 3 yr. project	**$150.0**	$150.0			$300 0

Project Abstract

This project links students within the oil spill impacted area with research and monitoring projects funded through the Trustee Council. The goal is to involve students in the restoration process and give them the skills to participate in restoration activities now and in the future. Youth conduct activities identified by principal investigators who have indicated interest in working with students

Chief Scientist's Recommendation

The Youth Area Watch is an outstanding project for fostering community participation in the EVOS restoration program. The proposal is well thought out and sufficient detail is present to see that this will likely be a successful project. Fund.

Trustee Council Action

Fund, including expansion of program to Whittier, Seward, Valdez, and Cordova This project is designed to involve local youth in ongoing restoration projects.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97214-CLO	Documentary on Subsistence Harbor Seal Hunting in PWS	B. Simeone/ADFG	ADFG	Cont'd 2nd yr 2 yr. project	$12.1	$0.0	$0.0	$0.0	$12.1

Project Abstract

This is the close-out of a project begun in FY 96. The video will document all facets of harbor seal hunting, including the ecological and biological knowledge hunters use to hunt seals. In FY 96, Taylor Productions of Anchorage was awarded the contract to produce the documentary, which will be completed by February 1997 Funds requested for FY 97 will supplement a subcontract with Tatitlek to support village participation in the project and one month of ADFG staff time to assist with review of the project and final report completion. Funds will also support participation by Tatitlek residents in a public screening in Anchorage of the completed documentary.

Chief Scientist's Recommendation

These funds are for close-out of a project to document subsistence use of harbor seals. This promises to be a very successful video that will have great educational value. It will be popular among the rural residents of Alaska, and will contribute to the restoration of subsistence services. With these funds, the principal investigators should make sure that the video receives extensive distribution

Trustee Council Action

Fund This project is designed to contribute to the restoration of harbor seals and subsistence uses by transmitting local knowledge and observations about harbor seals to the scientific community.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97220	Eastern PWS Wildstock Salmon Habitat Restoration	D. Schmid/USFS		Cont'd 2nd yr. 3 yr. project	$115.0	$12.0	$0.0	$0.0	$127.0

Project Abstract

This project will replace lost subsistence services resulting from the oil spill by increasing wild salmon production in eastern Prince William Sound Instream fisheries habitat improvement techniques, primarily the installation of log structures, will be employed by local subsistence users to increase the capability of selected streams to produce additional salmon. The project is being developed and implemented cooperatively by the Native Village of Eyak and the USFS

Chief Scientist's Recommendation

This is a continuation of an ongoing project to provide replacement subsistence fish resources. Fund.

Trustee Council Action

Fund continuation of work on Eyak-area streams. A separate proposal to enhance streams near Tatitlek may be considered in FY 98. This project is designed to replace subsistence services lost due to the oil spill by increasing wild salmon production in Prince William Sound

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97223-BAA	Analysis, Integration and Publication of Pre- and Post-Spill Data on Sea Otter Reproduction, Survival, Development, and Health	L. Rotterman and C Monnett/Enhydra Research	NOAA	New 1st yr. 1 yr project	**$43.0**	$0.0	$0.0	$0.0	$43.0

Project Abstract

This project will result in new analyses, integration, and comparison of pre- and post-spill data, and the publication of four papers needed to understand spill damage to sea otters and assess the current status of affected sea otter populations. These four papers will result in a) data on the reproduction, development, and survival of sea otter females, pups, and weanlings; b) generation of benchmarks against which to gauge sea otter population status relative to recovery, and c) information key to evaluating response strategies

Chief Scientist's Recommendation

Demographic information already existing in final reports delivered by the PIs represents a potentially valuable contribution to the literature on population biology of sea otters in Alaska. Therefore, it is recommended that a modest amount of funds be provided to convert these reports into peer-reviewed publications. Funding levels should be at 1.5 months/publication for manuscripts #1, #2, #4, and #5, with progess payments made upon completion of each manuscript.

Trustee Council Action

Fund data analysis and preparation of four manuscripts (Health, development, and survival of sea otter pups and weanlings; Length-mass relationships in sea otters; Survival and reproduction of female sea otters, and Age-specific reproduction of female sea otters) for publication in the peer-reviewed literature. Analysis of these data will directly aid interpretation of current studies (NVP-Project /025).

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97225	Port Graham Pink Salmon Subsistence Project	E Anahonak, Port Graham IRA Council		Cont'd 2nd yr. 5 yr. project	**$74.4**	$75.0	$75.0	$75.0	$299.4

Project Abstract

This project will provide pink salmon for subsistence use in the Port Graham area while maintaining the Port Graham hatchery's broodstock development schedule. Because local runs of coho and sockeye salmon, the more traditional salmon subsistence resource, are at low levels, pink salmon are being heavily relied on for subsistence. The project will supplement ADFG monitoring of the Port Graham hatchery's pink salmon return, and will enhance the juvenile-to-adult survival of hatchery-produced pink salmon through an extended rearing program

Chief Scientist's Recommendation

This proposal will generate replacement pink salmon subsistence resources This version is much improved over the previous proposal (FY 96), as close attention to the reviewer's comments has produced a well thought out proposal with very good probability of success. Fund.

Trustee Council Action

Fund. Project is intended to increase the availability of pink salmon for subsistence use, replacing runs of coho and sockeye salmon depleted since the oil spill.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97230	Valdez Duck Flats Restoration Project	J. Winchester/PWS Economic Development Council	ADNR	New 1st yr. 1 yr. project	$67.8	$0.0	$0.0	$0.0	$67.8

Project Abstract

The Alaska Department of Natural Resources has identified the waters of Valdez Duck Flats and nearshore waters east to the mouth of the Lowe River as crucial estuarine habitat in the Prince William Sound Area Plan. Wildlife species injured by the oil spill are threatened by crowding, disturbance, plastics pollution, and active human disturbance. The area provides important habitat for water birds, anadromous fish, and other estuarine and intertidal species This proposal will further identify injured resources, aid in the recovery of spill impacted populations, mitigate effects of visitor traffic, design a local volunteer monitoring program, and educate the public about the value of tidelands.

Chief Scientist's Recommendation

The apparent goal is to prevent loss of habitat values on the Valdez Duck Flats, an area which has some link to injured resources, including pink and sockeye salmon Several tracts on the Duck Flats are under consideration for possible small-parcel acquisitions by the Trustee Council. The proposal has a heavy up-front emphasis on engineering and construction, but the proposers will first assess wildlife habitat needs and alternative ways of addressing those needs in the face of increasing development and visitor pressures. To their credit, the proposers seem to have the interest and cooperation of a number of key agencies and constituencies

Trustee Council Action

Fund development of a concept plan for protection of habitat on the Valdez Duck Flats. The plan should take into account the effort underway by the Army Corps of Engineers to enhance tidal flushing in the area through development of a reservoir. One option for protecting the flats is affected by the acquisition of three small parcels, for which the appraisals are being reviewed. The Valdez Duck Flats are a large and complex intertidal mudflat and salt marsh that offer valuable habitat to several injured resources and services. A locally developed plan for protecting habitat on the Duck Flats will increase the probability that future use of the flats will promote the recovery of injured resources and services given increased public usage.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97231	Marbled Murrelet Productivity Relative to Forage Fish Availability and Environmental Parameters	K. Kuletz/FWS	DOI	New 1st yr. 4 yr. project	$120.0				$120 0

Project Abstract

This project investigates the hypothesis that forage fish abundance is limiting marbled murrelet reproductive success and thus recovery. It compares forage fish abundance, as determined by APEX (/163) and SEA (/320) studies, to an index of murrelet productivity Intra- and inter-annual comparisons will be made among six sites in Prince William Sound and between the Sound and Kachemak Bay Data on terrestrial and marine habitat use will be integrated to make a descriptive model of adult and juvenile murrelet distribution. Historical data will be examined for changes in the present distribution of murrelets indicative of ecosystem-level changes.

Chief Scientist's Recommendation

This project investigates the hypothesis that forage fish abundance is limiting marbled murrelet reproductive success and recovery. This work would complement the APEX project (/163) and is important in its own right, given the EVOS injury to murrelets This is a good project from a solid investigator, but I am uncertain whether there is need for a four-year project. The PI has reduced the cost of the project. Defer decision on funding pending review of APEX and priorities

Trustee Council Action

Fund interim amount ($31 3). Fund new field work in FY 97 ($88 7) contingent on the results of the APEX (/163) review session scheduled for winter 1997. This project would investigate the link between forage fish and marbled murrelet productivity and thereby help explain why the population is not recovering The proposal is responsive to the Invitation, which encouraged proposals that would integrate marbled murrelet field work with the APEX project

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97244	Community-Based Harbor Seal Management and Biological Sampling	M Reidel/Alaska Native Harbor Seal Commission		Cont'd 2nd yr 3 yr project	$114.9	$85.0	$0.0	$0.0	$199.9

Project Abstract

This project will expand the biological sample collection program funded by the Trustee Council in FY 96 in Prince William Sound and lower Cook Inlet to two Kodiak Island communities and Valdez Village-based technicians will be selected by the Alaska Native Harbor Seal Commission (ANHSC) and trained to collect samples and transport the samples for analysis. The traditional knowledge database distributed in FY 96 will be updated and produced on CD-ROM. Maps depicting harbor seal subsistence harvest areas will be prepared. The ANHSC will organize a workshop and produce and distribute a newsletter. (Village-based technicians will be located in Cordova, Chenega Bay, Tatitlek, Seldovia, Port Graham, Nanwalek, Valdez, and two communities on Kodiak Island.)

Chief Scientist's Recommendation

The technical approach for this project is very clear, it seems feasible, and makes excellent use of local residents' talents that have been historically underutilized. Good collaboration with Youth Area Watch project (/210) Proposers need to follow through on plan to find non-Trustee Council funding. Fund.

Trustee Council Action

Fund. This pilot project will serve as a prototype for a long-term sampling program that will involve Native hunters in the management of harbor seals. In the near term, this project will enable Native hunters to provide harbor seal samples for projects 97001, 97064, and 97170, which seek to explain why harbor seals are not recovering. In FY 97, the biosampling program will be expanded to include Valdez and two sites in Kodiak.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97247	Kametolook River Coho Salmon Subsistence Project	J. McCullough & L. Scarborough/ADFG	ADFG	New 1st yr 6 yr project	$31.4	$13 8	$14 1	$44.1	$103.4

Project Abstract

This project is a continuation of a project funded in 1996 through the EVOS criminal settlement In FY 96 and FY 97, an assessment of methods to restore the Kametolook River's coho run to historic levels will be conducted. Instream incubation boxes (designed to increase the egg-to-fry survival rate) and habitat manipulation (such as clearing blocked river channels) to improve access to spawning and rearing habitat will be evaluated. Actual installation of instream incubation boxes is scheduled for summer 1997.

Chief Scientist's Recommendation

This appears to be a reasonable replacement for subsistence that apparently declined after the spill The revised proposal and subsequent correspondence with the state geneticist indicate that the proposal conforms to the state genetics guidelines and with EVOS supplementation criteria

Trustee Council Action

Fund This project is designed to enhance a small coho salmon run near the Alaska Peninsula village of Perryville as a replacement for subsistence resources injured by the oil spill The project has a strong community involvement component, including the hiring of Perryville residents as local assistants on the project. In the winter/spring of 1997 the evaluation of instream incubation boxes will be completed and an Environmental Assessment prepared, with installation of large capacity incubation boxes scheduled for summer 1997 Trustee Council funding is anticipated for six years (through 2002), at which time the run is expected to be self-sustaining

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97250	Project Management	All Trustee Council Agencies		Cont'd Annual	$641.6	$560 0	$480.0	$960 0	$2,641.6

Project Abstract

Project management represents those costs incurred by the state and federal trustee agencies in fulfilling their responsibility to ensure that individual projects are managed consistent with the Memorandum of Agreement and Consent Decree, the Restoration Plan, and Trustee Council authorization Prior to FY 97, the costs associated with project management were included in each individual project's budget

Chief Scientist's Recommendation

Proposal not reviewed.

Trustee Council Action

Fund. Project management provides essential accountability and oversight of projects funded through the work plan. The FY 97 funding will be allocated as follows:
Alaska Department of Fish and Game - $304.9
Alaska Department of Natural Resources - $41.9
National Oceanic and Atmospheric Administration - $153 4
U S. Department of the Interior - $89 9
U.S. Forest Service - $51.5
The recommendations for future years' funding reflect a reduction in project management effort consistent with the decline in the annual funding targets for the overall work plan

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97251-CLO	Akalura Lake Sockeye Salmon Restoration	C. Swanton/ADFG	ADFG	Cont'd 1st yr. 1 yr. project	$43.7	$0.0	$0.0	$0.0	$43.7

Project Abstract

This project will substantiate that the Akalura Lake sockeye salmon stock is naturally recovering from damage caused by the oil spill through continued increased production of sockeye salmon smolts. This will be accomplished if the size of the 1997 smolt emigration is at or above approximately 200,000 fish. Funding will be for a single year of field studies identical to what was conducted during 1996 and a report coupling previous findings (Project /258A-Sockeye Overescapement) with those of the 1997 field studies

Chief Scientist's Recommendation

This project is appropriate for sustained salmon management. However, it is not clear that the current low escapements to Akalura Lake are related to the spill. Zooplankton levels and smolt production in the lake are at good levels as is marine survival of sockeye from Kodiak Island Fund.

Trustee Council Action

Fund for one year only, including field work and preparation of a final report. This project will conclude the smolt emigration studies on Akalura Lake (conducted under Project /258A), which will assist in determining the recovery status of the Akalura sockeye stock.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97255-CLO	Kenai River Sockeye Salmon Restoration	L. Seeb, J. Seeb, K. Tarbox/ADFG		Cont'd 6th yr. 6 yr. project	$158.3	$0 0	$0 0	$0.0	$158 3

Project Abstract

This is the close-out of a five-year project to restore Kenai River sockeye salmon through improved stock assessment capabilities and more accurate regulation of spawning levels Results from this study are currently being used in the management and restoration of Kenai River sockeye salmon injured in the oil spill.

Chief Scientist's Recommendation

This is a technically sound proposal. However, the stock assessment and stock identification products are those which salmon harvest management programs routinely require. The Trustee Council has supported the development of the tools being applied by this project over several years on the theory that their application would be essential to harvest management of depressed and damaged salmon stocks. At this time, the risk of catastrophically low salmon runs which warrant further restoration efforts would appear extremely remote Do not fund.

Trustee Council Action

Fund project close-out (completion of data analysis and preparation of final report/manuscript). This concludes a 5-year effort to more accurately regulate spawning levels using improved sockeye salmon stock assessment capabilities. Continuation of effort should be taken over by the Alaska Department of Fish and Game as part of its normal management responsibility. The information provided by this project is being used by fisheries managers to modify fishing areas and openings in order to improve management of Kenai River and other Upper Cook Inlet sockeye salmon stocks, which were injured when escapement goals were greatly exceeded following the oil spill.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97256B	Sockeye Salmon Stocking at Solf Lake	D. Gillikin/USFS	USFS	Cont'd 2nd yr. 7 yr. project	$50.0	$143.5	$78.5	$185.1	$457.1

Project Abstract

This project is designed to benefit subsistence users of Prince William Sound and especially residents of Chenega Bay Habitat improvements were made in 1978, 1980 and 1981 to provide access to Solf Lake for anadromous fish Investigations suggest that the lake is fishless and has adequate zooplankton biomass to support a salmon population There are two phases to this project The feasibility phase (FY 96) will verify the ability of Solf Lake to support a population of sockeye salmon. Phase 2 will stock the lake with sockeye salmon and ensure adequate anadromous access to the lake. If the project is found to be feasible, stocking of the lake could begin in 1998

Chief Scientist's Recommendation

This appears to be a reasonable supplementation project in view of the pre-earthquake sockeye salmon population in Solf Lake. The FY 97 project will complete Phase I objectives and it appears technically feasible to then proceed to implement Phase II objectives, which will reestablish a sockeye population in Solf Lake for the benefit of subsistence communities in Prince William Sound. Fund.

Trustee Council Action

Fund. This project is intended to provide sockeye salmon as a replacement for subsistence and sport fishing resources injured by the oil spill, particularly for the residents of Chenega Bay.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97258A-CLO	Sockeye Salmon Overescapement Project	D Schmidt/ADFG	ADFG	Cont'd 4th yr. 4 yr. project	$214.0	$0.0	$0 0	$0.0	$214.0

Project Abstract

This proposal will close out the sockeye salmon overescapement work. Tasks include final report preparation, including analysis of samples collected in FY 96 for the Kenai River only. The Kenai studies will focus on evaluation of the existing data. Funding will be directed at completing the FY 96 sample analysis and evaluation of the existing database The 1996 Kodiak samples will not be processed. These studies are developing production models for restoration of the system being evaluated

Chief Scientist's Recommendation

This project has produced much scientific evidence relevant to the evaluation of the effects of overescapement Our ability to gain additional understanding is limited by the uncertainty of estimates achieved with state-of-the-art data acquisition technologies Development of a production model for the Kenai River sockeye salmon that accounts for trophic interactions is not relevant to restoration objectives Harvest management control of the system appears to be adequate in the absence of the work products identified in this proposal The strategy for the recovery and restoration effort of the Trustee Council was to develop enhanced management capabilities for damaged resources, that goal has been achieved Do not fund

Trustee Council Action

Fund project close-out only (analysis of FY 96 Kenai samples, and preparation of final report on Kenai and Kodiak studies) This concludes a 3-year effort to examine the effects of sockeye overescapement in the Kenai River system and in Red and Akalura lakes on Kodiak Island. The project has met its primary objective, which was to develop enhanced management capabilities for sockeye populations injured by the oil spill.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97259-CLO	Restoration of Coghill Lake Sockeye Salmon	G. Kyle/ADFG	ADFG	Cont'd 5th yr. 5 yr project	$46.8	$0 0	$0.0	$0.0	$46.8

Project Abstract

Coghill Lake has been historically the major producer of sockeye salmon in Prince William Sound and a mainstay of commercial and sport fisheries. Beginning in 1993, the Trustee Council has funded a program to fertilize Coghill Lake to increase zooplankton levels, which in turn benefits juvenile sockeye growth and survival. After three years of lake fertilization, primary and secondary productivity have increased, the smolt migrations have increased five-fold, and the escapement goal in 1995 was achieved This does not constitute a complete recovery as the zooplankton density is lower than desired. However, sockeye production in this lake has increased to attain adequate escapement. A fifth year of lake fertilization originally envisioned and two years of post-fertiliztaion assessment will not be completed, as the Chief Scientist has recommended that this project be closed out in FY 97

Chief Scientist's Recommendation

This program was initiated in 1993 to restore the sockeye salmon run in Coghill Lake through fertilization and supplementation. Primary and secondary productivity in the lake are now at acceptable levels; smolt production is at an acceptable level; and adult escapements within the optimum range are being produced Restoration objectives have therefore been achieved. In addition, the harvest of high levels of returning adults (see Table 1 in project's 1995 annual report), which compromises the restoration benefits, continues to be a major concern. Do not fund

Trustee Council Action

Fund project close-out (preparation of final report) This concludes a 4-year effort to increase the productive capacity of Coghill Lake Although the Trustee Council originally planned to fund five years of fertilization, the project has met its primary objectives -- primary and secondary productivity in Coghill Lake are at acceptable levels; smolt production is at an acceptable level; and adult escapements within the optimum range are being produced.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97263	Assessment, Protection and Enhancement of Salmon Streams on Port Graham Corporation Lands	W. Meganack, Jr./Port Graham Corporation	ADFG	New 1st yr. 3 yr. project	$58.0	$115.0	$12.0	$0.0	$185.0

Project Abstract

This project will replace lost subsistence services resulting from the oil spill by conducting an inventory and assessment for ehhancement projects on the four major salmon streams in the Lower Cook Inlet spill area In FY 98 and FY 99, protection and enhancement projects will be implemented using instream fisheries habitat improvement techniques, primarily creation of spawning channels, removal of natural barriers to spawning, and construction of wall-based rearing structures Local subsistence users will be employed as technical assistants during field surveys and construction Port Graham Corporation will share costs of this project

Chief Scientist's Recommendation

This project will survey major salmon streams on Port Graham lands and develop protection and enhancement projects for pink, chum, and coho salmon on four streams. It is unlikely that the instream enhancement methods would have negative effects overall, and the project should achieve some of its goals with respect to enhanced fisheries. Fund.

Trustee Council Action

Fund. This project will protect and enhance salmon streams important to the restoration of subsistence in the Port Graham area This project will also serve as a model for protection of other salmon streams that cross land owned by Port Graham Corporation.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97272-CLO	Chenega Chinook Release Program	J Milton/Prince William Sound Aquaculture Corporation		Cont'd 5th yr. 5 yr. project	$45.0	$0.0	$0.0	$0 0	$45 0

Project Abstract

Chinook salmon incubated and reared at the Wally Noerenberg Hatchery will be released in Crab Bay, adjacent to the Native community of Chenega. Adult salmon returning to the site of release will provide replacement resources and associated services injured by the oil spill Two releases have taken place (1994, 1995) as part of this multi-year project. Adult salmon will begin returning in 1996 and 1997, with larger numbers projected at nearly 1,000 adult fish returning in 1998 and thereafter.

Chief Scientist's Recommendation

This is a continuing project with a sound technical approach. The annual report looked good, and the program is likely to produce 1,000-2,000 adult fish through 2002 as replacement subsistence resources for the village of Chenega Bay Fund

Trustee Council Action

Fund final year of Trustee Council contribution Project is designed to provide replacement resources for subsistence salmon injured by the oil spill.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97286	Elders/Youth Conference on Subsistence and the Oil Spill	B Henrichs/Native Village of Eyak	DOI	New 1st yr. 2 yr. project	$15.8	$111.1	$0.0	$0 0	$126.9

Project Abstract

Building on the recommendations from the Community Conference on Subsistence and the Oil Spill sponsored by the Trustee Council in October 1995, this project will bring together elders and youth from all of the oil spill-affected communities to focus on the positive outcomes of the first conference's action items. FY 97 funds are for preliminary planning. Funds requested in FY 98 will be for holding the conference itself, which is scheduled to be held in Cordova in the fall of 1997.

Chief Scientist's Recommendation

The Trustee Council has sponsored previous conferences on subsistence and the oil spill, and is continuing to implement community interactions through Project /052 and other projects. The need for another conference should be evaluated in FY 97 based on a survey of what has been accomplished since the last conference. Fund.

Trustee Council Action

Fund conference planning in FY 97; the conference itself will be recommended for funding in FY 98. The conference, which will involve subsistence users from throughout the spill area and EVOS researchers, will focus on means to assist in the recovery of injured resources The Trustee Council sponsored a similar conference in October 1995.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97290	Hydrocarbon Data Analysis, Interpretation, and Database Maintenance	B. Nelson/NOAA		Cont'd 6th yr. 11 yr. project	$76.3	$74.8	$74.8	$224.4	$450.3

Project Abstract

This project is a continuation of the NRDA and restoration database management, hydrocarbon interpretation and sample storage service. Subsistence, response and restoration data will continue to be incorporated into the Trustee Council hydrocarbon database. A summary report for investigators and managers will be produced along with an electronic copy of the database that will allow easier access to this information.

Chief Scientist's Recommendation

This is an essential project for overall success of the Restoration Program. Fund

Trustee Council Action

Fund. Project is on-going analysis of hydrocarbon data for other Trustee Council funded studies. This project will make these data available to the scientific community and the public, including "on-line" via the computer Internet

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97300	**Synthesis of the Scientific Findings from the *Exxon Valdez* Oil Spill Restoration Program**	R. Spies/Applied Marine Sciences	ADNR	New 1st yr. 3 yr. project	**$64.9**	$260.0			$324 9

Project Abstract

There have been numerous in-depth studies of injured species since 1989, on single species as well as the pelagic ecosystem (SEA/320), forage fish (APEX/163), and the nearshore ecosystem (NVP/025). Their results constitute an enormous amount of information on the northern Gulf of Alaska. This project will synthesize this information for the public and management agencies

Chief Scientist's Recommendation

This proposal was submitted at the request of the core scientific reviewers and the Executive Director.

Trustee Council Action

Fund. The Trustee Council's research program is at a stage where efforts to synthesize information on the injury and recovery of injured species are strongly needed. This project will work with principal investigators who have conducted restoration projects and with ecological modelers to facilitate synthesis of existing information into both mathematical and written descriptions of the spill area ecosystem and how it changes in response to anthropogenic and natural events.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97302	Prince William Sound Cutthroat Trout, Dolly Varden Char Inventory	K. Hodges/USFS		New 1st yr. 1 yr project	**$12.8**	$0 0	$0.0	$0 0	$12 8

Project Abstract

Research on anadromous Dolly Varden char and cutthroat trout in Prince William Sound has been hampered by the lack of basic information on their distribution. Earlier studies stated that there are only a few streams in the Sound with these species, but after consultation with local residents it appears these fish are more widespread than previously believed This project will consult local residents, government agencies, Native groups, and other knowledgeable individuals to determine where these species can be found. For systems on which there is no information, field crews will conduct surveys.

Chief Scientist's Recommendation

This project contains good ideas, but it is competing with far more sophisticated proposals to do the same type of work. The site determination phase of this proposal, if coordinated with other concerned state and federal entities, could make a valuable contribution to development of a recovery strategy during FY 97. Consider funding the other element of the project later at a reduced level.

Trustee Council Action

Fund the site determination element. Local knowledge will be used to determine which streams in Prince William Sound are known to have populations of cutthroat trout and Dolly Varden This information could be useful in developing a restoration strategy for these species. The restoration strategy, which depends on the results of Project \145, will be developed during FY 97. Reconsider the other element of the project, estimation of the relative abundance of cutthroat trout and Dolly Varden, after a restoration strategy for these species has been developed

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97304	Kodiak Island Borough Master Waste Management Plan	J. Selby/Kodiak Island Borough	ADEC	New 1st yr 1 yr. project	$267.5	$0.0	$0 0	$0.0	$267 5

Project Abstract

This project will develop an island-wide waste management plan for Kodiak Island in order to remove chronic sources of marine pollution and solid waste that may be affecting recovery of resources and services injured by the oil spill. The plan will focus on the six remote coastal villages which currently do not have adequate waste management practices and facilities. The master plan will be oriented towards achieving practical, measurable results through a project approach that involves the villages working together with the Kodiak Area Native Association and the Kodiak Island Borough to identify and implement opportunities for cost-effectively reducing sources of marine pollution.

Chief Scientist's Recommendation

There is need to reduce sources of chronic marine pollution in the Kodiak area, as was done for communities in Prince William Sound. Those types of waste that end up in the marine environment and which conceivably could affect injured species are most appropriate for Trustee Council action. Fund.

Trustee Council Action

Fund. This project will reduce chronic pollution in the marine environment near communities on Kodiak Island and thereby reduce stress on recovering resources and services. The focus of the project will be the six remote villages on the island. The waste streams that will be addressed in this regional plan are used oil generated by vessels and communities, household hazardous waste, solid waste, and sewage.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97306	Ecology and Demographics of Pacific Sand Lance in Lower Cook Inlet	J. Piatt/DOI-NBS		New 1st yr. 3 yr. project	$32.8	$30.0	$20.0	$0.0	$82.8

Project Abstract

The purpose of this project is to characterize the basic ecology, distribution and demographics of sand lance in lower Cook Inlet. Recent declines of upper trophic level species in the Gulf of Alaska have been linked to decreasing availability of forage fish. Sand lance is the most important forage fish in most nearshore areas of the northern Gulf. Despite its importance to fish, seabirds, and marine mammals, little is known or published on the basic biology of this key prey species

Chief Scientist's Recommendation

This is a novel and exceptionally useful contribution to understanding of a forage fish species that is very important to injured resources and the marine ecosystem. The project relies on a graduate student under good supervision and is very cost effective. Fund, including a literature review on sand lance biology.

Trustee Council Action

Fund. This project would study sand lance, an important forage fish in the northern Gulf of Alaska Sand lance populations have been in decline in recent years and should be studied in order to understand marine ecosystems as they may affect injured seabirds and marine mammals

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97320	Sound Ecosystem Assessment (SEA)	T Cooney, et al.	ADFG	Cont'd 4th yr. 6 yr. project	$3,618.3	$1,947.2			$5,565.5

Project Abstract

This project is describing mechanisms of mortality for juvenile populations of pink salmon and Pacific herring in Prince William Sound. This information is being used to create a series of dynamic numerical models and an attendant nominal monitoring program to affect the restoration of these species through management options. The mechanisms influencing the distribution and growth rates of juveniles are being investigated by oceanographic studies. Mechanisms of predation and starvation are being studied by fisheries scientists and marine ecologists.

Chief Scientist's Recommendation

This is an excellent program that has undergone independent and thorough technical review annually. The program should better articulate the practical benefits and applications to be derived from the research, including a schedule for production of potential management tools. Key parameters for routine monitoring of the system to determine likely productivity of pink salmon and herring need to be identified. Continued improvement of the interaction between the modelers and the field scientists is required, as is a plan to integrate the results of SEA with the work of APEX(/163) and NVP(/025). In terms of the long-range scope of the program, resolution of the major hypotheses will be necessary over the next year prior to decisions about funding after the FY 99 closeout.

Trustee Council Action

Fund. Significant progress has been made to address the central SEA hypotheses The program is now at a point when field work is transitioning to modeling and analysis FY 98 will be the final year for most of the present SEA projects and only modest closeout funding is anticipated in FY 99 as a final synthesis year Further herring research beyond FY 98 is uncertain and must be reevaluated in the context of other herring work and other restoration proposals A key issue to be addressed in FY 97 is ensuring that SEA predictive models are useful to/used by resource managers. Further interaction between SEA investigators and resource managers appears needed Clarification of any long-term data collection and monitoring to support predictive models is also critical to ensure that models can be maintained over time. On-going efforts to integrate the major ecosystem research projects (SEA, NVP and APEX) should be pursued during FY 97 and used to guide future funding decisions. In recognition of funds included in the FY 97 recommendation for additional data/modeling work ($207.0) and for PWSSC's FY 98 report writing of FY 97 results ($445 8), total SEA funding in FY 98 is projected to be $1,947.2 (including agency administrative costs).

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97424	Restoration Reserve	All Trustee Council Agencies	ALL	Cont'd 4th yr. 9 yr. project	$12,000.0	$12,000.0	$12,000 0	$36,000 0	$72,000 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 97 would be the fourth deposit into the reserve account and would bring the total in the account to $48 million. Annual deposits of $12 million in each of the next five years would provide a reserve of $108 million plus interest. These funds will be used for restoration activities, but no allocation of the funds to specific activities has yet been made

Chief Scientist's Recommendation

Proposal not reviewed.

Trustee Council Action

Fund. The Restoration Reserve will help ensure that restoration can continue beyond the time of the final payment from Exxon.

Project Number	Project Title	Proposer	Lead Agency	New or Cont'd	FY 97 Approved	FY98 Estimate	FY99 Estimate	FY00-02 Estimate	FY97-02 Estimate
97427	Harlequin Duck Recovery Monitoring	D. Rosenberg/ADFG		Cont'd 4th yr.	$252.5				$252 5

Project Abstract

Harlequin duck populations have not recovered from injuries sustained from the oil spill Proposed surveys are designed to assess the extent of recovery of ducks inhabiting oiled areas and determine if low reproductive success has resulted in changes in population structure and productivity that may limit recovery Shoreline boat surveys will be used to compare population age and sex structure, distribution, abundance, and productivity between oiled and unoiled areas in Prince William Sound in late-winter, spring, and late-summer. Changes in population size, structure, and production in oiled and unoiled areas within and between years will be compared. Continued population monitoring and brood surveys will allow us to assess trends and suggest factors limiting recovery.

Chief Scientist's Recommendation

There continues to be concern about the status of harlequin ducks, especially in regard to reproduction and survival, and this is an important project to track populations of harlequin ducks in Prince William Sound. The additional cost for winter surveys that have the potential to increase knowledge of the dynamics of different sectors of the population is a justified effort that may help explain population dynamics in western Prince William Sound.

Trustee Council Action

Fund This project continues basic assessment of the recovery status of harlequin ducks in Prince William Sound, and includes funds for soliciting traditional knowledge from local residents In the future (FY 98 and beyond), work on harlequin ducks needs to be more tightly integrated and consolidated into one or two projects.