Introduction

What is the Restoration Plan?

The Exxon Valdez Restoration Plan will provide long-term guidance for restoring resources and human uses injured by the oil spill. Each year the Restoration Plan will be implemented through an Annual Work Plan. The Annual Work Plan is a mix of restoration activities to be funded that year based on the policies and spending guidelines of the plan, future public comments, and changing restoration needs. Once the Restoration Plan is adopted, it may be changed in response to new information about the injuries and recovery, new technologies, or other changing conditions.

Who are the Exxon Valdez Oil Spill Trustees?

A council of six federal and state trustees was established to administer the $900-million civil settlement to restore resources and services injured by the oil spill.

State of Alaska Trustees

- ❑ Commissioner of the Department of Environmental Conservation
- ❑ Commissioner of the Department of Fish and Game
- ❑ Alaska Attorney General

Federal Trustees

- ❑ Secretary of the U.S. Department of the Interior
- ❑ Secretary of the U.S. Department of Agriculture
- ❑ Administrator of the National Oceanic and Atmospheric Administration, U.S. Department of Commerce

The Federal Trustees have appointed their lead representative in Alaska to serve on the Trustee Council.

The Trustee Council uses funds from the civil settlement for activities to restore injured resources and services. It does not manage fish and wildlife resources or make land-use decisions. Fish and game management decisions or land-use decisions are made by fish and game boards, or by appropriate federal or state agencies. The Trustee Council may make recommendations to state and federal agencies, provide funds for state and federal management, or fund research to provide information to those agencies or other groups. The Trustee Council may also purchase private land or private property rights.

The Spill and the Court Settlements

Shortly after midnight on March 24, 1989, the T/V Exxon Valdez ran aground on Bligh Reef in Prince William Sound spilling 11 million gallons of North Slope crude oil. This was the largest oil spill in United States history. All through the spring, the oil moved along the coastline of Alaska contaminating the shoreline of Prince William Sound, the Kenai Peninsula, lower Cook Inlet, the Kodiak Archipelago, and the Alaska Peninsula. Portions of 1,200 miles of coastline were oiled, including part of one National Forest, four National Wildlife Refuges, three National Parks, five State Parks, four State Critical Habitat Areas, and one State Game Sanctuary. Oil eventually reached shorelines nearly 600 miles southwest of Bligh Reef.

On October 8, 1991, the U.S. District Court approved an agreement that settled the claims of the United States and the State of Alaska against Exxon for various criminal violations and for recovery of civil damages resulting from the oil spill.

CIVIL SETTLEMENT AND RESTORATION FUND

In the civil settlement, Exxon agreed to pay the United States and the State of Alaska $900 million over a period of 10 years. The use of the civil settlement funds is the subject of this plan.

THE CRIMINAL PLEA AGREEMENT

As part of the criminal plea agreement, the court fined Exxon $250 million — the largest fine ever imposed for an environmental crime. Of this amount, $125 million were forgiven due to their cooperation with the governments during the cleanup, timely payment of many private claims, and environmental precautions taken since the oil spill. Of the remaining $125 million, $50 million each were paid to the United States and the State of Alaska. The state and federal governments separately manage these $50 million payments. The remaining $25 million were paid into the North American Wetlands Conservation Fund, and into the Victims of Crime Act Account.

Funds from the criminal plea agreement are not under the authority of the Trustee Council and are not considered by this plan. However, they must be used exclusively for restoration activities, within the State of Alaska, relating to the Exxon Valdez oil spill.

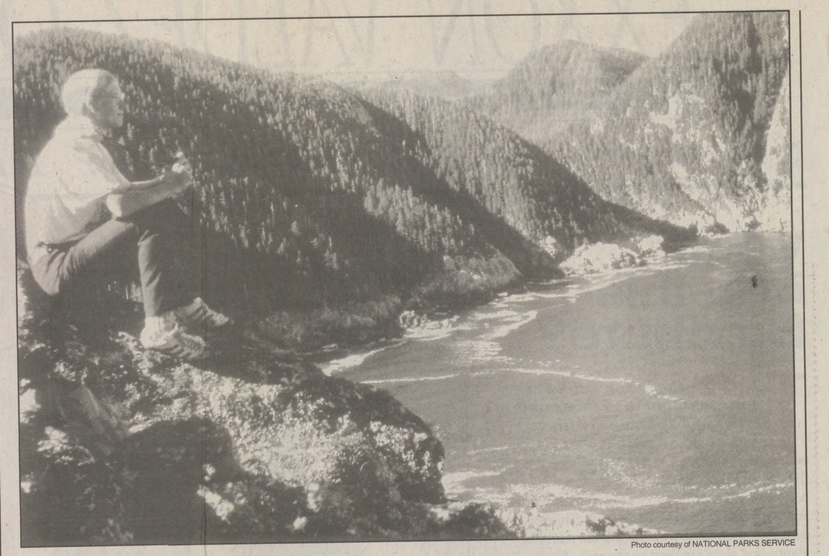


Photo courtesy of NATIONAL PARKS SERVICE

Rules for Spending the Civil Settlement Funds

1. **The Trustee Council must use the settlement funds "...for the purposes of restoring, replacing, enhancing, or acquiring the equivalent of natural resources injured as a result of the Oil Spill and the reduced or lost services provided by such resources..." (except for reimbursements to the state and federal governments in settlement of past costs).**

2. **The settlement funds must be spent on restoration of natural resources in Alaska unless the Trustees unanimously agree that spending funds outside of the state is necessary for effective restoration.**

3. **All decisions made by the Trustee Council (such as spending settlement funds) must be made by unanimous consent.**

The settlement defines **NATURAL RESOURCES** as the land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to or managed by the state or federal governments. Examples of natural resources are birds, fish, mammals, subtidal plants and animals, and archaeological resources.

In addition to restoring natural resources, funds may be used to restore reduced or lost **SERVICES (human uses)** provided by injured natural resources. For example, subsistence, commercial fishing, and recreation including sport fishing, sport hunting, camping, and boating are services that were damaged by injuries to fish and wildlife. Other injured services include commercial tourism, and the enjoyment that people receive from undisturbed wild areas.

Funding

The Civil Settlement Funds as of March 1993

The civil settlement requires Exxon to deposit funds each year beginning December 1991 and ending September 2001. The table below shows uses and commitments of that money. It shows that of the $900 million civil settlement, approximately $610 to $630 million remain for funding restoration activities.

PAYMENTS

Past Exxon Payments
$240 million
- ❑ $210.1 million in 1991 and 1992
- ❑ $39.9 million credited to Exxon for cleanup costs after January 1, 1991

Future Exxon Payments
$660 million by 2001

TOTAL EXXON PAYMENTS
$900 million

EXPENSES

Past Reimbursements, Deductions, Withdrawals & Commitments
$200.2 million
- ❑ $107.5 to reimburse the federal and state governments for past damage assessment, clean-up, litigation, response, and restoration expenses;
- ❑ $19.5 for the 1992 work plan;
- ❑ $33.3 for the 1993 work plan (including $7.5 for Kachemak Bay purchase); and
- ❑ $39.9 credited to Exxon for cleanup costs after January 1, 1991.

Future Commitments
An unknown amount probably between $70 - $90 million
To reimburse the governments for past expenditures

Total Remaining
Aproximately $610-$630 million

TOTAL EXPENDITURES
$900 million

The Planning Process

The restoration planning process has used the results of many scientific studies, meetings, and symposia conducted during the four years that have elapsed since the oil spill.

Information presented here will be developed further and presented for public review and comment in the Draft Restoration Plan and Draft Environmental Impact Statement to be published in June 1993. A Final Restoration Plan and Final Environmental Impact Statement will be released in late Fall 1993.

Restoration Planning Process has used results derived from:

- ❑ **Natural Resource Damage Assessment Studies: 1989-1992**
- ❑ **Restoration Science Studies: 1990-1992**
- ❑ **Technical Workshop 1990**
- ❑ **Public Symposium 1990**
- ❑ **Restoration Planning Progress Report 1990**
- ❑ **Public meetings 1990-1993**
- ❑ **Restoration Framework and Supplement 1992**
- ❑ ***Exxon Valdez* Oil Spill Symposium 1993**

General restoration

For some resources and services, no known restoration approach is likely to be effective. In these cases, the main agent of recovery is nature. For other resources and services, however, it may be possible to provide some improvement over natural recovery.

The General Restoration category of Alternatives 3 through 5 includes various restoration actions that have been suggested throughout the planning process. The suggestions were evaluated by scientists and peer reviewers. Those that were determined to be effective have been combined into general options and are listed below. Those general options may include a number of specific projects. The evaluation of options considered how recovery was aided and whether further potential injury could be prevented. Other considerations included potential negative effects and how many species benefit. No options were identified for restoring subtidal resources, air, water, sediment, designated wilderness or wilderness study areas. The list on this page provides examples of restoration options that received favorable evaluations. New options will continue to be evaluated as the restoration plan is implemented.

Specific projects will require legal review to ensure compliance with the civil settlement. The Trustee Council will only fund projects that are consistent with the civil settlement.

Some activities, such as habitat protection and acquisition, would have wide-ranging impacts throughout the spill area. Most options that help resources also help the services that are dependent upon them. An option targeted to improve the recovery of a single resource may greatly benefit other resources that occur in the same area. This is especially true of the activities that protect marine, coastal and upland habitats. In addition, options that benefit the foundation of a food web, such as marine invertebrates, would ultimately benefit top predators such as whales and eagles.

MAMMALS

		3	4	5
HARBOR SEAL	Determine the effects of disturbance on harbor seals and implement actions to reduce adverse effects.			X
	◆ Implement cooperative programs between fishermen and agencies to provide voluntary methods to reduce incidental take of harbor seals during fishing.	X	X	X
	◆ Implement cooperative programs between subsistence users and agencies to assess the effects of subsistence harvest.	X	X	X
KILLER WHALE	◆ Determine techniques for changing black cod fishery gear to avoid conflicts with fishermen and implement actions to remove adverse effects.		X	X
SEA OTTER	◆ Determine the effects of disturbance of upland activities on sea otters and implement actions to reduce adverse effects. This would have benefits in local areas only.	X	X	X
	◆ Determine if eliminating oil from mussel beds removes a potential source of continuing contamination to sea otter food and take appropriate action. This would have benefits in local areas only.	X	X	X
	◆ Implement cooperative programs between subsistence users and agencies to assess the effects of subsistence harvest.	X	X	X
RIVER OTTER	Develop sport and trapping harvest guidelines to aid in the recovery of injured populations.			X

FISH

		3	4	5
SOCK-EYE SALMON	◆ Intensify management of sockeye salmon on the Kenai River and Red Lake to reduce the risk of overescapement.	X	X	X
	Improve access to salmon streams by building fish passes to increase the area where salmon can successfully spawn and rear. This would have benefits in local areas only.			X
	Fertilize lakes to improve sockeye rearing success within the lake and increase sockeye population.		X	X
	◆ Improve survival rates of salmon eggs to fry by using egg boxes, net pens or hatchery rearing.	X	X	X
PINK SALMON	◆ Intensify management by incorporating coded-wire tagging and stock separation to ensure and accelerate the recovery of the wild stock.	X	X	
	Construct salmon spawning channels and other instream improvements to increase spawing production and provide long-term enhancement. This would have benefits in local areas only.		X	
	Improve access to salmon streams by building fish passes to increase the area where salmon can successfully spawn and rear. This would have benefits in local areas only.		X	
	◆ Relocate hatchery runs of pink salmon to reduce the interception rate of wild stocks of pink salmon.	X	X	
	Improve survival rates of salmon eggs to fry by using egg boxes, net pens, or hatchery rearing. This would have benefits in local areas only.		X	
	Update the Alaska Anadromous Streams Catalog to ensure that the necessary protection and regulation is provided for all listed salmon streams in the spill area.		X	
CUT-THROAT TROUT	◆ Intensify management of cutthroat trout and its dependent sport fishery by determining local distribution, abundance, and productivity.	X	X	
	Update the Alaska Anadromous Streams Catalogue to ensure necessary protection and regulation for all listed anadromous streams in the spill area.		X	
DOLLY VARDEN	◆ Intensify management of Dolly Varden and its dependent sport fishery by determining local distribution, abundance and productivity.	X	X	
PACIFIC HERRING	◆ Intensify management to improve recovery by allowing increased precision in stock assessment and manipulation of harvest levels.	X	X	
ROCK-FISH	◆ Intensify management of the rockfish fishery to modify the harvest to compensate for injury from the spill.	X	X	

COASTAL HABITAT

		3	4	5
INTERTIDAL ORGANISMS	◆ Accelerate the recovery of the upper intertidal zone to aid intertidal resources in localized areas.	X	X	X
SUBTIDAL ORGANISMS	No restoration options have been identified.			

NOTE: ◆ denotes options that may produce substantial improvement in assuring recovery of a biological resource. Those without an asterisk may produce at least some improvement in recovery.

BIRDS

		3	4	5
BLACK OYSTER-CATCHER	Accelerate the recovery of the upper intertidal zone to improve the rate of recovery in site-specific areas. This would have benefits in local areas only.			X
	◆ Remove predators from islands that previously supported black oystercatchers. Effectiveness varies by location.		X	X
COMMON MURRE	Reduce disturbance at breeding colonies to eliminate factors which could slow the recovery of affected murre colonies.			X
	◆ Use artificial stimuli such as decoys or vocalizations to encourage recovery at affected colonies and accelerate recolonization of historic colonies.	X	X	X
	◆ Remove predators at injured colonies or remove predators from islands that previously supported murres.	X	X	X
HARLEQUIN DUCK	Modify sport hunting harvest guidelines in the areas of injured populations to speed the rate of recovery during the recovery phase.			X
	◆ Determine if eliminating oil from mussel beds removes a potential source of continuing contamination in feeding areas and take appropriate action. This would have benefits in local areas only.	X	X	X
MARBLED MURRELET	◆ Minimize the incidental capture of birds in fishing nets by changes in gear or timing of fishing.	X	X	X
PIGEON GUILLEMOT	◆ Control predator access or remove predators from islands that previously supported birds.	X	X	X
BALD EAGLE	No options other than habitat protection have been identified.			

DESIGNATED WILDERNESS AREAS

	3	4	5
No options have been identified for Designated Wilderness Areas or Wilderness Study Areas.			

ARCHAEOLOGICAL RESOURCES

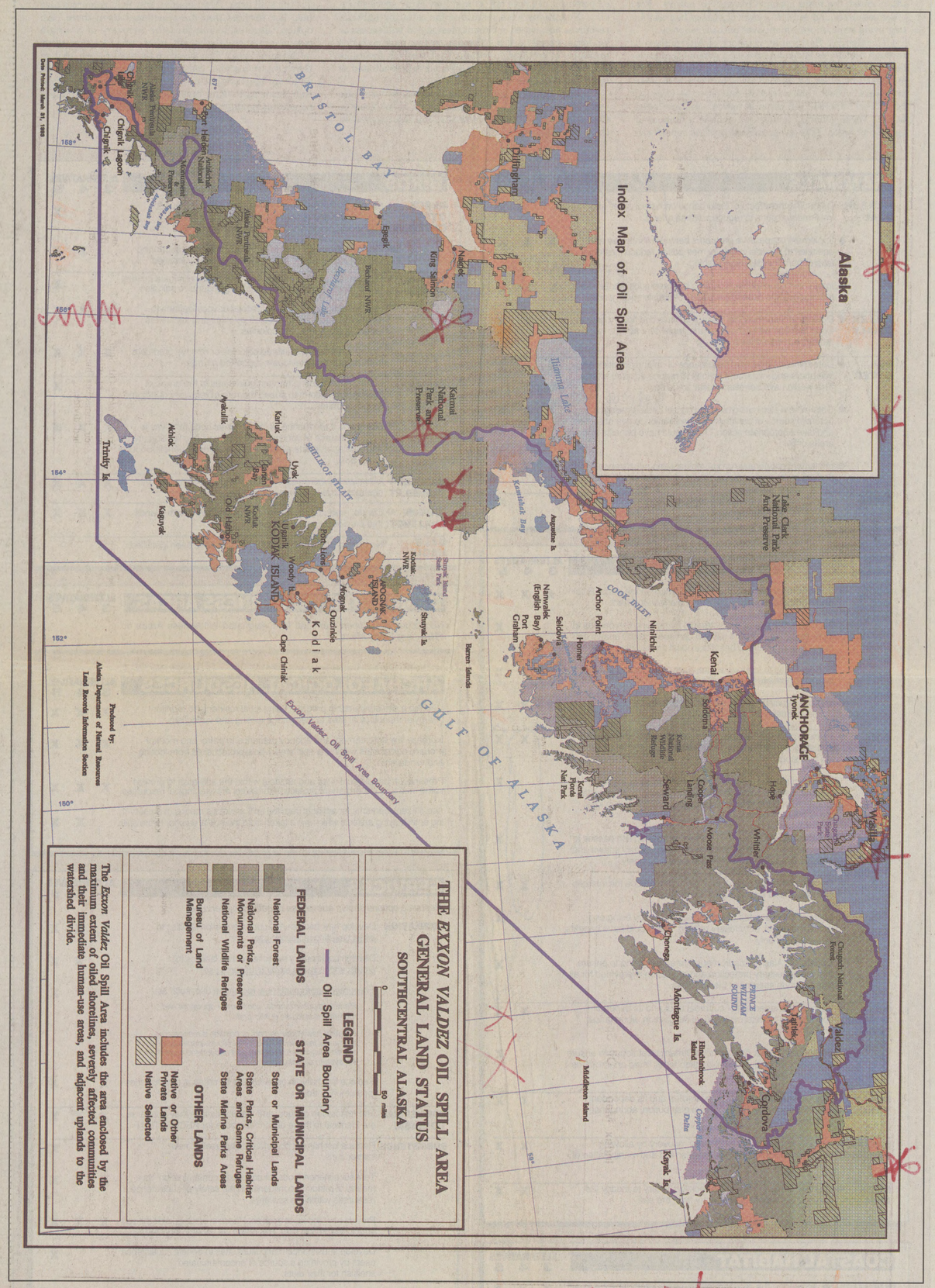
	3	4	5
Develop a site stewardship program using local residents to monitor nearby archaeological sites to discourage looting and vandalism.	X	X	X
Increase law enforcement and agency presence to patrol and monitor archaeological sites within the spill area would protect sites from looting and vandalism.	X	X	X
Preserve archaeological sites and artifacts within the spill area to provide some measure of permanent protection for select archaeological resources.	X	X	X
Acquire replacements for artifacts from the spill area as a means of preserving and studying artifacts which were taken from the spill area prior to the spill.		X	X

SERVICES

Resource options shown above also benefit many services.

		3	4	5
RECREATION	Develop new backcountry public recreation facilities to protect existing recreation use.	X	X	X
	Develop backcountry public recreation facilities to protect and increase existing resource use.		X	X
	Encourage appropriate new recreation use, such as: *Marketing public land for commercial operators and recreationists to use public lands.* *Creating new visitor centers or building a marine environmental institute to increase public awareness of the nature of injury and recovery and understanding of the ecosystem of that area.*			X
	Replace lost harvest opportunities by creating new fisheries for salmon or trout.	X	X	X
COMMERCIAL TOURISM	The restoration options, and the alternatives they appear in, are identical to those described above for RECREATION	X	X	X
SUBSISTENCE	Replace lost harvest opportunities by creating new salmon runs.			X
	Test subsistence foods for continued contamination as a means of restoring confidence in the safety of subsistence resources within the spill area.	X	X	X
	Provide new access to traditional foods in areas outside the spill area to restore lost use. This option will undergo legal review.	X	X	X
	Develop subsistence mariculture sites to benefit subsistence users by providing a source of uncontaminated shellfish for their diets.			X
	Develop a shellfish hatchery and technical research center to benefit subsistence users by providing a source of uncontaminated shellfish for their diets.			X
COMMERCIAL FISHING	Replace harvest opportunities by creating new fish runs to replace commercial fishing opportunities lost due to fishing closures or reduced harvest.	X	X	X
PASSIVE USE	No options other than habitat protection have been identified for this resource.			

map of the oil spill area



DRAFT

EXXON VALDEZ OIL SPILL RESTORATION PLAN

Summary of Alternatives for Public Comment

What is in this Brochure?

In 1989, *the Exxon Valdez oil spill contaminated thousands of miles of Alaska's coastline.* It killed birds, mammals, and fish, and damaged other resources. In 1991, Exxon agreed to pay the United States and the State of Alaska $900 million over a period of ten years to restore resources and human uses injured by the spill. This brochure describes alternative ways to help the animals, plants, and people injured by the spill. We are distributing this brochure by mail, by newspaper, and at public meetings. Please take a moment to fill out and return the response form on Page 8 of this brochure, or present your views at a public meeting in your community. The information you provide will help us prepare a Final Restoration Plan that will be presented to the public this fall. We would appreciate receiving your comments as soon as possible, but we will use all comments received by **August 6, 1993.**

The National Environmental Policy Act requires that an Environmental Impact Statement be part of any significant federal action such as the restoration program. In addition to including information found here, the Draft Environmental Impact Statement will analyze the impacts of these alternatives on the physical, biological, social, and economic aspects of the environment. It will help the Trustee Council and the public understand the consequences of alternative ways of restoring injuries caused by the spill.

Photo by ED KLINKHART

The Draft Environmental Impact Statement and the full text of the Draft Restoration Plan will be ready in June 1993. Because many people are busy during the summer, this summary is being released now to gather your ideas. If you prefer, you may wait to see the Draft Environmental Impact Statement and Draft Restoration Plan this June before you respond.

The information you provide will be used to prepare a Final Restoration Plan that will be presented to the public this fall. The final plan may contain parts of several of the alternatives presented here plus new information you provide.

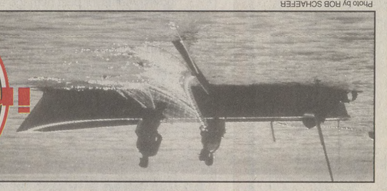
inside LOOK

INDEX

Exxon Valdez Oil Spill Public Information Center
645 "G" Street, Anchorage, Alaska 99501
(907) 278-8008
Inside Alaska (800) 478-7795 • Outside Alaska (800) 283-7745

Michael A. Barton, Regional Forester, Alaska Region - USDA Forest Service
Charles E. Cole, Attorney General, State of Alaska
Paul Gates, Regional Environmental Officer-Alaska U.S. Department of the Interior
Steven Pennoyer, Director, Alaska Region National Marine Fisheries Service
John A. Sandor, Commissioner Alaska Department of Environmental Conservation
Carl L. Rosier, Commissioner Alaska Department of Fish and Game

Photo by ROB SCHAEFER



inside LOOK

Public Meetings

Summary of Alternatives for Public Comment

Chignik Lagoon	School Cafeteria	April 12 •	2:00 p.m.
ChignikLake	School Cafeteria	April 12 •	7:00 p.m.
Chenega Bay	Community Building	April 19 •	11:00 a.m.
Kodiak	Kodiak Borough Assembly Chambers	April 19 •	7:00 p.m.
Port Graham	Community Center	April 20 •	1:00 p.m.
Ouzinkie	Community Center	April 20 •	1:00 p.m.
Port Lions	Community Hall	April 20 •	7:00 p.m.
Seldovia	Multi-purpose Room, City Building	April 21 •	7:00 p.m.
Larsen Bay	Tribal Council Office	April 21 •	7:00 p.m.
Homer	City Council Chambers	April 22 •	7:00 p.m.
Akhiok	City Offices	April 22 •	2:00 p.m.
Old Harbor	City Hall	April 22 •	7:00 p.m.
Nanwalek	IRA Village Office	April 23 •	2:00 p.m.
Anchorage	Simpson Building, 645 G Street	April 26 •	7:00 p.m.
Valdez	City Council Chambers	April 26 •	7:00 p.m.
Seward	City Council Chambers	April 27 •	7:00 p.m.
Tatitlek	Community Center	April 27 •	3:00 p.m.
Juneau	Centennial Hall, Hickel Room	April 28 •	7:00 p.m.
Cordova	Council Chambers, Cordova Library	April 28 •	7:00 p.m.
Fairbanks	Wood Center, Univ. of Ak, Fairbanks	April 29 •	7:00 p.m.
Whittier	Fire Hall	April 30 •	5:00 p.m.

DRAFT
EXXON VALDEZ OIL SPILL
RESTORATION PLAN
Summary of Alternatives for Public Comment

POSTAL CUSTOMER

BULK RATE
US POSTAGE
PAID
PERMIT #1013
ANCHORAGE, ALASKA

Exxon Valdz Oil Spill Restoration Office
645 "G" Street
Anchorage, Alaska 99501

injury & recovery

MAMMALS

HARBOR SEALS The oil spill caused population declines and sublethal injuries in harbor seals. Many were directly oiled and an estimated 345 died. Oil residues found in seal bile were 5 to 6 times higher in oiled areas than unoiled areas in 1990. The population was declining prior to the oil spill which makes it difficult to determine the effects of the spill. There are some recent indications that the population may be stabilizing, but there is no indication of any increase.

KILLER WHALES Population decline and other injuries have been documented in one of the pods (extended family group) in the oil spill area. There is debate about whether the oil spill caused these injuries. Thirteen whales out of 36 in one whale pod in Prince William Sound are missing and presumed dead. Circumstantial evidence links the whale disappearance to the oil spill. Additionally, several adult males have collapsed dorsal fins and social disruption of family units has been observed. In that pod, no new births were recorded in 1989 or 1990; one birth was recorded in 1991; and two births were recorded in 1992. These births suggest that the pod is beginning to recover.

RIVER OTTERS There are differences in some indicators of health, feeding habits, and other aspects of river otter biology between oiled and unoiled areas. These differences may indicate an effect of the spill. Lacking prespill data and a measure of the population, there is great uncertainty about the nature of the injury. River otters feed in the intertidal and shallow subtidal areas and may still be exposed to oil persisting in the environment.

SEA OTTERS The oil spill caused population declines and sublethal injuries in sea otters. It is estimated that 3,500 to 5,000 otters died. The total sea otter population in the Gulf of Alaska is estimated at around 20,000. Surveys in 1989, 1990 and 1991 showed measurable differences in population and survival rates between oiled and unoiled areas. In 1992, lower juvenile survival rates and higher than normal numbers of dead, prime-age otters indicate that the populations in Prince William Sound continue to be stressed. Sea otters feed in the lower intertidal and subtidal areas and may still be exposed to oil persisting in the environment. Little or no evidence of recovery has been detected.

BIRDS

BALD EAGLES A minimum of 200 to 300 eagles were estimated to have been killed by the spill. However, because population census techniques are not accurate enough to detect population changes this small, no measurable population decline has been recorded. Productivity in Prince William Sound was disrupted in 1989, but returned to normal in 1990. Exposure to oil and some sublethal injuries were found in 1989 and 1990, but no continuing effects were observed on populations. Bald eagles are recovering, and may have recovered, from the effects of the oil spill.

Black Oystercatcher

Courtesy of US. FISH & WILDLIFE SERVICE

BLACK OYSTERCATCHERS The oil spill caused population declines and sublethal injuries in black oystercatchers. In 1989, smaller eggs and lighter weight chicks were found in oiled areas. Black oystercatchers feed in the intertidal areas and may still be exposed to oil persisting in the environment. The population is recovering although evidence of sublethal injuries persisted in 1992.

COMMON MURRES The oil spill caused population declines and sublethal injuries at murre colonies within the oil spill area. In 1989, between 175,000 to 300,000 murres were killed. Measurable impacts on populations were recorded in 1989, 1990 and 1991. Breeding was still inhibited in some colonies in the Gulf of Alaska in 1992. The degree of recovery varies between colonies and some colonies show little evidence of recovery.

HARLEQUIN DUCKS The oil spill caused population declines and sublethal injuries in harlequin ducks. In 1989, approximately 400 birds were killed. In the three years since the oil spill, it appears that harlequin ducks still are not successfully breeding in oiled areas of Prince William Sound. Harlequin ducks feed in the intertidal and shallow subtidal areas and may still be exposed to oil persisting in the environment.

MARBLED MURRELETS The oil spill caused population declines, but it is unknown if there were sublethal injuries. It is estimated that 8,000 to 12,000 birds died. Measurable population effects were recorded in 1989, 1990 and 1991 as a result of the oil spill. In 1989, oil contamination was found in livers of adult birds. Marbled murrelet populations were declining prior to the oil spill. In 1992, recovery was uncertain and no signs of an increasing population have been observed, but the decline may have stabilized.

PIGEON GUILLEMOTS The oil spill caused population declines in pigeon guillemots. In 1989, between 1,500 to 3,000 birds were estimated to have been killed. In 1989, oil contamination was found in birds and on eggs. The recovery status in 1992 is uncertain. There is no evidence of an increase in the population. Pigeon guillemot populations were declining prior to the spill.

What Was Injured By the Spill and Is It Recovering?

This page describes the injury and the status of recovery for each of the resources and services included in the alternatives. The table on page 3 categorizes the biological resource injuries into those that resulted in a measurable population decline and those that did not. These other injuries include higher mortality in early life stages (for example, eggs and very young animals) and sublethal injuries that do not result in death. These injuries have not resulted in measurable effects to the overall adult population.

Injuries to services (human uses) are more difficult to categorize. They depend in part on the injury to the resources as well as on the way people use and perceive areas and resources.

In addition to the resources described below, other species were studied as part of the damage assessment process but are not believed to have suffered notable injuries. These include sea lions, brown bears, Sitka black-tailed deer, black-legged kittiwakes, some sea birds, crab, shrimp, and many others.

FISH

CUTTHROAT TROUT AND DOLLY VARDEN The oil spill caused sublethal injuries and possibly population declines in these two species. Between 1989 and 1991, survival and growth in adult populations in oiled areas differed from those in unoiled areas. This difference persisted even though indications of exposure to oil decreased over these years. The persistence of different rates of survival and growth may have been due to continuing injury to the food base. However, scientists disagree as to whether these differences in survival and growth existed before the spill. It is unknown whether these species are recovering.

PACIFIC HERRING The oil spill caused sublethal injuries to Pacific herring. It is presently unknown whether these injuries will result in a population decline. Measurable differences in egg mortality between oiled and unoiled areas were found in 1989. Eggs and larvae were injured or killed in 1989 and, to a lesser extent, in 1990. In 1991 there were no differences between oiled and unoiled areas. Injuries to the 1989 year class may result in reduced recruitment to the adult population. If so, an adult population decline will not become apparent until 1993. Overall recovery status is unknown.

PINK SALMON The oil spill caused sublethal injuries to wild stock populations, and there is debate on whether the wild stock population has declined. Abnormal fry were observed in 1989 and egg mortality continued to be higher than expected in 1990 and 1991. The debate about population declines focuses on whether the observed injuries will result in reduced adult returns. Reduced growth of juveniles, which correlates with reduced survival, was found in 1989 and1991. In 1992, there was continued evidence of sublethal injuries. Overall recovery status is unknown.

ROCKFISH The oil spill caused at least sublethal injuries; however, it is unknown whether or not population declines also occurred. Twenty dead fish were found in 1989, but only a few were in condition to be analyzed. Those analyzed showed exposure to oil with some sublethal injuries. Closures to salmon fisheries increased the fishing pressure on rockfish and the increasing catch may be affecting the population. It is unknown if the population has recovered from sublethal injuries or from any population decline.

Photo by RON STANEK

SOCKEYE SALMON Kenai River and Red Lake sockeye salmon stocks both suffered population declines as well as sublethal injuries. Smolt survival continued to be poor in both systems due to overescapements that occured at Red Lake in 1989 and in the Kenai system in 1987, 1988 and 1989. In 1992, the estimated number of Kenai River smolt was only 3% of average. As a result of overescapement, adult returns are expected to be low in 1994 and successive years. Overall recovery status is unknown.

COASTAL HABITAT

COASTAL HABITAT - INTERIDAL ZONE The oil spill caused population declines and sublethal injuries in the populations of plants and animals that live in the area between low and high tide. The lower intertidal and, to some extent, the mid-intertidal zones are recovering. However, in the upper intertidal zone, some species have not recovered, and oil persists in and under mussel beds Intertidal organisms were affected by both oiling and clean-up, particularly the high pressure, hot water washing. Recovery varies by species largely based on their position within the intertidal zone.

COASTAL HABITAT - SUBTIDAL ZONE The oil spill caused population declines and sublethal injuries in the populations of plants and animals found below low tide. Eelgrass and some species of algae appear to be recovering. Amphipods in eelgrass beds recovered to prespill densities in 1991. Leather stars and helmet crabs showed little sign of recovery through 1991. Overall recovery is variable by species.

OTHER NATURAL RESOURCES

ARCHAEOLOGICAL RESOURCES
Twenty-four archaeological sites are known to have been harmed by oiling, clean-up activities, or looting and vandalism linked to the oil spill. An additional 113 sites are estimated to have been similarly affected. Injuries attributed to increased looting and vandalism linked to the oil spill are still occurring. Archaeological sites and artifacts cannot recover. They are finite, non-renewable resources.

DESIGNATED WILDERNESS AREAS
Many miles of coastlines were oiled in designated wilderness areas and wilderness study areas. Some oil remains embedded in the sediments of these areas. Until oil is completely removed or degrades naturally, injuries to these areas will continue.

SERVICES (HUMAN USES)

COMMERCIAL FISHING During 1989, emergency commercial fishery closures were ordered throughout the spill area. Closures affected salmon, herring, crab, shrimp, rockfish, and sablefish. The 1989 closures resulted in sockeye overescapement in the Kenai River and in the Red Lake system (Kodiak Island). In 1990, a portion of Prince William Sound was closed to shrimp fishing. Spill-related sockeye overescapement is anticipated to result in low adult returns in 1994 and 1995. This may result in closure or harvest restrictions during these and, perhaps, subsequent years. Injuries and recovery status of rockfish, pink salmon, shellfish and herring are uncertain.

COMMERCIAL TOURISM Although the nature and extent of injury varied, approximately 43 percent of the tourism businesses surveyed in 1990 felt they had been significantly affected by the oil spill. Millions of dollars were lost in 1989 due to reduced visitor spending in Southcentral and Southwest Alaska. By 1990, only 12 percent felt that their businesses were affected by the spill.

PASSIVE USE In 1991, over 90% of those surveyed nationwide were aware of the oil spill. Over 50% believed that the oil spill was the largest environmental accident caused by humans anywhere in the world. There was also a perception that the value of wild areas had diminished. Some respondents reported that their perception of lost value was recovering as they sensed some recovery was occurring. The feelings of others have not changed as they did not believe recovery was occurring.

RECREATION The nature and extent of injury varied by user group and by area of use. About one quarter of respondents to a recreation survey in 1992 reported no change in their recreation experience, but others reported avoiding the spill area, reduced wildlife sightings, residual oil and more people. They also reported changes in their perception of recreation opportunities in terms of increased vulnerability to future oil spills, erosion of wilderness, a sense of permanent change, and concern about long-term ecological effects. However, some respondents reported a sense of optimism. There are indications that declines in recreation activities reported in 1989 appear to have reversed in 1990, but there is no evidence that they have returned to prespill levels.

RECREATION - SPORT FISHING AND HUNTING
Between 1989 and 1990, a decline in sport fishing (number of anglers, fishing trips and fishing days) was recorded for Prince William Sound, Cook Inlet, and the Kenai Peninsula. In 1992, an emergency order restricting cutthroat trout fishing was issued for western Prince William Sound due to low adult returns. The closure is expected to continue at least through 1993. Sport hunting of harlequin ducks was reduced by restrictions imposed in 1991 and 1992 in response to damage assessment studies. It is likely that these restrictions will continue until the species shows signs of recovery. Kenai River sockeye overescapements may severely affect sport fishing as early as 1994.

SUBSISTENCE Subsistence harvests of fish and wildlife in 9 of 15 villages surveyed declined from 4 to 78 percent in 1989 when compared to prespill averages. Seven of the 15 villages show continued decline in use in 1990 and 1991. This decline was particularly noticeable in the Prince William Sound villages of Chenega and Tatitlek. In 1989, chemical analysis indicated that most resources tested, including fish, marine mammals, deer, and ducks, were safe to eat, but that shellfish from oiled beaches should not be eaten. However, villagers believe that contamination of subsistence food sources continues to be dangerous to their health and that some subsistence species continue to decline.

information to understand the alternatives

Summary of Injury

The Exxon Valdez oil spill occurred in March, just before the most biologically active season of the year. It affected the migration of birds, and the primary breeding season for most species of birds, mammals, fish, and marine invertebrates in the spill's path. Much of southcentral Alaska's intricate coastline was oiled, frequently with devastating impact to intertidal and shallow subtidal resources. It also affected human use of the spill area, including subsistence, recreation, commercial fishing, and other uses. Some resources and services remain exposed to oil persisting below high tide.

Oil affected each resource and use differently. For some resources, the population measurably declined. By measurably declined, we mean a measurable decline in abundance that will persist for more than one generation. For example, an estimated 3,500 to 5,000 sea otters were killed by the spill, and the population will not recover for many generations. Other species were killed or otherwise injured by the spill, but the injury did not measurably lower the overall population. Deaths of individual animals or sublethal injuries, which do not result in death, may not be reflected in a lower population because the natural variability of the species may mask the injury, or the resource may have some mechanism to compensate for the injury.

Some species, such as marbled murrelets, pigeon guillemots, and harbor seals were declining before the spill. Their rate of decline was accelerated by the spill, but other factors such as variations in climatic conditions, habitat loss, or increased competition for food may also influence long-term trends in the health and populations of these and other species.

The spill also directly affected human uses of the spill area including commercial fishing, commercial tourism, recreation, passive use, and subsistence. The nature and extent of the injury varied by user group and by area

More information about injury and recovery
See p.6

Injured by the Oil Spill

The table below summarizes injuries caused by the spill. It does not include resources, such as sea lions and brown bears, that were studied but for which clear injuries were not determined.

RESOURCES			SERVICES (Human use)
Population Decline	Injured, but No Population Decline	Other	
Black oystercatcher	Bald eagle	Air, water, and sediments	Commercial fishing
Common murre	Cutthroat trout ◆	Archaeological resources	Commercial tourism
Harbor seal	Dolly Varden ◆	Designated wilderness areas	Passive use
Harlequin duck	Killer whale ◆		Recreation including sport fishing, sport hunting, and other recreation use
Intertidal organisms	Pacific herring		Subsistence
Marbled murrelet	Pink salmon ◆		
Pigeon guillemot	River otter		
Sea otter	Rockfish		
Sockeye salmon			
Subtidal organisms			

NATIONAL PARKS SERVICE

Photo by ROBERT SCHAEFER

◆ For these species, the Trustee Council's scientists have considerable disagreement over the conclusions to be drawn from the results of the damage assessment studies.

NOTE: The table may change if sublethal injuries result in population declines, or as new information about other resources is obtained.

Categories of Restoration Actions

Restoration actions fall into four categories. The alternatives place different emphases on these categories. Not all categories are included in every alternative.

HABITAT PROTECTION and ACQUISITION

This category includes protection and acquisition of habitat on private land as well as protection of habitat on public land.

▼ Habitat protection and acquisition on private land.
Resource development on private land, such as harvesting timber or building subdivisions, can sometimes harm already injured resources or services that rely on the land. The object of protecting and acquiring land is to prevent further injury to resources and services and allow recovery to occur at its natural rate. For example, the recovery of harlequin ducks may be helped by protecting nesting habitat from future changes that may hamper recovery.

The Trustee Council may purchase private land or partial interests such as conservation easements, mineral rights, or timber rights as methods of restoration. These lands would be managed to protect injured resources and services. The Council's recent decision to purchase inholdings in Kachemak Bay State Park is an example of habitat protection and acquisition on private land. However, the settlement requires that any purchases must benefit resources or services injured by the spill.

The following injured resources and services might benefit from the purchase of private land or property rights: salmon, trout, bald eagle, black oystercatcher, common murre, harbor seal, harlequin duck, marbled murrelet, pigeon guillemot, river otter, sea otter, areas adjacent to particularly productive intertidal areas, recreation and commercial tourism, archaeological resources, and subsistence. Types of habitat that might be protected or acquired include:

- **Habitats important to injured species**
- **Scenic areas such as those viewed from important recreation and tourist routes**
- **Areas important for recreation, including sport fishing and hunting**
- **Important subsistence harvest areas**

Since there will not be enough money in any alternative to buy or protect all habitat important to recovery, it is necessary to prioritize available land. Some of the most important criteria are the degree of importance of the land to the recovery of injured resources or services and the number of resources or services that rely on a given parcel. Costs will vary depending on the land, and the private rights being purchased. For example, timbered land will often be more expensive than similar land without marketable timber. Also, purchase of partial interests such as easements or mineral rights may be less expensive and could increase the number of acres that can be protected.

▼ Habitat protection on public land
Changes in management practices on public land and water may protect injured resources and services from further injury. Examples of these changes include amending agency management plans, changing regulations, and designating public land and water as special areas. Examples of special areas include scientific research reserves, recreation areas, parks, critical habitat areas, and marine sanctuaries. Any management changes must be approved and implemented by the appropriate government agency, or in some cases by the Alaska State Legislature or the U.S. Congress. Since land and water management actions could extend to any public upland, intertidal area, or marine waters, the actions could potentially benefit most injured resources and services. Management changes necessitated by spill injuries may be funded with settlement monies, but the costs are not expected to be a significant portion of the total settlement funds.

GENERAL RESTORATION

Since 1989, agencies and the public have proposed hundreds of ideas for restoration. Some ideas restore injured resources and services by directly manipulating resources. Examples include building fish passes and public-use cabins or replanting seaweed in the intertidal areas. Other ideas focus on managing human use to aid restoration. Examples include redirecting hunting and fishing harvest, or reducing human disturbance around sensitive bird colonies. General Restoration does not include Monitoring and Research or Habitat Protection and Acquisition.

In each alternative, enough money is potentially allocated to General Restoration to fund all activities that have been identified and that meet the policies of that alternative. Each alternative also identifies enough additional funds to provide a reserve for General Restoration activities that may be identified in the future.

MONITORING AND RESEARCH PROGRAM

A monitoring and research program will help the Trustee Council decide how resources and services are recovering, and whether restoration activities are effective. It could also be used to monitor the general health of affected ecosystems, or provide basic and applied scientific research about how to protect, manage, or restore resources or services injured by the spill. The program could include one or more of the following, although its components vary among alternatives.

▼ Recovery Monitoring would assess the rate of recovery of injured resources and services, and determine when recovery has occurred.

▼ Restoration Monitoring would evaluate the effectiveness of specific restoration activities, identify where additional restoration activities may be appropriate, and determine if delayed injury occurs.

▼ Ecosystem Monitoring would follow long-term trends in the distribution and abundance of injured resources and the quality and quantity of services. Monitoring could also detect residual spill effects and provide ecological baseline information to assess the impacts of future disturbances.

▼ Restoration Research would focus on the design, development and implementation of new technologies and approaches to restore resources not recovering or recovering at lower than expected rates.

ADMINISTRATION AND PUBLIC INFORMATION

Funding is required to manage the restoration program and to provide the public with information about recovery and restoration. As the number of restoration projects increases and the complexity of management duties grows, the percentage of funds needed for Administration and Public Information increases.

Issues and Policy Questions

The planning process raised five significant issues. Different answers to these questions will influence which restoration actions are conducted.

Injuries Addressed by Restoration Actions: Should restoration actions address all injured resources & services or all except those biological resources whose populations did not measurably decline because of the spill?

Some injured resources declined in population. For example, the loss of 35-70% of the breeding common murres in the Gulf of Alaska resulted in a decline that will persist through future generations. Other injuries, such as reduced growth rates, may not have resulted in a lower population. However, over time these injuries might also cause populations to decline.

If an injury was not severe enough to produce a detectable change in population, then perhaps settlement funds should not be spent to address it. On the other hand, if something can be done to address less serious injuries that might eventually cause populations to decline, perhaps it should be done before more serious effects occur.

Restoration Actions for Recovered Resources: Should restoration actions cease when an injured resource has recovered, or continue in order to enhance the resource?

None of the injured resources has recovered from a population decline. If a goal of the settlement is to restore injured resources, then perhaps restoration actions should cease once the resource has recovered to where it would have been had no spill occurred. On the other hand, if restoration actions were to continue after a resource has recovered, they may offset other disturbances or improve its condition. As resources recover, this issue will become more important.

Effectiveness of Restoration Actions: Should the plan include only those restoration actions that produce substantial improvement over natural recovery or also those that produce at least some improvement?

One strategy is to consider only those restoration actions likely to produce substantial improvement over natural recovery. However, if the Trustee Council were to consider all restoration activities that offer at least some promise of helping injured resources and services, the cumulative effect may produce greater improvement overall.

Location of Restoration Actions: Should restoration actions take place in the spill area only or anywhere there is a link to injured resources or services?

If restoration actions were limited to the spill area, they could focus on the populations and uses directly affected. On the other hand, restoration actions outside the spill area may be more effective than those within the spill area. For example, increasing common murre populations at colonies outside the spill area may do more to increase the numbers of that species than would comparable projects within the spill area. The map of the oil spill area is on page 10.

Opportunities for Human Use: To what extent should restoration actions create opportunities for human use of the spill area?

Certain restoration actions may create opportunities for human use of the spill area. Some of these actions would protect existing use. Examples include constructing outhouses in over-used areas and improving trails where hiking is damaging wetlands. Other activities would increase existing use. Examples include installing a new mooring buoy in an anchorage or constructing new public-use cabins in a recreation area. Still other activities would encourage new uses in appropriate locations. Examples include providing a new visitor center or attracting new commercial facilities onto public land.

One view is that restoration actions should not create any opportunity for human use of the spill area. However, if restoration actions that create opportunities for human use were to be limited to those that would protect existing use, then restoration could proceed without changing the character of the area or impeding recovery of injured resources and services. On the other hand, increasing opportunities for human use through either increasing existing use or encouraging new use, would make the area more usable for more people and improve the quality of the experience for some users.

Any facilities built on public land would comply with existing land-use plans, and agency procedures such as those requiring public notice.

Issues and Policy Questions Addressed in the Alternatives

ISSUE	POLICY QUESTION
INJURIES ADDRESSED BY RESTORATION ACTIONS	Should restoration actions address all injured resources and services or all *except* those biological resources whose populations did not measurably decline because of the spill?
RESTORATION ACTIONS FOR RECOVERED RESOURCES	Should restoration actions cease when a resource has recovered or continue in order to enhance the resource?
EFFECTIVENESS OF RESTORATION ACTIONS	Should the plan include only those restoration actions that produce substantial improvement over natural recovery or also those that produce at least some improvement?
LOCATION OF RESTORATION ACTIONS	Should restoration activities take place in the spill area only or anywhere there is a link to injured resources or services?
OPPORTUNITIES FOR HUMAN USE	To what extent should restoration actions create opportunities for human use of the spill area?

description of alternatives

***FIVE ALTERNATIVES** have been developed for your review. Each alternative presents a different way of approaching restoration. Each uses different policies and emphasizes different categories of restoration activities to restore resources and human uses injured by the spill. No single alternative is likely to match your vision of the ideal plan. The questionnaire on page 8 asks which policies you prefer and how you would combine categories of restoration activities.*

ALTERNATIVE 1

NATURAL RECOVERY (No Action)

What would happen to resources and services injured by the oil spill if no restoration actions were taken? The table on page 7 describes expected times for natural recovery of injured resources and services, if expected patterns of use continue. They range from a few years to 120 years and are unknown for six resources. However, because recovery would not be monitored under this alternative, it would not be possible to confirm when recovery has occurred. Archaeological resources will not recover.

This alternative is the no-action alternative in the draft Environmental Impact Statement that will be released in June 1993. Consequently, none of the civil settlement funds would be spent.

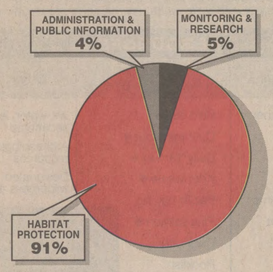
ALTERNATIVE 2

HABITAT PROTECTION

The goal of this alternative is to protect strategic lands and habitats important to resources and services injured by the spill. In this alternative, 91% of the remaining settlement funds would be available for habitat protection. Monitoring and Research and Habitat Protection and Acquisition are the only restoration actions included in this alternative. The Habitat Protection and Acquisition program includes the acquisition of private land interests and changes in public land management. The Monitoring and Research program would evaluate the effectiveness of habitat protection measures undertaken and follow the progress of natural recovery. Restoration activities would be limited to the spill area.

Protect injured resources and services within the spill area from further degradation or disturbance.

ISSUES	POLICIES
Injuries Addressed by Restoration Actions	Address all injured resources and services.
Restoration Actions for Recovered Resources	Continue restoration actions even after a resource has recovered.
Effectiveness of Restoration Actions	Conduct restoration actions that provide substantial improvement over natural recovery.
Location of Restoration Actions	Limit restoration actions to the spill area.
Opportunities for Human Use	Use habitat protection to protect or increase existing human use of the spill area.



ALTERNATIVE 3

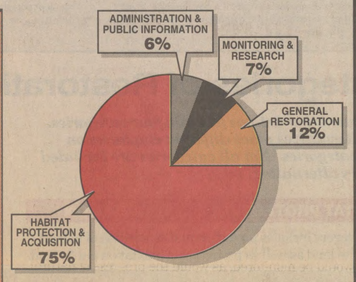
LIMITED RESTORATION

The goal of this alternative is to help the most injured resources and services recover as efficiently as possible. As its title implies, this alternative is ***limited*** in that it addresses only the most severe injuries until the resource or service recovers, includes actions most likely to produce substantial improvement over natural recovery, is limited to the spill area, and does not fund activities intended to increase human use of the spill area. Only a few restoration activities meet these standards.

In this alternative, 75% of remaining settlement funds would be available for Habitat Protection and Acquisition. Of the General Restoration options that have been evaluated, only 21 meet the criteria of this alternative. See page 9. The Monitoring and Research program would evaluate the effectiveness of restoration actions and follow the progress of natural recovery.

Take the most effective actions within the spill area to protect and restore all injured services and resources except those biological resources whose populations did not measurably decline. Maintain the existing character of the spill area.

ISSUES	POLICIES
Injuries Addressed by Restoration Actions	Address all resources and services ***except*** those biological resources whose populations did not measurably decline.
Restoration Actions for Recovered Resources	Cease restoration actions once a resource has recovered.
Effectiveness of Restoration Actions	Conduct restoration actions that provide substantial improvement over natural recovery.
Location of Restoration Actions	Limit restoration actions to the spill area.
Opportunities for Human Use	Use restoration actions to protect existing human use of the spill area.



ALTERNATIVE 4

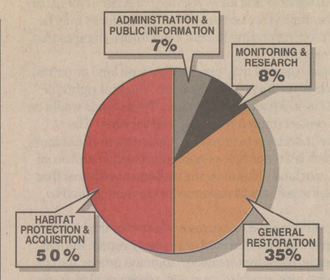
MODERATE RESTORATION

The goal of this alternative is to help all injured resources and services recover as efficiently as possible. It is similar to Alternative 3 in limiting restoration actions to resources not yet recovered and setting the same high standard of effectiveness. It differs from Alternative 3 by addressing additional injured species whose populations did not decline, including activities outside the spill area, and increasing opportunities for human use of the area to a limited extent.

In this alternative, 50% of remaining settlement funds would be available for Habitat Protection and Acquisition. Of the General Restoration options that have been evaluated, 31 meet the criteria for this alternative. The Monitoring and Research program would include ecosystem monitoring and restoration research in addition to evaluating the effectiveness of restoration actions and following the progress of natural recovery.

Take the most effective actions to protect and restore all injured resources and services. Increase, to a limited extent, opportunities for human use of the spill area.

ISSUES	POLICIES
Injuries Addressed by Restoration Actions	Address all injured resources and services.
Restoration Actions for Recovered Resources	Cease restoration actions once a resource has recovered.
Effectiveness of Restoration Actions	Conduct restoration actions that provide substantial improvement over natural recovery.
Location of Restoration Actions	Undertake restoration actions anywhere there is a link to injured resources or services.
Opportunities for Human Use	Use restoration actions to protect or increase existing human use of the spill area.



ALTERNATIVE 5

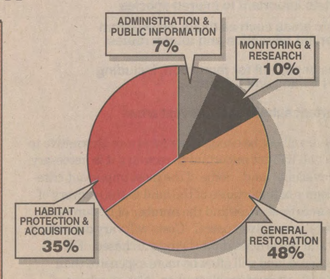
COMPREHENSIVE RESTORATION

The goal of this alternative is to help all injured resources and services return to or exceed prespill levels. It is similar to Alternative 4 in addressing ***all*** injured resources and services and including activities outside the spill area. It is more expansive than Alternative 4 because it allows restoration actions to continue in order to enhance a resource even after it has recovered, includes any action likely to produce at least some improvement over natural recovery, and encourages appropriate new human use of the spill area.

In this alternative, 35% of remaining settlement funds would be available for Habitat Protection and Acquisition. Of the General Restoration options that have been evaluated, 47 meet the standards of this alternative. The Monitoring and Research program would include ecosystem monitoring, and restoration research in addition to restoration monitoring and natural recovery monitoring.

Take all effective actions to protect, restore, and enhance all injured resources and services. Increase opportunities for human use of the spill area.

ISSUES	POLICIES
Injuries Addressed by Restoration Actions	Address all injured resources and services.
Restoration Actions for Recovered Resources	Continue restoration actions even after a resource has recovered.
Effectiveness of Restoration Actions	Conduct restoration actions that provide at least some improvement over natural recovery.
Location of Restoration Actions	Undertake restoration actions anywhere there is a link to injured resources and services.
Opportunities for Human Use	Use restoration actions to protect or increase existing use or encourage appropriate new use of the spill area.



Funding Methods: Endowments

Exxon has made deposits into the restoration fund since 1991 and will continue to do so until 2001. The Trustees could spend the entire settlement during that time or they could save some for future use. An endowment is a savings program to fund restoration after Exxon's payments end. It uses part of the settlement funds to create an interest-bearing savings account, which could fund a constant level of restoration activities indefinitely. An endowment could be used to fund some or all categories of restoration activities.

The size of an endowment determines the amount of income it earns and the amount of restoration activities it can fund. It is possible to place any portion of the remaining settlement funds into an endowment. For example, 20% of the remaining restoration funds could be placed into a savings account. If so, fewer restoration activities could be accomplished within ten years, but the interest from the account could annually fund approximately $3 to $5 million worth of restoration activities indefinitely.

Comparison of alternatives

Courtesy of NATIONAL PARK SERVICE

Courtesy of CHUGACH NATIONAL FOREST

In general, how does each alternative benefit recovery?

ALTERNATIVE 1 — NATURAL RECOVERY (No Action), would produce no improvement over natural recovery. This alternative includes no restoration activities. It would allow injured resources and services to recover naturally, but would not monitor their recovery.

ALTERNATIVE 2 — HABITAT PROTECTION, would improve natural recovery by preventing some habitat disturbances that might otherwise occur. Benefits would accrue primarily to injured resources and services linked to upland habitat. The effectiveness of habitat protection would be monitored, as would the progress of natural recovery of injured resources and services for which no habitat protection measure is undertaken.

ALTERNATIVE 3 — LIMITED RESTORATION, might improve recovery of the most injured populations within the spill area. It includes no restoration activities for those species whose populations did not measurably decline because of the spill (see table on page 3). By protecting existing human use, this alternative neither changes the character of the area nor impedes natural recovery of injured resources and services. Because this alternative allocates less to General Restoration actions than do Alternatives 4 and 5, more funds would be available for habitat protection.

ALTERNATIVE 4 — MODERATE RESTORATION, might improve recovery of all injured resources and services, reaching outside the spill area, if necessary, to find the most effective restoration actions. This alternative also addresses less severe injuries and prepares for future problems through ecosystem monitoring and restoration research. Finally, this alternative would increase opportunities for existing human use of the spill area, if doing so would improve recovery of an injured service. Because of the expanded scope of restoration actions in this alternative, fewer funds would be available for habitat protection than in Alternatives 2 and 3.

ALTERNATIVE 5 — COMPREHENSIVE RESTORATION, might improve recovery of all injured resources and services and could enhance some of them. In addition to the restoration actions in Alternative 4, this alternative includes actions that are less certain to benefit recovery and encourages appropriate new human use of the spill area. If successful, these additional General Restoration actions could produce greater overall beneficial effects than those in Alternatives 3 and 4, but they would further reduce the availability of funds for habitat protection. Under this alternative, restoration actions would be undertaken anywhere there is a link to injured resources and services.

Comparison of Potential Allocations to Restoration Categories by Alternative

The table compares potential allocations within the five alternatives. It also indicates the components of the Monitoring and Research program included in each alternative. Spending for each restoration category gives a sense of the emphasis of the restoration program by alternative. The allocations are illustrative only and are not a commitment of actual expenditures.

In general, as potential allocations to General Restoration increase, funds available for Habitat Protection and Acquisition decline. Furthermore, as the restoration program increases in complexity, so does the cost of Administration and Public Information, and of Monitoring and Research.

RESTORATION CATEGORY	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4	ALTERNATIVE 5
ADMINISTRATION AND PUBLIC INFORMATION		4%	6%	7%	7%
MONITORING AND RESEARCH		5%	7%	8%	10%
• *Recovery Monitoring*		X	X	X	X
• *Restoration Monitoring*		X	X	X	X
• *Ecosystem Monitoring*				X	X
• *Restoration Research*				X	X
GENERAL RESTORATION (For examples of general restoration activities within each alternative see page 9)			12%	35%	48%
HABITAT PROTECTION & ACQUISITION		91%	75%	50%	35%
Balance	100%				
TOTAL	100%	100%	100%	100%	100%

NOTE: Diplay of potential allocations is illustrative only and not commitment of actual expenditures. Allocation expressed as a percent of remaining civil settlement fund.

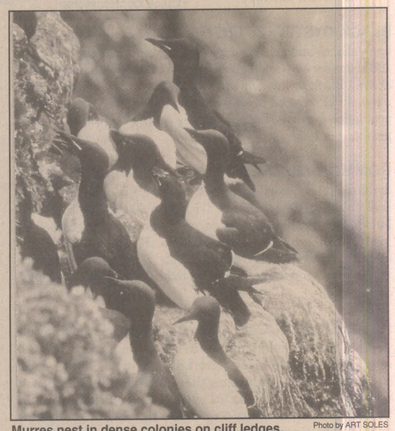
Alternative #1 is the No-Action alternative for the Draft Environmental Impact Statement. Consequently, it includes a balance that would not be spent on any restoration activity.

X= Component of restoration category included in this alternative.

Photo by BOB LOEFFLER

Funding Methods: *Endowment*

Whether or not funds are placed into an endowment is a decision about the timing of when restoration activities should occur. The alternatives compared above assume that the funds are spent within approximately ten years. Some of the remaining funds could be placed into an endowment to fund restoration activities after Exxon payments end.



Murres nest in dense colonies on cliff ledges. This behavior helps reduce predation. Photo by ART SOLES

Habitat Protection on Private Lands: *How Much Land Could Be Protected?*

The alternatives indicate that 91% to 35% of the remaining settlement funds could be available for acquiring and protecting habitat. The Trustee Council is looking at many methods of protecting habitat. Some of the factors that would influence the actual amount of habitat protected include:

- **land costs, which are highly variable; and**
- **whether full or partial property rights are acquired.**

Under any alternative, the amount of available land exceeds available funding. Therefore, land parcels must be ranked according to their value in restoring injured resources and services. Acquiring fee title is the most expensive way of protecting private land. Assuming acquisition of fee title and a mix of land costs, approximately 275,000 acres of land could be protected under Alternative 2. This is equivalent to about 14% of the private land within the spill area. Under Alternative 5, this figure drops to 100,000 acres, or approximately 5% of the private land within the spill area. These acreage estimates could be even lower if a larger proportion of high-value land were acquired. The estimates could be higher, if the mix of land acquired included more low cost land or partial property rights.

EIS
E

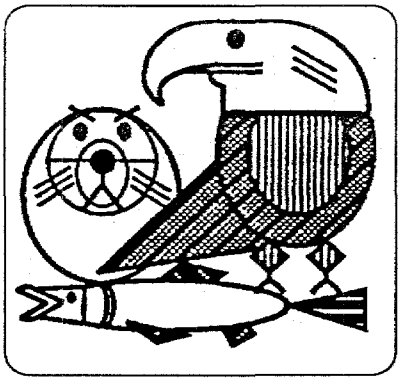
DRAFT

FY 94 WORK PLAN PROJECTS

as approved by the

EXXON VALDEZ TRUSTEE COUNCIL

January 31, 1994



RAFT

State of Alaska: Departments of Fish & Game, Law, and Environmental Conservation
United States: National Oceanic and Atmospheric Administration, Departments of Agriculture and Interior

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 "G" Street, Anchorage, AK 99501
Phone: (907) 278-8012 Fax: (907) 276-7178

TO: Interested Parties

DATE: February 4, 1994

SUBJ: FY 94 Work Plan Projects

Please find attached the following materials:

- a summary of the *Exxon Valdez* Trustee Council approved actions regarding the FY 94 Work Plan Projects (minutes of the Trustee Council meeting on January 31, 1994); and
- a spreadsheet showing the detailed guidance approved by the *Exxon Valdez* Trustee Council regarding FY 94 Work Plan Projects.

Together, these two documents and the associated attachments identify the FY 94 Work Plan Projects as approved by the Trustee Council at the January 31, 1994 meeting.

attachments

DRAFT

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 402, Anchorage, Alaska 99501
Phone: (907) 278-8012 Fax: (907) 276-7178

TRUSTEE COUNCIL MEETING ACTIONS

January 31, 1994

By James R. Ayers
Executive Director

Members Present:

Trustee Council

John Sandor (ADEC)■
Mike Barton (USFS)♦■
Bruce Botelho (ADOL)●
Carl Rosier (ADF&G)■
Steve Pennoyer (NMFS)■
Paul Gates (USDOI)●

♦ Chair
● Alternates:
George Frampton served as alternate for Paul Gates until 5:00 p.m.
Craig Tillery served as alternate for Bruce Botelho
■ Teleconferenced from Juneau

1. Public Advisory Group Meeting Report

APPROVED MOTION: Approved PAG recommendation to have staff explore more cost-effective ways of implementing projects and to report back to the PAG.

2. Science Update

APPROVED MOTION: Approved that a public presentation be held before May on the results of recent studies and the status of injured species. The Executive Director will work with the Alaska Department of Law to ensure such a presentation doesn't create undue problems for ongoing litigation.

DRAFT

3. 1994 Work Plan

APPROVED MOTION: Approved adoption of 1994 Work Plan Project Budgets (see Attachment A) as recommended by Executive Director with these amendments:

a) Project 94007 - Directed Executive Director to explore the possibility of RFP prior to the release of funds and to involve local communities and private organizations in the effort.

b) Projects 94110 and 94126 - Adopted with additions included in a resolution by John Sandor (Attachment B).

c) Project 94199 - Approved financial support with additions included in a resolution proposed by John Sandor (Attachment C). Approved up to $50,000 to complete work on those tasks.

d) Projects 94255 and 94258 - Deleted contingency of Executive Director review of project and consideration of normal agency responsibility and technology.

e) Project 94320 - Approved conditionally with direction to Executive Director to identify what elements of the projects are time sensitive and inform the Trustees of these; and to come back with detailed work plans and peer review of these in 30-60 days for a teleconferenced briefing and approval. Also directed Executive Director to work with federal and state attorneys to provide legal advice on hatchery funding.

f) Project 94422 - Adopted Option A for development of alternatives to be used in the Draft Environmental Impact Statement.

g) Project 94425 - Approved $20,000 in funding to NOAA to lower publishing costs of a book on the Impacts of EVOS on Marine Mammals and ensure a broader distribution of the book.

h) Authorized the Executive Director to proceed with those projects identified as still requiring NEPA compliance only after successful completion of all NEPA requirements.

ADDITIONAL ACTION:

APPROVED MOTION: Approved resolution in appreciation of former Trustee Charlie Cole.

APPROVED MOTION: Approved resolution in appreciation of Interim Administrative Director Dave Gibbons.

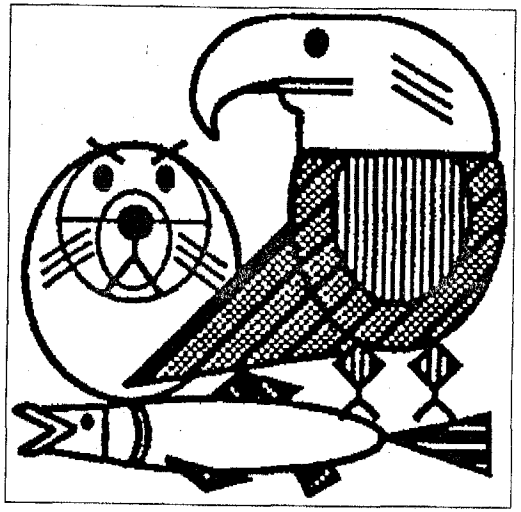
APPROVED MOTION: Directed Executive Director to attempt to obtain legal opinions about EVOS funding of hatcheries and make them part of the public record.

APPROVED MOTION: Directed Executive Director to meet with Koncor Forest Products Company President John Sturgeon concerning his recommendation for working with private landowners on potential cooperative projects.

The Trustee Council meeting recessed to a teleconference to be scheduled in 30-60 days.

ATTACHMENT A

FY 1994 WORK PLAN PROJECTS



DRAFT

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

DATE PRINTED: FEBRUARY 4, 1994

Project#			Category			Cost	NEPA	Public Advisory Group					Public Comment		Chief Scientist's	Trustee Council	FFY94
Agency	Project Title	Location	G	M	H	FFY 94	Y/N	H	M	L	N	A	Support	Oppose	Recommendation	Action	($000's)
94007	Site Specific Archeological Restoration	Spill area	G			$331.2	Y	3	3	4	1	0	7	1			$445.1
ADNR						Amount Approved in 1993 Court Request: $154.4	$0.0 EA done								24 sites already identified. Further search for injured sites; recovery of materials; site repair. If approved, review budget. Approve.	Approve. Combine with project 94386 to develop cost-effective plan for protection of injured resources on public lands while involving local communities in determination of appropriate strategy. Explore use of private organizations to implement.	
94015	Archeological Site Stewardship	Spill area	G			$217.7	N	3	3	2	3	0	4	1			$0.0
ADNR							$0.0								Without a current status report, program effectiveness not known. No recommendation.	Disapprove. Questions concerning effectiveness of approach.	
94020	Black Oystercatcher Interaction	PWS		M		$131.6	N	2	5	2	1	0	3	1			$0.0
DOI-FWS	with Intertidal					Amount Approved in 1993 Court Request: $17.3	$0.0								Unclear whether oystercatchers in oiled sites are accumulating significant amounts of oil from their environments. Population differences could have existed prespill. Skip a year until all reports reviewed, accepted and state of injury assessed.	Disapprove. Needs completion of 1993 report and synthesis of available information. Review as part of 1995 Work Plan.	
94039	Common Murre Population Monitoring	Kodiak		M		$200.3	N	2	3	4	1	1	4	1			$200.3
DOI-FWS						Amount Approved in 1993 Court Request: $26.9	$0.0								Projected recovery times are long, monitoring every 3-5 years is most appropriate. Skip 1994	Approve. Evaluate further study needs in 3-5 years.	
94040	Reduce Disturbance Near Injured	Kod, Ken, AkP	G			$44.8	N	2	0	4	5	0	4	1			$0.0
DOI-FWS	Murre Colonies						$0.0								Could help speed recovery of murres at Barren Islands. Recommend funding for 1 year.	Disapprove. Consider other methods.	
94041	Introduced Predator Removal	AK Pen	G			$146.6	Y	6	2	1	2	0	3	1			$84.0
DOI-FWS	from Islands						$0 EA done in '85								This could benefit murre populations out of spill area. Fund feasibility on only 1 Island in '94.	Approve with reduction to two islands and reduce budget from $146.6 to $84.0 with concurrence of lead agency.	
							[Y=Yes, NEPA compliance required (either an EA or EIS needed) N=No EA or EIS needed (project eligible for categorical exclusion)]										
							[Note: Public comment figures are only for those written comments received prior to the Trustee Council meeting January 31, 1994]										

[LOCATION: PWS=Prince William Sound, KEN=Kenai, KOD=Kodiak, AkP=Alaska Pen][COST: Federal Fiscal Year 1994] [PAG: H=High, M=Medium, L=Low, N=No, A=Abstain] [CATEGORY: G=General, M=Monitoring, H=Habitat]

DRAFT

Project#			Category			Cost	NEPA	Public Advisory Group					Public Comment		Chief Scientist's	Trustee Council	FFY94
Agency	Project Title	Location	G	M	H	FFY 94	Y/N	H	M	L	N	A	Support	Oppose	Recommendation	Action	($000's)
94043	Cutthroat & Dolly Habitat Restoration	PWS	G			$182.7	Y	3	5	3	1	0	6	1			$0.0
USFS	in Prince William Sound						$3.5								Improves freshwater habitat for both species. Approve.	No implementation prior to full NEPA compliance. Combine with project # 94139 and eliminate overlapping costs.	
94064	Harbor Seal Habitat Use	PWS		M		$0.0	N						4	1			$0.0
ADF&G	and Monitoring					Amount Approved in 1993 Court Request: $270.2	$0.0								Population may be stable in PWS; declining elsewhere. Population monitoring and developing information on movements by radio tagging still needed for restoration. Approve.	Already approved.	
94066	Harlequin Duck Recovery Monitoring	PWS		M		$147.6	N	1	4	4	1	0	3	1			$0.0
ADF&G						Amount Approved in 1993 Court Request: $139.3	$0.0								Results of previous work needs completion and review before more work undertaken. Recovery process may be slow. Skip 1994.	Disapprove. Defer funding pending completion of 1993 report and synthesis of available information. Review as part of the 1995 Work Plan. Strongly urge federal and state agencies consider further restriction on sport hunting.	
94068	Deposit Sand to Promote Clam	PWS	G			$36.4	Y	0	0	7	3	0	4	1			$0.0
ADF&G	Recruitment						$2.0								Success of project depends on number of assumptions. Feasibility study seems warranted if review of detailed proposal favorable. Approve pending review.	Disapprove. Even if proven feasible, not possible on large scale.	
94070	Restoration of High Intertidal Fucus	PWS	G			$285.8	Y	5	0	4	1	0	5	1			$0.0
ADF&G							$5.0								Investigators report that the upper intertidal zone is showing signs of recovery; restoration methods are probably not needed now. Disapprove.	Defer consideration to 1995 to determine rate of natural recovery.	
94081	Recruitment Monitoring of	PWS		M		$206.7	N	0	2	8	0	0	5	1			$0.0
ADF&G	Littleneck Clams						$0.0								Reports of previous projects need completion; personnel qualifications will be key to evaluating proposed project. Needs further consideration. Costs appear too high to accomplish main objective. Suggest competing proposal if funded.	Disapprove. Substantial study design limitations.	

[Y=Yes, NEPA compliance required (either an EA or EIS needed) N=No EA or EIS needed (project eligible for categorical exclusion)]

[Note: Public comment figures are only for those written comments received prior to the Trustee Council meeting January 31, 1994]

[LOCATION: PWS=Prince William Sound, KEN=Kenai, KOD=Kodiak, AkP=Alaska Pen][COST: Federal Fiscal Year 1994] [PAG: H=High, M=Medium, L=Low, N=No, A=Abstain] [CATEGORY: G=General, M=Monitoring, H=Habitat]

Project#			Category			Cost	NEPA	Public Advisory Group					Public Comment		Chief Scientist's	Trustee Council	FFY94
Agency	Project Title	Location	G	M	H	FFY 94	Y/N	H	M	L	N	A	Support	Oppose	Recommendation	Action	($000's)
94083	Monitoring of Oiled and	PWS		M		$616.6	N	0	1	6	6	0	5	1			$0.0
NOAA	Treated Shorelines						$0.0								Although it would be desirable to consolidate this with other intertidal projects, need for site continuity prevents this economy. Approve, if not for full amount, provide partial funding. Second alternative would be funding in 1995.	DOL and DOJ indicate this project does not meet the terms of the MOA. Due to legal concerns, consider funding using federal criminal restitution funds.	
94086	Herring Bay Experimental and	PWS		M		$531.4	N	2	0	5	3	0	4	1			$531.4
ADF&G	Monitoring Studies					Amount Approved in 1993 Court Request: $198	$0.0								Investigators have seen major change in recovery of upper intertidal zone. Skip 1994 or reduce scope and consolidate with other intertidal projects.	Approve contingent upon a revised scope of work and budget focused on intertidal resources.	
94090	Mussel Bed Restoration & Monitoring	PWS, AkP	G			$616.7	Y	4	7	0	2	0	8	1			$518.0
NOAA						Amount Approved in 1993 Court Request: $158.1	$5.0								A study component should be added that measures reduction in oil under beds in order to determine when objective is met. Reduce in scope through consolidation with other intertidal projects.	No implementation prior to full NEPA compliance. Approve. Coordinate with project # 94266 (Shoreline Assessment) for additional cost savings.	
94092	Killer Whale Recovery Monitoring	PWS		M		$129.4	N	0	0	2	11	0	3	4			$0.0
NOAA						Amount Approved in 1993 Court Request: $33.7	$0.0								AB pod does not have to be studied every year until recovery. Credible work proposed in 1994 by independent group. Skip 1994.	Withdrawn by agency. Defer consideration until 1995.	
94102	Murrelet Prey & Foraging Habitat	PWS		M		$231.5	N	1	7	3	0	0	3	1			$231.5
DOI-FWS	In PWS						$0.0								Controlling factors for population not known. Nesting habitat addressed in 93 and study of foraging habitat proposed for 94. Coordination with forage fish study necessary. Approve pending acceptable study plan showing coordination with other studies.	Approve contingent on integration with projects 94163 (Forage Fish) and 94173 (Pigeon Guillemot), and elimination of overlapping costs.	
94110	Habitat Protection - Data Acquisition	Spill area			H	$405.1	N	4	1	2	5	0	8	1			$405.1
ADNR	and Support					Amount Approved in 1993 Court Request: $273.6	$0.0								Continuation of this project is necessary to develop objective criteria, to apply these criteria to land parcels in the spill area, and to rank parcels for protection. Approve.	Approve in conjunction with development of a comprehensive habitat protection plan that covers the spill area and is linked to protection of key injured resources. See Attachment B.	

[Y = Yes, NEPA compliance required (either an EA or EIS needed) N = No EA or EIS needed (project eligible for categorical exclusion)]

[Note: Public comment figures are only for those written comments received prior to the Trustee Council meeting January 31, 1994]

[LOCATION: PWS = Prince William Sound, KEN = Kenai, KOD = Kodiak, AkP = Alaska Pen][COST: Federal Fiscal Year 1994] [PAG: H = High, M = Medium, L = Low, N = No, A = Abstain] [CATEGORY: G = General, M = Monitoring, H = Habitat]

Project#			Category			Cost	NEPA	Public Advisory Group					Public Comment		Chief Scientist's	Trustee Council	FFY94
Agency	Project Title	Location	G	M	H	FFY 94	Y/N	H	M	L	N	A	Support	Oppose	Recommendation	Action	($000's)
94126	Habitat Protection & Acquisition Fund	Spill area			H	$875.4	N	4	1	1	5	1	10	1			$875.4
ADNR						Amount Approved in 1993 Court Request: $284.9	$0.0								This provides the funds for protecting lands identified by the habitat protection group (94110). Approve.	Approve in conjunction with development of comprehensive habitat protection strategy covering the spill area, linked to protection of injured resources. Negotiation process, final fund allocation to be worked out by Executive Director. See Attachment B.	
94137	Stock ID of Chum, Sockeye, Chinook	PWS	G			$214.9	N	3	3	3	1	0	10	1			$214.9
ADF&G	and Coho in Prince William Sound					Amount Approved in 1993 Court Request: $46.7	$0.0								It may never be possible to know if these species were affected by the spill. Trustees are already carrying out a program for enhancement of sockeye salmon in Coghill Lake. Disapprove.	Approve as final expenditure to recoup previous Trustee Council investment in this project. Will only ID chum and sockeye.	
94139	Salmon Instream Habitat and	PWS, Ken, Kod	G			$572.6	Y	1	5	3	1	0	17	1			$755.3
USFS	Stock Restoration						$6.0								If the Trustees wish to engage in enhancement of fish runs through habitat alteration, this is probably the best project to do it. No recommendation.	No implementation prior to full NEPA compliance. Combine with project # 94043 (Cutthroat and Dolly Restoration) and approve with two years funding. Subject to NEPA compliance (EA's) and review of benefit/cost analyses.	
94147	Comprehensive Monitoring Program	Spill area		M		$0.0	N						6	1			$0.0
NOAA						Withdrawn by NOAA	$0.0								Could provide overall umbrella for coordination of resource monitoring. New executive director will be identifying a strategy for implementation of the Restoration Plan and something like this may be valuable in that effort. To be considered later.	Withdrawn by agency. Will be integrated into management implementation structure. Monitoring program guidance will be developed under direction of Chief Scientist and peer reviewers.	
94159	Marine Bird & Sea Otter Boat Surveys	PWS		M		$179.2	N	0	3	5	3	0	4	1			$0.0
DOI-FWS						Amount Approved in 1993 Court Request: $107	$0.0								Investigators need to be more responsive to peer review comments on earlier report. Hold for later possible approval pending acceptance of '89-'91 final report.	Spring survey already approved. Disapprove summer surveys pending review of survey frequency needs.	
94163	Forage Fish Influence on	PWS		M		$606.6	N	4	6	2	1	0	14	1			$606.6
NOAA	Injured Species						$0.0								Very little is known about forage fish populations in the spill area. This project will begin to evaluate this resource that appears to be the key for the recovery of main bird and mammal species injured in the spill. Highly recommended. Approve funding.	Approve. Integrate with projects 94320 (PWS System Investigation), 94102 (Murrelet Prey), and 94173 (Pigeon Guillemot).	

[Y=Yes, NEPA compliance required (either an EA or EIS needed) N=No EA or EIS needed (project eligible for categorical exclusion)]

[Note: Public comment figures are only for those written comments received prior to the Trustee Council meeting January 31, 1994]

[LOCATION: PWS=Prince William Sound, KEN=Kenai, KOD=Kodiak, AkP=Alaska Pen][COST: Federal Fiscal Year 1994] [PAG: H=High, M=Medium, L=Low, N=No, A=Abstain] [CATEGORY: G=General, M=Monitoring, H=Habitat]

Project#			Category			Cost	NEPA	Public Advisory Group					Public Comment		Chief Scientist's	Trustee Council	FFY94
Agency	Project Title	Location	G	M	H	FFY 94	Y/N	H	M	L	N	A	Support	Oppose	Recommendation	Action	($000's)
94165	Herring Genetic Stock Identification	PWS		M		$62.2	N	6	2	2	0	0	10	1			$62.2
ADF&G	in Prince William Sound						$0.0								Completion and acceptance of final report from herring damage assessment is necessary before funding project. Hold for later possible approval pending acceptance of '89-'91 final report.	Approve contingent upon Chief Scientist/peer review acceptance of damage assessment studies.	
94166	Herring Spawn Deposition and	PWS	G			$0.0	N						9	1			$0.0
ADF&G	Reproductive Impairment					Amount Approved in 1993 Court Request: $466.3	$0.0								Completion and acceptance of final report from herring damage assessment is necessary before project is funded. Hold for later possible approval pending acceptance of '89-'91 final report.	Already funded.	
94173	Pigeon Guillemot Recovery Monitoring	PWS		M		$201.1	N	1	2	7	1	0	3	1			$201.1
DOI-FWS	DRAFT						$0.0								Species in long-term decline. Colony counts probably only needed done every several years. Other activities on feeding could go forward if closely linked with forage fish study. Hold for possible later funding.	Approve contingent on reduction in scope and integration with projects 94163 (Forage Fish) and 94102 (Murrelet Prey) and elimination of overlapping costs.	
94184	Coded Wire Tag Recoveries from Pinks	PWS	G			$196.6	N	6	2	2	0	0	13	1			$0.0
ADF&G	in Prince William Sound					Amount Approved in 1993 Court Request: $47.8	$0.0								Comprehensive review of pink salmon research needed in PWS with relationship to Trustee goals for restoration, and clear picture of integration with normal agency activities. Hold for later possible approval pending review.	Integrate with 94320 (PWS System Investigation).	
94185	Coded Wire Tagging of Wild Pinks for	PWS	G			$251.2	N	3	2	5	0	0	12	1			$0.0
ADF&G	Stock Identification					Amount Approved in 1993 Court Request: $34.8	$0.0								See comments for 94184.	Integrate with 94320 (PWS System Investigation).	
94187	Otolith Marking - Inseason Stock	PWS	G			$179.7	N	7	1	2	0	0	12	2			$0.0
ADF&G	Separation						$0.0								See comments for 94184.	Integrate with 94320 (PWS System Investigation).	

[Y=Yes, NEPA compliance required (either an EA or EIS needed) N=No EA or EIS needed (project eligible for categorical exclusion)]

[Note: Public comment figures are only for those written comments received prior to the Trustee Council meeting January 31, 1994]

[LOCATION: PWS=Prince William Sound, KEN=Kenai, KOD=Kodiak, AkP=Alaska Pen][COST: Federal Fiscal Year 1994] [PAG: H=High, M=Medium, L=Low, N=No, A=Abstain] [CATEGORY: G=General, M=Monitoring, H=Habitat]

Project#			Category			Cost	NEPA	Public Advisory Group					Public Comment		Chief Scientist's	Trustee Council	FFY94
Agency	Project Title	Location	G	M	H	FFY 94	Y/N	H	M	L	N	A	Support	Oppose	Recommendation	Action	($000's)
94189	Pink Salmon Stock Genetics in PWS	PWS		M		$171.2	N	4	3	2	1	0	13	2			$0.0
ADF&G							$0.0								See comments for 94184.	Integrate with 94320 (PWS System Investigation).	
94191	Oil Related Egg & Alevin Mortalities	PWS		M		$415.4	N	6	0	3	1	0	12	1			$415.4
ADF&G						Amount Approved in 1993 Court Request: $367.5	$0.0								In the last year important heritable differences in egg mortality have been found between oiled and unoiled streams in PWS Highly recommended. Approve.	Approve.	
94192	Evaluation of Hatchery Straying on	PWS	G			$640.5	N	1	5	3	1	0	11	1			$0.0
ADF&G	Wild Pinks in PWS						$0.0								See comments for 94184.	Integrate with 94320 (PWS System Investigation).	
94200	Public Land Access 17(b) Easement ID	PWS, Ken, Kod			H	$38.1	N	6	7	0	0	0	8	1			$0.0
ADNR							$0.0								Would compile atlas showing legal public access. No recommendation.	Disapprove. Federal concerns about use of civil settlement for project. Recommend that Trustees have ADNR coordinate with the federal agencies on the development of a recreation plan for the spill area and expenditure of state criminal funds.	
94216	Gulf of Alaska Recreation	Kod, Ken, AkP	G			$164.6	N	3	3	1	3	0	7	1			$0.0
DOI-NPS	Plan Development						$0.0								This will describe injury, identify goals for restoration and develop projects for outside PWS. No recommendation.	Disapprove. Federal concerns about use of civil settlement for project. Recommend that Trustees have ADNR coordinate with the federal agencies on the development of a recreation plan for the spill area and expenditure of state criminal funds.	
							[Y=Yes, NEPA compliance required (either an EA or EIS needed) N=No EA or EIS needed (project eligible for categorical exclusion)]										
							[Note: Public comment figures are only for those written comments received prior to the Trustee Council meeting January 31, 1994]										

[LOCATION: PWS=Prince William Sound, KEN=Kenai, KOD=Kodiak, AkP=Alaska Pen][COST: Federal Fiscal Year 1994] [PAG: H=High, M=Medium, L=Low, N=No, A=Abstain] [CATEGORY: G=General, M=Monitoring, H=Habitat]

Project#			Category			Cost	NEPA	Public Advisory Group					Public Comment		Chief Scientist's	Trustee Council	FFY94
Agency	Project Title	Location	G	M	H	FFY 94	Y/N	H	M	L	N	A	Support	Oppose	Recommendation	Action	($000's)
94217	PWS Area Recreation	PWS	G			$14.9	N						7	1			$0.0
USFS	Implementation Plan					Amount Approved in 1993 Court Request: $76.3	$0.0								This develops recreation projects inside PWS. No recommendation.	No further funding required by agencies.	
94237	River Otter Recovery Monitoring	PWS		M		$156.7	N	1	0	5	3	1	3	1			$0.0
ADF&G							$0.0								There is controversy over the interpretation of the damage to this species. The investigators have been encouraged to present a more balanced discussion of their data. Disapprove.	Disapprove.	
94241	Rockfish Management Plan	PWS, Kenai		M		$233.2	N	0	3	5	2	0	6	2			$0.0
ADF&G	Data Development						$0.0								This is an enhancement action since injury to this species is not certain. There was increased fishing pressure on this species after the spill. Review normal agency management obligations.	Disapprove. Review as part of the 1995 Work Plan. Questions regarding normal agency responsibility. DOL has concern about extent of injury.	
94244	Seal and Otter Cooperative	PWS, Kenai	G			$54.5	N	0	3	2	5	0	4	1			$54.5
ADF&G	Subsistence Harvest Assistance						$0.0								Not clear why the summary information on these resources, which is available, can not be conveyed to subsistence users for less cost. Evaluate costs for this project.	Approve. Recommend that Council staff work with DCRA and subsistence users to examine opportunities to fund community-based implementation of this project with criminal funds.	
94246	Sea Otter Recovery Monitoring	PWS		M		$211.3	N	1	3	5	2	0	3	1			$0.0
DOI-FWS						Amount Approved in 1993 Court Request: $207.4	$0.0								Claims for injury from '93 studies based on serum chemistry not yet reviewed. Publication record of sea otter biologists could improve considering the total amount of funding provided in past. Skip '94 to provide chance to analyze and complete past work.	Defer additional funding pending synthesis of existing data. Review for consideration as part of 1995 Work Plan. Disparity in boat and aerial survey results needs to be resolved.	
94255	Kenai River Sockeye	Kenai	G			$285.1	N	4	2	3	1	0	16	1			$285.1
ADF&G	Salmon Restoration					Amount Approved in 1993 Court Request: $121.0	$0.0								Includes genetic characterization of Kenai River fish in UCI mixed stock fishery. Suggest continuation, but normal agency management obligations should be reviewed.	Approve.	

[Y=Yes, NEPA compliance required (either an EA or EIS needed) N=No EA or EIS needed (project eligible for categorical exclusion)]

[Note: Public comment figures are only for those written comments received prior to the Trustee Council meeting January 31, 1994]

[LOCATION: PWS=Prince William Sound, KEN=Kenai, KOD=Kodiak, AkP=Alaska Pen][COST: Federal Fiscal Year 1994] [PAG: H=High, M=Medium, L=Low, N=No, A=Abstain] [CATEGORY: G=General, M=Monitoring, H=Habitat]

DRAFT

Project#			Category			Cost	NEPA	Public Advisory Group					Public Comment		Chief Scientist's	Trustee Council	FFY94
Agency	Project Title	Location	G	M	H	FFY 94	Y/N	H	M	L	N	A	Support	Oppose	Recommendation	Action	($000's)
94258	Sockeye Salmon Overescapement	Ken, Kod		M		$475.9	N	3	2	4	1	0	18	1			$475.9
ADF&G						Amount Approved in 1993 Court Request: $379.0	$0.0								Program was favorably reviewed in '93. '94 run forecasts less gloomy than previous. Fund. Highly recommended	Approve.	
94259	Coghill Lake Sockeye	PWS	G			$247.5	Y	1	3	5	1	0	16	1			$247.5
ADF&G	Salmon Restoration					Amount Approved in 1993 Court Request: $76.6	$0 EA done.								This is an enhancement action. Project was not peer reviewed in '93. No recommendation.	Approve. Coordinate with 94320 (PWS System Investigation) to obtain project smolts.	
94266	Shoreline Assessment & Oil Removal	PWS, Kenai	G			$940.2	Y	8	2	1	2	0	9	1			$365.0
ADEC	DRAFT					Amount Approved in 1993 Court Request: $33.1	$5.0								It is not necessary to do this survey every year. It was done thoroughly in '93. Consideration should be given to either a scaled-down version of this project in 94, skipping a year, and/or combining with other intertidal work.	No implementation prior to full NEPA compliance. Project is limited to beach rehabilitation in PWS and site assessment on Alaska Peninsula. Coordinate with project # 94090 (Oiled Mussel Bed Restoration) for additional cost savings	
94272	Chenega Chinook Release Program	PWS	G			$57.4	Y	5	4	0	0	1	5	1			$57.4
ADF&G							$0.0								Trustees approved the concept last year. Implement.	Approve. Recommend that Council staff work with DCRA and subsistence users to examine opportunities to fund community-based implementation of this project with criminal funds.	
94279	Subsistence Food Safety Testing	PWS, Ken, Kod	G			$268.3	N	5	3	1	1	0	4	1			$268.3
ADF&G						Amount Approved in 1993 Court Request: $110.9	$0.0								If the chemical analyses reported in the past did not satisfy subsistence users, this approach not likely to be successful. Thought that '93 was to be the last year. Consider only funding information distribution of project.	Approve. Recommend that Council staff work with DCRA and subsistence users to examine opportunities to fund community-based implementation of this project with criminal funds.	
94280	Spot Shrimp Survey and	PWS		M		$232.2	N	2	4	3	1	0	7	1			$0.0
ADF&G	Juvenile Shrimp Habitat ID						$0.0								No evidence of damage to this species. Disapprove.	Defer. Questions raised about adequate demonstration of injury. Consider as part of an ecosystem management approach (as part of 1995 Work Plan).	

[Y=Yes, NEPA compliance required (either an EA or EIS needed) N=No EA or EIS needed (project eligible for categorical exclusion)]

[Note: Public comment figures are only for those written comments received prior to the Trustee Council meeting January 31, 1994]

[LOCATION: PWS=Prince William Sound, KEN=Kenai, KOD=Kodiak, AkP=Alaska Pen][COST: Federal Fiscal Year 1994] [PAG: H=High, M=Medium, L=Low, N=No, A=Abstain] [CATEGORY: G=General, M=Monitoring, H=Habitat]

Project#			Category			Cost	NEPA	Public Advisory Group					Public Comment		Chief Scientist's	Trustee Council	FFY94
Agency	Project Title	Location	G	M	H	FFY 94	Y/N	H	M	L	N	A	Support	Oppose	Recommendation	Action	($000's)
94285	Subtidal Sediment Recovery Monitoring	Ken,Kod,AkP		M		$178.0	N	0	5	5	3	0					$178.0
NOAA						Amount Approved in 1993 Court Request: $451.2	$0.0								Subtidal sediments in the Gulf have not been surveyed since 1990; this program will provide new information on their recovery.	Approve contingent upon Chief Scientist/peer review approval of reports from prior years.	
94290	Hydrocarbon Data Analysis	Spill area		M		$55.5	N	10	1	0	1	1	4	2			$55.5
NOAA	and Interpretation					Amount Approved in 1993 Court Request: $74.7	$0.0								This is essential to proper interpretation of study results as long as hydrocarbon data need to be interpreted Highly recommended.	Approve.	
94316	Shoreline trash Cleanup	PWS	G			$38.6	N	1	7	3	2	0	8	1			$0.0
ADNR	DRAFT						$0.0								Uncertain how much litter was a result of spill. Disapprove.	Disapprove. Federal concerns about use of civil settlement for project. Recommend that Trustees have ADNR coordinate with the federal agencies on the development of a recreation plan for the spill area and expenditure of state criminal funds.	
94320	PWS System Investigation	PWS		M		$4,900.0	N	7	2	1	0	0	17	1			$6,250.0
ADF&G						Amount Approved in 1993 Court Request: $100.0	$0.0								Approve in concept the core scientific studies of oceanographic control of zooplankton abundance and prey switching by fish supported by reviewers and require OK of detailed study plans before release of funds. Implement study gradually.	Approve conditionally (see Trustee Council minutes) and subject to successful integration of this project with project #'s 94163, 94184, 94185, 94187, 94189, 94192, 94259 and those portions of project # 94421 that involve research.	
94345	Salmon Spawning Escapement on the	Kenai	G			$219.2	N	2	3	3	2	0	17	2			$0.0
ADF&G	Lower Kenai River						$0.0								It is unlikely that the proposed methods of estimating a lingering effect of the spill on the salmon runs in the Lower Kenai River will be successful. Disapprove.	Disapprove. Funds should be invested in projects that have a higher probability of restoring fisheries resources.	
94386	Artifact Repositories -	Spill area	G			$243.3	N	1	2	6	2	1	5	1			$0.0
ADNR	Planning and Design						$0.0								No recommendation.	Approve. Combine with project # 94007 (Site Specific Archeological Restoration).	
							[Y=Yes, NEPA compliance required (either an EA or EIS needed) N=No EA or EIS needed (project eligible for categorical exclusion)]										
							[Note: Public comment figures are only for those written comments received prior to the Trustee Council meeting January 31, 1994]										

[LOCATION: PWS=Prince William Sound, KEN=Kenai, KOD=Kodiak, AkP=Alaska Pen][COST: Federal Fiscal Year 1994] [PAG: H=High, M=Medium, L=Low, N=No, A=Abstain] [CATEGORY: G=General, M=Monitoring, H=Habitat]

DRAFT

Project#			Category			Cost	NEPA	Public Advisory Group					Public Comment		Chief Scientist's	Trustee Council	FFY94
Agency	Project Title	Location	G	M	H	FFY 94	Y/N	H	M	L	N	A	Support	Oppose	Recommendation	Action	($000's)
94417	Waste Oil Disposal Facilities	Spill area	G			$232.2	Y	8	2	2	1	0	6	1			$232.2
ADEC							$0.0								Connection to spill is tenuous. Disapprove.No implementation prior to full NEPA compliance.	No implementation prior to full NEPA compliance. Approve with understanding that future operating and maintenance cost will be assumed by communities and a full report on the project results will be given to the Trustee Council before further funding.	
94419	Leave No Trace Educational Program	PWS	G			$167.7	N	1	2	9	0	0	8	1			$0.0
USFS							$0.0								Addresses loss of public recreational use of spill area. No comment.	Disapprove. Federal concerns about use of civil settlement for project. Recommend that Trustees have ADNR coordinate with the federal agencies on the development of a recreation plan for the spill area and expenditure of state criminal funds.	
94420	Recreation Information Center	PWS, Ken	G			$100.8	N	1	4	3	4	1	4	2			$0.0
USFS	at Portage						$0.0								No recommendation.	Disapprove. Federal concerns about use of civil settlement for project. Recommend that Trustees have ADNR coordinate with the federal agencies on the development of a recreation plan for the spill area and expenditure of state criminal funds.	
94421	Common Property Salmon	PWS, Ken	G			$5,336.8	N	5	2	2	0	1	68	4			$0.0
ADF&G	Stock Restoration						$0.0								Delay pending review of benefits of understanding relationships of fry survival to marine conditions and contributing to proposed PWS ecosystem study versus risks that hatcheries may contribute to declines of wild stock salmon or other resources.	Executive Director will work with State and Federal representatives to develop an integrated funding strategy for the one year requested.	
94422	Environmental Impact Statement for	Spill area		M		$323.5	Y										$343.4
USFS	the Restoration Plan						$0.0									Approve. Total project cost for FFY 94 and FFY 95 is $343.4. FFY 94 cost is $323.5.	
94425	Marine Mammal Book	Spill area		M		$0.0	N										$20.0
NOAA							$0.0									Approve. Will make publication more widely available to the public.	
94504	Genetic Stock ID of Kenai River	Kenai	G			$0.0	N	5	2	2	1	0	14	1			$0.0
ADF&G	Sockeye					Amount Approved in 1993 Court Request: $262.2	$0.0								This is the closeout of a 1993 project. Costs appear high. Examine costs before approval.	Already approved.	

[Y = Yes, NEPA compliance required (either an EA or EIS needed) N = No EA or EIS needed (project eligible for categorical exclusion)]

[Note: Public comment figures are only for those written comments received prior to the Trustee Council meeting January 31, 1994]

[LOCATION: PWS = Prince William Sound, KEN = Kenai, KOD = Kodiak, AkP = Alaska Pen][COST: Federal Fiscal Year 1994] [PAG: H = High, M = Medium, L = Low, N = No, A = Abstain] [CATEGORY: G = General, M = Monitoring, H = Habitat]

Project#			Category			Cost	NEPA	Public Advisory Group					Public Comment		Chief Scientist's	Trustee Council	FFY94
Agency	Project Title	Location	G	M	H	FFY 94	Y/N	H	M	L	N	A	Support	Oppose	Recommendation	Action	($000's)
94505	Information Needs for	Spill area			H	$0.0	N	0	9	4	0	0	8	1			$0.0
USFS	Habitat Protection					Amount Approved in 1993 Court Request: $406.1	$0.0								This is a closeout of a 1993 project. Costs appear very high for closeout. Examine cost before approval.	Already approved. No further funding required.	
94506	Pigeon Guillemot Recovery	PWS		M		$0.0	N	9	2	0	0	0	4	0			$0.0
DOI-FWS						Amount Approved in 1993 Court Request: $13.9	$0.0								Closeout costs appear to be reasonable. Approve.	Already approved.	
94507	Symposium Proceedings Publication	Spill area		M		$0.0	N										$0.0
NOAA	DRAFT					Amount Approved in 1993 Court Request: $69	$0.0									Already approved.	
	Proposed 1/31/94 Project Budget Subtotal:					**$24,204.1**										**Approved Project Budget Subtotal:**	**$14,379.1**
	Already funded 11/30/93 Project Budget Subtotal:					**$5,007.9**										**Already funded 11/30/93 Project Budget Subtotal:**	**$5,007.9**
	Proposed FFY 94 Projects - NEPA Costs:					**$26.5**										**Approved NEPA Compliance Budget:**	**$19.5**
	Proposed FFY 94 Project Budget Total: $29,238.5															**Approved FFY 94 Project Budget Total: $19,406.5**	
94199	Institute of Marine Science -	Spill area		M		$24,984.0	Y						356	17			$24,984.0
ADF&G	Seward Improvements					EVOS-related funds (includes NEPA costs)	$0.0								Would provide a center for coordination of long-term monitoring and research on injured species in the spill area, housing of reports and information from Trustee-sponsored projects. Highly recommended.	Approve subject to successful completion of tasks. Project funding level recommendation to be developed by Executive Director for further consideration by Trustee Council. See Attachment C.	*Estimate only. Up to $50.0 authorized for initial work.
																Institute of Marine Science / Seward - Estimate Subtotal:	**$24,984.0**
94424	Restoration Reserve	Spill area		M			N										$12,000.0
ADOL							$0.0									Approve. Will provide funding needed to undertake long-term restoration activities.	
																Approved Restoration Reserve Subtotal:	**$12,000.0**

[LOCATION: PWS = Prince William Sound, KEN = Kenai, KOD = Kodiak, AkP = Alaska Pen][COST: Federal Fiscal Year 1994] [PAG: H = High, M = Medium, L = Low, N = No, A = Abstain] [CATEGORY: G = General, M = Monitoring, H = Habitat]

DRAFT

ATTACHMENT B

1. Habitat Protection needs to move forward as part of an overall restoration strategy.
2. The Executive Director shall work with lead negotiators to develop a standardized appraisal process, including standardized appraisal instructions, which shall be used to appraise the parcels under consideration.
3. The Executive Director shall start negotiations with the landowners of the parcels ranked high in the Comprehensive Large Parcel Evaluation and Ranking. The Executive Director may include additional large parcels as necessary to facilitate development of the list in step 6. These negotiations are to be conducted for the purpose of providing the Trustee Council with proposed terms and conditions for acquisition. Agreement to proposed terms and conditions are discretionary with the Trustee Council. No promises or representations to the landowners to the contrary shall be made.
4. The Executive Director shall review the Comprehensive Large Parcel Evaluation and Ranking based on public comment and Public Advisory Group comment. The document shall also be reviewed to take into account our understanding of where injury actually occurred and the benefits to accrue to the populations actually injured.
5. The Executive Director will develop a rationale for acquisition for each parcel under consideration.
6. Based upon all of the information developed above, the Executive Director will provide the Trustee Council with a recommended list of large parcels to be protected. The recommendation will include considerations such as: 1) the degree of benefit afforded injured resources and services, 2) the need to have a balanced program throughout the spill area, 3) the cost and terms available from the landowner for individual parcels, 4) the adequacy of protection measures available from the landowner, and 5) the adequacy of funds to carry out other restoration activities.
7. Small parcel negotiations will proceed once an evaluation and ranking of small parcels has been completed and approved by the Trustee Council.

DRAFT

ATTACHMENT C

1. Take necessary steps to secure NEPA compliance.
2. Consult appropriate entities, including the University of Alaska, the City of Seward, the Seward Association for the Advancement of Marine Science and appropriate Trustee Agencies to review the assumptions relating to the proposed improvements and capital and operating budgets;
3. Develop an integrated funding approach which assures that the use of trust funds are appropriate and legally permissible under the terms of the Memorandum of Agreement and Consent Decree.
4. Prepare a recommendation of the appropriate level of funding for consideration by the Trustee Council that would be legally permissible under terms of the Memorandum of Agreement and Consent Decree.

EIS
E

Status Report: 1993 *Exxon Valdez* Oil Spill Restoration Projects

DRAFT

(incorporating comments of the Chief Scientist)

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
Administration			**$4,135.8**	**$1,434.6**			
93AD	Administrative Director's Office		$1,702.2	$425.8	Ongoing.	Not applicable.	None.
93FC	Financial Committee		$105.2	$36.5	Ongoing.	Not applicable.	None.
93RT	Restoration Team Support		$2,328.4	$972.3	Ongoing.	Not applicable.	None.
Archaeological Resources			**$1,760.1**	**$14.3**			
93006	Site Specific Archaeological Restoration	ADNR USFS DOI	$260.1	$14.3	Fieldwork is complete. Report is under preparation and expected to be submitted 1/15/94.	Not available.	
93066	Alutiiq Archeological Repository	ADEC	$1,500.0	$0.0	About to issue grant to Kodiak Area.Native Association for construction of the facility.	Facility expected to open in early 1995.	None.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. This status report will be updated when a more current financial report is available.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
Ecosystems			**$1,913.1**	**$1,207.7**			
93036	Oiled Mussel Beds	DOI NOAA	$404.8	$155.7	Report in preparation. Continuation of R103.	Identified 27 mussel beds with total petroleum hydrocarbons greater than 10,000 mg/g wet weight. Minimally intrusive site manipulation was conducted at three heavily oiled mussel beds.	B11, CH1B, R71 and 93033.
93039	Herring Bay Experimental and Monitoring	ADFG	$507.5	$452.1	Draft report due by end of February 1994.	Recovery patterns and rates continued to be monitored and studied experimentally. Recruitment and growth rates of organisms at oiled and unoiled sites were studied relative to currents to test the hypothesis that oil tended to ground on the most productive coastal locations.	B11, CH1A, and R103.
93047	Subtidal Monitoring	ADEC ADFG NOAA	$1,000.8	$599.9	Draft final report on 1989-1991 and 1993 due on 6/30/94.	As a follow-up to previous studies from 1989-1991, the numbers and activity of oil-degrading microorganisms were measured in sediments collected in 1993. Preliminary results suggest some contamination remains in subtidal sediments. However, generally very low numbers and activities were found where visible oil was present (e.g., subsurface sediments, Northwest Bay). These results support the hypothesis that populations of oil-degrading microorganisms are good indicators of the presence of biodegradable (e.g., relatively "fresh") oil in Prince William Sound. 1993 infaunal samples have been processed and analyses are underway. Epifauna appears reduced from previous years. Sea urchins are more abundant. Hemosderosis in fishes from oiled sites.	ST1A, ST1B and 93053.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. This status report will be updated when a more current financial report is available.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
Fish/Shellfish			**$2,816.5**	**$915.4**			
93002	Sockeye Salmon Overescapement	ADFG	$714.6	$275.8	1993 field data collection completed. Laboratory analysis approximately 50% completed. Final 1993 progress report will be submitted in March 1994.	1993 Kenai smolt demonstrated continued high overwintering mortality with less than 500,000 smolt estimated to migrate, while Tustumena Lake produced approximately 9 million smolt. Red and Akalura lakes demonstrated poor smolt production on Kodiak Island. Fall 1992 Tustumena and Skilak Lake dry fat content support poor nutrition going into winter as probable cause of mortality in Skilak Lake. Adult 1992 returns to the Kenai River were consistent with smolt estimates. However, primary age class of the 1989 brood year will return in 1994 and will determine accuracy of smolt estimates. (Recent improvement in forecasted returns for 1994.)	93012 and 93015 provide information useful in managing expected low returns to the Kenai River in 1994-1996.
93003	Salmon Egg to Pre-emergent Fry Survival	ADFG NOAA	$686.0	$361.6	Report being revised. Continuation of R60C. Expected to continue into 1994 and 1995.	Oil exposures completed for 1992 and 1993 brood years. Spawning of surviving adults is scheduled for September 1994 with possible long-term damage to genetics and survival of progeny to be determined in early 1995. Persistence of elevated embryo mortalities in oiled streams in 1992 indicate possible genetic damage to wild pink salmon populations from the *Exxon Valdez* oil spill. Preliminary laboratory studies support the genetic hypothesis. Additional laboratory studies demonstrate dose response of pink salmon embryos when incubated in gravel exposed to crude oil from the *Exxon Valdez*.	R60AB and R60C. 93067 provides fisheries managers with information critical for protecting these chronically damaged wild pink salmon populations from overexploitation in commercial fisheries.
93012	Genetic Stock Identification of Kenai River Sockeye Salmon	ADFG	$300.6	$68.1	Report being drafted.	Genetic data were collected during 1992 and 1993 from spawning populations contributing to mixed-stock harvest of sockeye salmon in Cook Inlet. These data were used in a pilot study to estimate the component of Kenai River stocks harvested in mixed-stock areas of Upper Cook Inlet.	Collection of spawning samples is being conducted by study 93015.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. This status report will be updated when a more current financial report is available.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
93015	Kenai River Sockeye Salmon Restoration	ADFG	$512.6	$124.0	Draft report due 3/31/94.	Successful collection of baseline and fishery genetic samples. Successful inseason hydroacoustic survey of Upper Cook Inlet by subcontractor.	Genetic samples analyzed by 93012.
93024	Restoration of Coghill Lake Sockeye Salmon Stock	ADFG USFS	$191.9	$31.8	Lake fertilization completed for 1993 season. Lake morphology completed.	Monitoring showed the need for modifying both the type and concentrations of fertilizer.	None.
93032	Cold Creek Pink Salmon Restoration (NEPA Compliance)	ADFG	$5.0	$0.0	Final report completed.	Cost:benefit analysis showed project to be marginal.	R105.
93063	Anadromous Stream Surveys	ADFG USFS	$59.4	$36.3	Report for R105 is being revised.	This project was funded only for retrieving stream thermometers and completion of report for R105, not for field work. See R105 status report.	R105.
93067	Pink Salmon Coded Wire Tag Recovery	ADFG	$220.0	$10.5	Report being reviewed.	Reduced commercial exploitation of damaged wild pink salmon populations through timely inseason estimates of hatchery and wild contributions to harvest. Accurate and timely stock composition estimates were used by fisheries managers to justify restriction of fishing fleet to areas where interception of damaged wild populations in mixed-stock fisheries could be minimized.	93003 demonstrated chronic damage to wild pink salmon populations in western Prince William Sound.
93068	Non-Pink Salmon Coded Wire Tag Recovery	ADFG	$126.4	$7.3	Report being drafted.	Timely and accurate inseason estimates of hatchery and wild stock contributions to commercial harvest for improved management of wild stocks in mixed-stock fisheries.	93024 is designed to restore the natural population of sockeye salmon from Coghill Lake.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. This status report will be updated when a more current financial report is available.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
Marine Mammals			**$652.5**	**$163.4**			
93042	Killer Whale Recovery	NOAA	$127.1	$106.0	Report being drafted.	AB pod number has increased by one (a calf) to a total of 26. The 14 missing pod members were not present in 1993.	None.
93043	Sea Otter Demographics and Habitat	DOI	$291.9	$0.0	Field work and data collected complete; data analylsis and report writing ongoing. Reports will be completed 3/1/94. Habitat component dropped.	Aerial survey of sea otters in Prince William Sound completed Summer 1993; estimated abundance is approximately 18,000. Age distribution of sea otter carcasses recovered in Spring 1993 in western Prince William Sound is similar to prespill distribution. Age- and sex-specific survival rates generated from carcass data for sea otters in Prince William Sound.	
93046	Habitat Use, Behavior, and Monitoring of Harbor Seals in PWS (NEPA Compliance)	ADFG	$233.5	$57.4	Progress report has been completed.	Counts of seals at 25 trend sites in Prince William Sound were similar during pupping and molting in 1992 and 1993. However, 1993 pupping counts were 23% lower than in 1989. Molting counts were similar to 1989 postspill counts, but 27% lower than 1988 counts. Sixteen seals satellite-tagged since 1992 indicate that seals in central Prince William Sound haul out and feed near the same sites with little movement to other areas. Feeding usually occurs in depths of 100-200 meters, with a maximum recorded dive depth of 404 meters.	No related restoration projects. However, ADFG is conducting similar studies in southeast Alaska and near Kodiak.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. This status report will be updated when a more current financial report is available.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
Multiple Resources			**$40,494.3**	**$677.9**			
93038	Shoreline Assessment	ADEC ADNR ADFG NOAA USFS DOI	$539.2	$197.3	Report being drafted. Results presented to the Trustee Council 11/30/93.	Surface oil has become stable. Subsurface oil has decreased substantially since 1991. Oiling is discontinued throughout the study site.	93036
93041	Comprehensive Monitoring	NOAA	$237.9	$0.0	Request for proposals withheld by Trustee Council.	Not applicable.	All monitoring projects.
93045	Marine Bird / Sea Otter Surveys	DOI	$262.4	$0.0	Draft report in internal Fish and Wildlife Service review.	Overall marine bird population estimates in Prince William Sound have not changed significantly since 1989, but were 41% lower than 1972-1973 estimates. Rates of increase of goldeneyes and surfbirds were higher in the unoiled zone of Prince William Sound than in the oiled zone, whereas oystercatchers increased more rapidly in the oiled zone.	93033, 93034, 93035, and 93043.
93051	Stream Habitat Assessment and Habitat Information for Murrelets	ADFG USFS DOI	$1,222.3	$185.8	This is the second and final year of the project. It is a continuation of R47. Draft report on habitat information for murrelets is in internal Fish and Wildlife Service review. First draft report on stream habitat assessment is being revised.	Late season surveys, sites at the heads of bays, low elevations, high percentages of forest cover, and large trees were all consistent predictors of high murrelet activity. Radar performed better than humans in detecting murrelets and was cheaper than boat-based or ground-based surveys by humans. About 995 km of shoreline and 117 km^2 of uplands were surveyed for anadromous fish streams on private lands on the lower Kenai Peninsula and in Prince William Sound, resulting in discovery of 186 anadromous streams totaling about 57 km. Stream habitat parameters were collected along all streams, upper extents of anadromous distribution were documented and streams were mapped by GPS.	Information will be integrated into the restoration GIS (93062) and supplement 93033. Also related to 93045.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. This status report will be updated when a more current financial report is available.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
93053	Hydrocarbon Database	NOAA	$105.5	$81.5	Report being drafted. Continuation of ST8.	Analyzed several thousand environmental samples, provided numerical correlations directly related to oil, and assessed associations of observed biological effects with concentrations of *Exxon Valdez* oil.	ST8, TS1 and TS3.
93057	Damage Assessment GIS	ADNR	$67.5	$55.6	Completed. No report necessary.	Provided mapping and database support for damage assessment studies. Cataloged and plotted over 160 maps for public access at OSPIC.	Supported numerous damage assessment projects, including B11, FS13, AW1, and CH1A.
93059	Habitat Identification Workshop	USFS	$42.3	$23.0	Final report completed.	Identified parcels of nonpublic land containing critical habitat necessary for the recovery of injured resources and services.	93046, 93051, 93059, 93063, 93064, and 93065.
93060	Accelerated Data Acquisition	USFS	$43.9	$42.9	Project completed. Data collected.	Collected and organized existing resource data needed for the analysis of private lands in the oil spill area.	93046, 93051, 93059, 93063, 93064, and 93065.
93062	Restoration GIS	ADNR	$123.3	$28.8	Completed. No report necessary.	Provided technical mapping and database support for restoration projects. Generated spill area map and land status maps for Kachemak Bay, Seal Bay, and Eyak lands.	Supported numerous restoration projects, including 93038, 93063, 93064 and R47.
93064	Imminent Threat Habitat Protection	ADNR ADEC USFS	$37,850.0	$63.0	Completed. The Comprehensive Habitat Protection process was reviewed at a workshop; recommendations were incorporated into the process.	Imminent Threat Evaluation and the first round of Large Parcel Evaluation were completed. $7.5 million from settlement funds were combined with $14.5 million from other sources for the purchase of private inholdings in Kachemak Bay. $29,950,000 was committed from the most recent court request for the initial payment for purchase of private land near Seal Bay on Afognak Island. The total purchase price of this transaction is $38,700,000 with the balance to be paid in three annual installments. References: "Opportunities for Habitat Protection/Acquisition" (2/16/93) and "Comprehensive Habitat Protection Process; Large Parcel Evaluation & Ranking, Volume I" (11/30/93).	Data sources: 93051, 93059, 93060, 93062, and 93063.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. This status report will be updated when a more current financial report is available.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
Seabirds			**$750.9**	**$102.8**			
93022	Monitor Murre Colony Recovery	DOI	$177.2	$0.0	Project report in preparation.	Murre productivity in the Barren Islands was 0.4 - 0.6 chicks per nest site in 1993, up from near zero in 1989. Population counts on plots were similar to or higher than in previous postspill years.	None.
93033	Harlequin Duck Restoration	ADFG	$300.0	$102.8	Draft final report in preparation. Completed habitat evaluation assistance.	Only 3 harlequin broods observed in western Prince William Sound; 14 in eastern Prince William Sound. Decreased numbers of harlequins molting in western Prince William Sound in July. Suspect incomplete gonadal development in prenesting western Prince William Sound harlequins. Blood/physiological analysis and hydrocarbon analyses in process. Harlequin breeding stream/nest site model in preparation. Harlequin breeding assessment completed on North Afognak Island.	CH1B, R71, R103, and 94159. Project 93036 documents continued oil in prey species. 93045 surveys corroborate harlequin status in Prince William Sound. 93053: hydrocarbon database for sea duck samples.
93034	Pigeon Guillemot Recovery	DOI	$165.8	$0.0	Draft report in review.	One hundred eighty-four colonies, concentrated in southwest Prince William Sound and in the Naked Islands were identified. Guillemots continue to decline in Prince William Sound from a high of 15,000 in 1970 to a present population of 3,000 - 4,900.	93045
93035	Black Oystercatchers / Oiled Mussel Beds	DOI	$107.9	$0.0	Draft report in revision prior to submission to Chief Scientist.	Growth rates of oystercatcher chicks were lower on oiled than unoiled nest sites. Some alphatic compounds were detected in 1992 fecal samples from oiled sites. Breeding pairs increased on oiled Green Island from 1992 to 1993 but decreased on Knight Island from 1991 to 1993.	93036 and 93045.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. This status report will be updated when a more current financial report is available.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
Services			**$389.8**	**$155.8**			
93016	Chenega Bay Chinook and Silver Salmon (NEPA Compliance)	ADFG	$10.7	$0.0	Final document due to lead federal agency (NOAA) on 1/14/94.	Not applicable.	Not applicable.
93017	Subsistence Food Safety Survey and Testing	ADFG NOAA	$307.1	$144.1	Analysis of samples collected is ongoing.	First round of tests for hydrocarbon contamination of subsistence resources showed little or no contamination. Results of second round of testing are pending. The observations of abnormalities in the tested resources caused a shift in concerns of subsistence users from oil contamination to what effects these abnormalities have on these resources.	This project depends on information from all resource restoration projects as well as the shoreline oiling survey.
93065	Prince William Sound Recreation	ADNR USFS	$72.0	$11.7	Continued as 94217. Analysis of findings and final report being drafted.	Recreation Injury Statement (10/93) was incorporated into the Draft Restoration Plan. Recreation restoration projects for Prince William Sound were prioritized through a public consensus process; high priority projects were included in the Draft 1994 Work Plan.	Expansion to other areas: 94216. High priority recreation projects: 94266, 94316, 94419, and 94420.
	1993 TOTAL		**$52,913.0**	**$4,671.9**			

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. This status report will be updated when a more current financial report is available.

Status Report: 1992 *Exxon Valdez* Oil Spill Restoration Projects

(incorporating comments of the Chief Scientist)

DRAFT

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
Administration			**$5,076.1**	**$4,019.0**			
AD	Administrative Director's Office		$2,248.7	$1,943.7	Ongoing.	Not applicable.	
RT	Restoration Team		$2,827.4	$2,075.3	Ongoing.	Not applicable.	
Archaeological Resources			**$408.0**	**$242.3**			
ARC1	Archeological Survey	ADNR	$248.8	$118.7	Project is complete. Report peer reviewed and released.	See Reger, D.R., J.D. McMahon, and C.E. Holmes. 1992. Effect of Crude Oil Contamination on Some Archaeological Sites in the Gulf of Alaska, 1991 Investigations.	None.
R104A	Site Stewardship	ADNR USFS	$159.2	$123.6	Project is complete. Report awaiting final review.	Increased public knowledge of archaeological sites following the spill led to increased vandalism. A stewardship program to train local residents to protect cultural resources was developed. A site stewardship manual and field notebook were written.	None.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. The total cost of some projects may be higher than the amount shown because, for the period 3/1/92 to 6/30/92, the State spent state funds rather than settlement funds and will request reimbursement at a later date.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
Ecosystems			**$2,042.3**	**$1,729.8**			
CH1B	Hydrocarbons in Mussels	NOAA	$51.4	$31.1	Report being drafted.	*Exxon Valdez* oil is located in oiled mussel beds. Mussels are concentrating the oil.	93036, B11, R71, and R103.
R102	Herring Bay Experimental and Monitoring Study	ADFG	$485.6	$324.3	Report being revised.	Cover of the dominant intertidal alga, *Fucus gardneri,* was reduced at oiled/cleaned sites. *Fucus* recruitment was poor in the mid- to upper intertidal, probably due to lack of shelter from desiccation and heating by adult plants. Limpet densities continued to be lower in the upper intertidal. Recovery appeared to be occurring in the lower intertidal zone in 1990-1991 and in the upper intertidal in 1993. Results have been incorporated into an interaction web to elucidate potential oil spill effects on community dynamics.	B11, CH1A, R103, and TM3.
R103	Oiled Mussels	ADFG NOAA DOI	$874.0	$879.8	Report being revised. Project continued as 93036.	Identified 27 mussel beds with total petroleum hydrocarbons greater than 10,000 mg/g wet weight. Minimally intrusive site manipulation was conducted at three heavily oiled mussel beds. black oystercatchers fed in oiled mussel beds. Chicks raised on oiled sites grew more slowly than chicks raised on unoiled sites. Differences in levels of blood haptoglobin and Interleukin-6 ir, which were previously found to be elevated in river otters inhabiting oiled compared to nonoiled areas in Prince William Sound, were not observed in Summer 1992. Additionally, river otters from oiled areas continued to regain body size from levels noted in 1990. This suggests that river otters may be recovering from chronic effects that were observed in 1990 and 1991. Consequently, no adverse effects in 1992 could be attributed to oiled mussel beds from areas where river otters were captured.	B11, B12, CH1B, R7, TM3, 93035 and 93036.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. The total cost of some projects may be higher than the amount shown because, for the period 3/1/92 to 6/30/92, the State spent state funds rather than settlement funds and will request reimbursement at a later date.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
ST1A	Subtidal Sediments	NOAA	$103.5	$96.5	Report being drafted.	Subtidal sediments have been found to be contaminated at no fewer than 15 sites within Prince William Sound by June 1990. Contamination had reached at least 20 meters at some sites. Evidence of hydrocarbon movement downslope into subtidal sediments was detected by 1991.	ST1B
ST1B	Subtidal Microbial	ADEC	$17.1	$3.2	Final report accepted.	The numbers and activity of oil-degrading microorganisms were measured in sediments periodically for two years after the oil spill. Populations of oil-degrading microorganisms were significantly higher in sediments collected at oiled sites relative to reference sites. This information is useful in establishing the extent of contamination of the oil with time and also provides evidence that biodegradation is occurring naturally in Prince William Sound.	93047
ST2A	Shallow Benthic	ADFG	$109.8	$68.9	Final report being revised.	At oiled sites there was a decrease in some subtidal organisms relative to unoiled sites. Partial recovery observed in 1991.	B11, CH1A, R103, and TM3. Provides population assessment information for 94320 (Ecosystem Study Plan).
ST2B	Deep Water Benthic	ADFG	$44.9	$54.0	Report being revised.	Analyses of 1990 data collected approximately 16 months after the oil spill indicate that the deep benthic environment within the spill region appeared healthy. It appears that movement of water within the region of the oil trajectory was sufficient to flush out toxic fractions, resulting in minimal damage to life at depths of 40 to >100 meters.	CH1A, ST1B, ST2A, ST4, ST5, ST6, ST7, ST8, and TS1.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. The total cost of some projects may be higher than the amount shown because, for the period 3/1/92 to 6/30/92, the State spent state funds rather than settlement funds and will request reimbursement at a later date.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
ST3A	Caged Mussels Damage Assessment	NOAA	$39.1	$24.2	Report being revised.	Mussels transplanted along spill trajectory accumulated particulated oil at concentrations that decreased with depth, elapsed time, and distance from heavily oiled beaches. In 1990 and 1991, low concentrations of polynuclear aromatic hydrocarbons were sporadically detected at locations adjacent to heavily oiled beaches. Petroleum hydrocarbons were detected only sporadically in mussels deployed in locations outside Prince William Sound in 1989.	ST3B.
ST3B	Sediment Traps Damage Assessment	ADEC	$50.9	$24.5	Report being drafted.	The subtidal sediment trap study demonstrated that oiled particulated matter derived from oil-impacted beaches in Prince William Sound contaminated adjacent subtidal sediments. The study further showed that the transfer rate of oil from beach to subtidal sediment was highest the year following the spill, and declined steadily thereafter.	ST3A and ST4.
ST7	Demersal Fishes Damage Assessment	NOAA	$60.4	$55.1	Report being reviewed.	Results show continuing exposure of several benthic fish species and pollock, suggesting continuing petroleum contamination of subtidal sediments, water and food in 1990 and 1991 at sites up to 400 miles from the spill origin.	ST1A
ST8	Sediment Data Synthesis	NOAA	$205.6	$168.2	Report being drafted. Project continued as 93053.	Analyzed several thousand environmental samples, provided numerical correlations directly related to oil, and assessed associations of observed biological effects with concentrations of *Exxon Valdez* oil.	TS1, TS3, and 93053.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. The total cost of some projects may be higher than the amount shown because, for the period 3/1/92 to 6/30/92, the State spent state funds rather than settlement funds and will request reimbursement at a later date.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
Fish/Shellfish			**$5,531.9**	**$3,756.3**			
FS1	Spawning Area Injury	ADFG	$64.3	$32.8	Report being drafted (combined with R60B).	Documented oil contamination of Prince William Sound pink salmon spawning area. Improved current and historic pink salmon escapement estimates which are necessary for accurate estimates of total wild returns. For preliminary results, see 1989, 1990 and 1991 NRDA Drafts Status Reports.	FS1, FS2, FS3, FS4A, and FS4B measured oil damages to specific life stages. FS28 incorporated their results into a model to estimate population level damages.
FS11	Herring Injury	ADFG	$303.6	$212.2	Report being revised.	Adult herring migrating to the spawning grounds in 1989 were exposed to oil. Exposure to oil continued throughout 1989 and into 1990. Internal tissues were damaged but the short- and long-term effects are speculative. There may have been a short-term effect which inhibited egg deposition and a long-term reproductive impairment (reduced survival of offspring). Eggs were deposited in oiled areas in 1989. Larvae hatched from exposed embryos suffered reduced survival.	None.
FS13	Effects of Hydrocarbons on Bivalves	ADFG	$75.8	$51.8	Report being revised.	This study needs more extensive analyses of the data on which the conclusions are based and proper interpretations of the results.	Clams are an important prey for ducks, sea otters, river otters, and bears. This study is related to studies of these species.
FS2	Pre-emergent Fry	ADFG	$29.3	$11.4	Final report being reviewed.	Measured higher embryo mortalities in oil-contaminated streams than in unoiled streams.	FS1, FS2, FS3, FS4A, and FS4B measured oil damages to specific life stages. FS28 incorporated their results into a model to estimate population level damages.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. The total cost of some projects may be higher than the amount shown because, for the period 3/1/92 to 6/30/92, the State spent state funds rather than settlement funds and will request reimbursement at a later date.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
FS27	Sockeye Salmon Overescapement	ADFG	$630.0	$354.6	Report accepted.	Approximately ten- to fifteenfold reduction in Kenai River smolt when compared to brood year 1987. Reduced smolt production from Akalura and Red Lakes, Kodiak Island. Reduced harvests for the Kenai are forecast for 1994 with returns below escapement levels possible for 1995 and 1996. Minimal harvests of Kenai River sockeye salmon are likely. Reduced harvest are forecast for Red and Akalura Lakes for 1994 through 1996. See Schmidt, D.C. and K.E. Tarbox. 1993. Sockeye Salmon Overescapement. State/Federal Natural Resource Damage assessment Status Report. FRED Technical Report 136. 65 pp.; and Schmidt, D.C., J.P. Koenings, and G.B. Kyle. In press. Predator induced changes in diet vertical migration of copepods in Skilak Lake, Alaska; a hypothesis to explain the decrease in overwinter survival of juvenile sockeye salmon (Onchorhynchus *nerka*). In GUTSHOP Proceedings.	R53 acquired new information to facilitate management of anticipated reduced future runs. R113 examined potential for hatchery-reared fry in Red Lake, but forecasted returns make the project unfeasible.
FS28	Run Reconstruction	ADFG	$250.6	$126.4	Report being revised.	Estimated losses to adult populations from oil damages to early life stages at 2 to 3 million in 1990, and 40 to 70 thousand in 1991. Projected losses of 100 to 200 thousand adults in 1993 and 1994.	Through this project, results from FS1, FS2, FS3, FS4A and FS4B were incorporated into a model to estimate population level damage.
FS3	Coded-Wire Tags Damage Assessment	ADFG	$126.7	$38.7	Final report being reviewed.	Unable to detect significant differences in survival to adults from fry emerging from oiled and control streams. Also unable to detect significant difference in survival of hatchery fish reared in oiled versus unoiled areas of Prince William Sound.	FS1, FS2, FS3, FS4A, and FS4B measured oil damages to specific life stages. FS28 incorporated their results into a model to estimate population level damages.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. The total cost of some projects may be higher than the amount shown because, for the period 3/1/92 to 6/30/92, the State spent state funds rather than settlement funds and will request reimbursement at a later date.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
FS30	Database Management	ADFG	$202.5	$151.1	Report accepted.	Software was written to provide access to fish harvest database using the ADFG commercial fisheries Wide-Area Network (WAN). Procedures were implemented to provide reports in numerous database, spreadsheet, and statistical formats. Documentation and guidelines for using the harvest database were completed. WAN capability is now available between Juneau, Cordova, Anchorage, Kodiak, Soldotna, and Homer. See DiCostanzo, C. and B.P. Simonson. 1993. Database Management. Final Report, State/Federal Natural Resource Damage Assessment. 14 pp.	This database provides a repository for all NRDA and restoration projects information.
FS4A	Early Marine Salmon Damage Assessment	ADFG	$145.2	$99.1	Report being revised.	Detected reduced growth and survival of fry rearing in oiled areas in 1989. No significant differences in growth and survival between oiled and nonoiled areas in subsequent years. Rate of adult returns to unoiled hatcheries twice that of oiled hatcheries in 1990.	FS1, FS2, FS3, FS4A, and FS4B measured oil damages to specific life stages. FS28 incorporated their results into a model to estimate population level damages.
FS4B	Juvenile Pinks	NOAA	$119.4	$121.6	Revised report in review.	Documented exposure and contamination of juvenile salmon in Prince William Sound. Contamination was associated with reduced growth. Ingestion of oil or oiled prey was route of contamination.	FS4A, AW3, and ST3A.
FS5	Dolly Varden Damage Assessment	ADFG	$22.2	$4.2	Report being revised (combined with R90).	See R90.	
R105	Instream Survey Restoration Implementation Planning	ADFG	$348.1	$148.5	Final report in preparation.	Results of Cost:Benefit Study Implementation has been integrated and design planning has been completed. Awaiting construction funding. Cost:Benefit analysis for improved barrier bypass for Little Waterfall Creek on Afognak Island is positive.	Related projects: FS1, R47, 93024, 93032, and 93063. New project proposal: 94139.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. The total cost of some projects may be higher than the amount shown because, for the period 3/1/92 to 6/30/92, the State spent state funds rather than settlement funds and will request reimbursement at a later date.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
R106	Dolly Varden Restoration	ADFG	$34.9	$16.2	Final report being revised.	The nature and extent of injury to Dolly Varden and cutthroat trout was documented in FS5. The goal of R106 was to provide information for developing a management plan to protect impacted stocks, while allowing for continued recreational fishing for sport anglers where stocks could support fisheries. Sixty-one streams were surveyed to provide this information.	FS5, R106, and 94320 (Ecosystem Study Plan).
R113	Red Lake Sockeye Salmon Restoration	ADFG	$55.9	$54.3	Report being reviewed.	Red Lake does not need restoration effort but Ayakulik does.	FS27
R53	Kenai River Sockeye Salmon Restoration	ADFG	$674.2	$434.6	Report being revised.	Successful collection of baseline and fishery samples for genetic stock identification. Unsuccessful in choosing new adult inriver hydroacoustic equipment. Successful hydroacoustic enumeration of returning adult salmon in Upper Cook Inlet.	R59 analyzed genetic samples collected by this project.
R59	Genetic Stock Identification	ADFG	$320.9	$257.2	Report being revised.	Genetic data were collected during 1992 from spawning populations contributing to mixed-stock harvests of sockeye salmon in Cook Inlet. These data can be used to estimate the presence of Kenai River stocks in mixed-stock areas of Upper Cook Inlet.	R53 collected spawning samples.
R60AB	Prince William Sound Pink Salmon	ADFG	$1,479.7	$1,204.3	Final R60A report being revised. R60C report being drafted (combined with FS1).	The CWT program (R60A) helped reduce the commercial harvest on damaged pink salmon populations by providing fishery managers with timely inseason fishery stock composition estimates. The escapement project (R60B) provided improved pink salmon escapement information which was essential for the precise fisheries management required to protect damaged wild stocks.	R60C monitors and investigates mechanisms for oil damage to early life stages of pink salmon populations. R60AB allows fisheries managers to protect damaged stocks from overexploitation.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. The total cost of some projects may be higher than the amount shown because, for the period 3/1/92 to 6/30/92, the State spent state funds rather than settlement funds and will request reimbursement at a later date.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
R60C	Pink Salmon Egg/Fry	ADFG NOAA	$492.8	$369.9	Report being revised. Project continued as 93003. Expected to be continued into 1994 and 1995.	Oil exposures completed for 1992 and 1993 brood years. Persistence of elevated mortalities among embryos in oiled streams versus those in nonoiled streams suggests genetic damage. Spawning of surviving adults is scheduled for September 1994 with possible long-term genetic damage and survival of progeny to be determined in early 1995.	Related projects: B11, CH1B, R60AB, R103, 93003 and 93036.
R90	Dolly Varden Char Monitoring	ADFG	$91.5	$34.2	Report being revised (combined with FS5).	Two populations of Dolly Varden and cutthroat trout emigrated from lakes into the wake of the spill. Growth from 1989-1990 was 24% and 22% slower for recaptured subadult and adult Dolly Varden and 36% to 43% slower for subadult and adult populations of cutthroat trout in populations associated with the oil. This difference persisted through 1991 for cutthroat trout but not for Dolly Varden. Chronic starvation and direct exposure to petrogenic hydrocarbons were hypothesized as effects leading to reduced growth and accelerated mortality of both Dolly Varden and cutthroat trout.	R90 and R106 provide information on populations of Dolly Varden and cutthroat trout for 94320 (Ecosystem Study Plan).
ST5	Shrimp	ADFG	$47.7	$15.9	Report accepted.	Hydrocarbon analyses did not detect oil contamination with sampled spot shrimp. Shrimp collected in unoiled areas had more inflammatory gill lesions than did shrimp from the oiled area. These results indicate that oil contamination had little or no effect on spot shrimp. See Trowbridge, C. 1992. Injury to Prince William Sound Spot Shrimp. Final Report, State/Federal Natural Resource Damage Assessment. 83 pp. + appendices.	Relates to all other fish studies. Shrimp are a principal food source for fish and some whales.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. The total cost of some projects may be higher than the amount shown because, for the period 3/1/92 to 6/30/92, the State spent state funds rather than settlement funds and will request reimbursement at a later date.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
ST6	Rockfish Damage Assessment	ADFG	$16.6	$17.3	Final report being revised.	Oil was determined to be the cause of death for a small number of demersal rockfish in Prince William Sound. Dead and dying rockfish were reported from the spill area. Of the five fish that were fresh enough to be necropsied, exposure to crude oil was found to be the cause of death. These results prompted additional testing for hydrocarbons in live fish. These tests showed at least 11 of 36 rockfish tested from oiled sites had been exposed to oil within 2 weeks prior to testing. None of the 13 fish from unoiled sites were exposed to oil. Subsequent studies showed some indications of sublethal injuries to rockfish from exposure to oil.	ST2A and ST2B.
Marine Mammals			**$275.3**	**$231.9**			
MM1	Humpback Whales Damage Assessment	NOAA	$17.3	$13.6	Report being revised.	No documented injury.	None.
MM2	Killer Whales Damage Assessment	NOAA	$33.3	$23.9	Report accepted.	Whales missing from AB and AT pods. A total of 14 AB pod members lost from 1988-1990 due to unknown causes.	None.
MM6	Sea Otters Damage Assessment	DOI	$199.7	$191.9	Most reports being revised; some accepted.	Direct mortality was probably on the order of 4000 sea otters, and the majority of the mortality probably occurred within Prince William Sound. In late 1991, patterns of mortality, as reflected in a relatively high number of prime-age carcasses, were abnormal compared to prespill patterns. Surveys showed no increase in abundance, and juvenile survival was low in oiled areas of western Prince William Sound. Preliminary data from 1992-1993 indicate some improvement in survival of jeuvenile and middle-aged sea otters.	93043

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. The total cost of some projects may be higher than the amount shown because, for the period 3/1/92 to 6/30/92, the State spent state funds rather than settlement funds and will request reimbursement at a later date.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
R73	Harbor Seals	ADFG	$25.0	$2.5	No final report for R73. A final report for MM5 is being reviewed.	Harbor seals continue to use heavily oiled haulouts even when unoiled sites were available nearby. They were observed to give birth and care for their pups on these sites. The pelage of both pups and adults became oiled when they used these sites or contacted oil in the water. however, the pelage became cleaner with time if they did not continue to use oiled sites. Many carcasses recovered were either stillborn or died shortly after birth. Observations suggest that stress and/or toxic effects of oil resulted in abortions, premature births, and increased mortalities in heavily oiled areas.	MM5
Multiple Resources			**$4,405.2**	**$2,982.1**			
AW1	Surface Oil Maps	ADEC	$17.0	$8.4	Report overdue.	Maps have been developed depicting the spread of oil on a daily basis for the first three months following the spill.	None
B2	Boat Surveys	DOI	$48.5	$58.4	Report being revised.	Populations of 9 species or species groups (black oystercatcher, pigeon guillemot, cormorants, harlequin duck, loons, scoters, newgull, arctic tern, northwestern crow) declined more than expected in the oiled zone of Prince William Sound suggesting an oil effect. Most injured species were ecologically tied to intertidal or nearshore areas.	93045
CH1A	Coastal Habitat Damage Assessment	USFS	$2,358.5	$1,454.7	Final report submitted and in review.	Serious and long-term lasting effects on intertidal algae. Recovery occurring but slow to none in upper intertidal habitat. Full recovery expected. Intertidal invertebrates indicate negative effects from spill. Intertidal fish findings were inconclusive.	B11, CH1A, FS13, R102, R103, MM6, R71, ST3A, TM3, TS1.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. The total cost of some projects may be higher than the amount shown because, for the period 3/1/92 to 6/30/92, the State spent state funds rather than settlement funds and will request reimbursement at a later date.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
R47	Stream Habitat Assessment	ADFG	$399.6	$323.9	Report accepted.	About 250 km of shoreline and 260 km^2 of uplands were surveyed for anadromous fish streams on private lands on Afognak Island, resulting in discovery of 167 anadromous streams totaling about 56 km. Stream habitat parameters and upper extents of anadromous distribution were documented, and streams were mapped by GPS. Kuwada, M. and K. Sundet. 1993. Stream Habitat Assessment Project: Afognak Island. Habitat and Restoration Division Technical Report No. 93-3, *Exxon Valdez* Restoration and Habitat Protection Planning. 104 pp.	R47 information was used in evaluating lands for habitat protection and to supplement habitat information for marbled murrelet and harlequin duck projects.
R92	GIS Mapping and Analysis: Restoration	ADNR DOI	$125.5	$105.7	Completed. No report necessary.	Provided mapping and database support for restoration projects. Developed timber harvest database and land status and parcel maps for imminent threat parcels. Contributed to a 3-volume data dictionary produced for the Trustee Council by the Nature Conservancy.	Supported numerous restoration projects.
ST4	Fate and Toxicity Damage Assessment	NOAA	$52.6	$53.2	Report returned for revision.	Results indicate that some toxicity was still associated in 1990 and 1991 with sediments from lower intertidal zones of heavily oiled sites. The fate of *Exxon Valdez* oil will include transformation of most constituents (through biodegradation and photooxidation) mainly into carbon dioxide and water, although some constituents may persist indefinitely.	AW4, ST1, ST2, ST3A, ST3B, ST7, TS1 and response studies.
TS1	Hydrocarbon Analysis	NOAA DOI	$1,028.3	$711.2	Report being reviewed.	Coordinated the chemical analysis of all samples collected by damage assessment studies to develop a single set of analytical data comparable across projects.	ST8 and TS3.
TS3	GIS Mapping and Analysis: Damage Assessment	ADNR DOI	$375.2	$266.6	Completed. No report necessary.	Provided mapping and database support for damage assessment projects.	Supported numerous damage assessment projects, including FS 4, FS13, CH1A and R47.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. The total cost of some projects may be higher than the amount shown because, for the period 3/1/92 to 6/30/92, the State spent state funds rather than settlement funds and will request reimbursement at a later date.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
Seabirds			**$1,398.2**	**$1,216.4**			
B11	Harlequin Ducks Damage Assessment Closeout	ADFG	$22.9	$21.7	Final report in second revision.	Petroleum exposure confirmed in four species of sea ducks. Hydrocarbons in food, liver and bile. Diverse intertidal prey used by ducks. Blue mussels are a key contaminated prey. 1990-1992 low harlequin breeding densities and negligible harlequin stream activity and production in western Prince William Sound. Report not yet accepted.	B2: status of populations. CH1B: contaminated prey. TS1: hydrocarbon analysis of food/tissues. Others: R71, and R103 (mussels), and 93036.
B12	Shorebirds Damage Assessment Closeout	DOI	$20.7	$11.4	Report revised and submitted for final approval. Revised report in review.	Spring migrant shorebirds (surfbirds and black turnstones) escaped impacts because shorelines used by these species (particularly around Montague Island) were largely unoiled. Black oystercatcher breeding was disrupted and hatching success reduced. Chicks raised on oiled beaches grew more slowly than chicks raised on unoiled beaches, perhaps due to ingestion of contaminated food.	R103 and 93035.
B3	Murres Damage Assessment Closeout	DOI	$75.7	$62.9	Report accepted.	Numbers were reduced, nesting was delayed, and productivity rates were far below normal at major colonies within the spill trajectory. Reproductive success improved slightly in 1991.	R11 and 93049.
B4	Eagles Damage Assessment Closeout	DOI	$60.6	$65.7	Report revised and submitted for final approval.	Reproductive success of Prince William Sound bald eagles was significantly impaired in 1989, and nest failures were correlated with the distribution of crude oil on beaches. Although estimated direct mortality throughout the spill area was relatively large (about 300 - 900 eagles), no change in the population could be detected due to wide variation in population counts. The Prince William Sound eagle population was expected to return to its prespill level by 1993.	None.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. The total cost of some projects may be higher than the amount shown because, for the period 3/1/92 to 6/30/92, the State spent state funds rather than settlement funds and will request reimbursement at a later date.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
B6	Marbled Murrelets Damage Assessment Closeout	DOI	$24.8	$23.4	Report being revised.	The marbled murrelet population at a site within the path of the oil (Naked Island) was lower in 1989 than in prespill years, but returned to normal in 1990. Murrelet numbers in Kachemak Bay where oiling was minimal did not change following the spill.	R15 and 93051B.
B7	Storm Petrels Damage Assessment Closeout	DOI	$7.5	$7.1	Report accepted.	At the largest storm-petrel colony within the spill trajectory (Barren Islands), no evidence of adverse effects to breeding petrels was found. Burrow occupancy rates were above average, nesting chronology was not delayed, and productivity was normal.	None.
B8	Kittiwakes Damage Assessment Closeout	DOI	$7.5	$5.1	Revised report in review.	The number of breeding pairs did not decline at colonies in the oiled area of Prince William Sound but reproductive success in 1989 was less than expected, apparently due to low hatching success. Reproductive success did not recover by 1992 but whether the decline was due to the spill is unknown.	None.
B9	Pigeon Guillemots Damage Assessment Closeout	DOI	$18.0	$37.0	Report being revised.	The population at a major breeding site within the spill trajectory (Naked Island) declined by 50% compared to 1972-1973 levels. The long-term decline predated the spill and, therefore, could not be attributed to the spill. Reproduction was largely normal following the spill.	93034
R11	Murre Recovery Monitoring	DOI	$316.7	$385.7	Report being revised.	Numbers of murres breeding at major colonies within the trajectory remained lower in 1992. Breeding chronology was delayed. Productivity at the Barren Islands was high than in other postspill years, but still lower than normal. Productivity at Puale Bay was normal	B3 and 93049.
R15	Marbled Murrelet Restoration Study	DOI	$419.3	$396.8	Annual progress report reviewed.	Using ground search techniques, 10 tree nests were found on Naked Island in 1991 and 1992. Nest trees were in stands of high volume and size class trees, and upland activity of murrelets throughout Prince William Sound was highest in such stands.	B6 and R15.

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. The total cost of some projects may be higher than the amount shown because, for the period 3/1/92 to 6/30/92, the State spent state funds rather than settlement funds and will request reimbursement at a later date.

No.	Title	Agencies	Amount Budgeted*	Amount Spent*	Status	Results and References	Related Projects
R71	Harlequin Duck Restoration and Monitoring	ADFG	$424.5	$199.6	Report being revised.	Comparative harlequin data in eastern Prince William Sound for B11. 1991-1992 harlequin production in eastern Prince William Sound similar to prespill. Techniques devised to capture and track harlequins. Breeding stream parameters and nest sites described. Additional oiled mussel beds identified.	B2 corroborated harlequin status in Prince William Sound. R103 documented continued oiled prey.
Terrestrial Mammals			**$74.0**	**$16.1**			
TM3	River Otter and Mink Damage Assessment in Prince William Sound	ADFG	$74.0	$16.1	Report being revised.	The results indicate that differences in home range, habitat selection, and latrine site abandonment, as well as changes in food habits, occured in river otters.	CH1B and R103.
	1992 Total		**$19,211.0**	**$14,193.9**			

* Dollar amounts are shown in thousands of dollars. "Amount Budgeted" is derived from requests to the court for disbursements from the settlement account. "Amount Spent" reflects settlement fund obligations only and is derived from the 12/16/93 Financial Report, which reflects expenditures through 6/30/93. The total cost of some projects may be higher than the amount shown because, for the period 3/1/92 to 6/30/92, the State spent state funds rather than settlement funds and will request reimbursement at a later date.

ELS
E

EXAMPLE PROJECTS (ACTIONS) MENTIONED IN THE DRAFT RESTORATION PLAN.

managing human uses (probably not in TC control)
reducing marine pollution
replace facilities needed for access
replace facilities damaged by the spill (Green Island)
Conservation easements
Acquiring mineral rights
Acquiring timber rights

page 8

---

provide alternate salmon runs
restore injured salmon runs

page 12

---

mooring bouy

page 13

---

building fish passes
replanting seaweed
reduce human disturbance at bird colonies

Page 16

---

protective management practices (not in TC control)

Page 26

---

stabilizing erosion at archaeological sites
remove or restore artifacts
reduce looting and vandalism (site stewardship)
removal of artifacts from sites
increase awareness and appreciation of cultural heritage (public relations)

Page 31

---

increase availability, reliability or quality of subsistence resources
food testing programs
acquisition of alternate subsistence food sources
improved use (enhancement?) of existing resources
removal of residual oil on beaches

Page 33

---

improved fisheries management (not in TC control except through funding better sensor equipment or through more research)
provide replacement fish stocks

Page 34

E15
E

new facilities to restore or enhance recreation
intensified public recreation management (not in TC control)
removal of residual oil

All comments in parentheses are my own and are not in the draft plan. Also, I did not duplicate projects even though they may appear in more than one place.

EIS
E

	Alternative 5	vs	Restoration Plan
injuries addressed	(all) same		same (all)
enhancement	encouraged		possible, but restricted
effectiveness	all		all
location	unrestricted		restricted ~80-90%
Opportunities ltd	new uses okay		new uses okay
	level of injury		status of recovery

How do we make the other alternatives comparable to the restoration plan? Things which appear in the restoration plan, but not in the newspaper alternatives are:

1) Emphasis on services
2) Restrictions based on Recovery

Can we drop the "effectiveness" issue from the brochure? If we do, we lose the primary sorting function for general restoration actions.

No

EIS
E

January 19, 1994

Draft Restoration Plan Actions
(per JF review)

Category	Action	Page in DRP
General Restoration	replace access facilities	15
	build fish passes	15
	replant seaweed	15
	pollution control facilities	16
	repair archaeological sites	31
	protect archaeological site and artifacts	31
	remove residual oil	33
	provide replacement fish stocks	34 & A-8
	incubate & transplant fry	A-5
Habitat Protection	acquire land	18
	(protect habitat under imminent threat)	A-7
Monitoring and Research		21

DRAFT

DRAFT

DRAFT

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL # of pages ▸ 1

To KAREN KLINGE	From ROD KUHN
Dept./Agency	Phone #
Fax #	Fax #

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

213
3

questionnaire

Tell Us What You Think!

QUESTIONS ABOUT ISSUE AND POLICIES

The alternatives present policy questions. The answers to those questions will help guide restoration activities. The policy questions are reprinted below. Please mark the appropriate box to let us know your views. If you think that these policies should apply to some restoration activities but not others, please write your views in the space provided beneath each question. For example, if you think that some general restoration activities are appropriate outside the spill area but that habitat protection should concentrate only on the spill area, you would write that information in the comment space.

Injuries Addressed by Restoration Actions:

Should restoration actions address all injured resources and services, or all except those biological resources whose populations did not measurably decline because of the spill?

- ❑ Target restoration activities to all injured resources and services.
- ❑ Target all injured resources and services except those biological resources whose populations did not measurably decline because of the spill.
- ❑ No preference.

Comments:

Restoration Actions for Recovered Resources:

Should restoraction actions cease when a resource has recovered, or continue in order to enhance the resource?

- ❑ Cease restoration actions once a resource recovers.
- ❑ Continue restoration actions even after a resource has recovered in order to enhance the resource.
- ❑ No preference

Comments:

Effectiveness of Restoration Actions:

Should the plan include only those restoration actions that produce substantial improvement over natural recovery or also those that produce at least some improvement?

- ❑ Conduct only those restoration actions that provide substantial improvement over natural recovery.
- ❑ Conduct restoration actions that provide at least some improvement over natural recovery.
- ❑ No preference

Comments:

Location of Restoration Actions:

Should restoration activities take place in the spill area only, anywhere in Alaska provided there is a link to injured resources or services, or anywhere in the United States provided there is a link to injured resources or services?

- ❑ Limit restoration actions to the spill area only.
- ❑ Undertake restoration actions anywhere in Alaska there is a link to injured resources or services.
- ❑ Undertake restoration actions anywhere in the United States there is a link to injured resources or services.
- ❑ No preference

Comments:

Opportunities for Human Use:

To what extent should restoration actions be used to create opportunities for human use of the spill area?

- ❑ Do not conduct restoration actions that create opportunities for human use.
- ❑ Conduct restoration actions to protect existing human use. Examples are recreation facilities that protect the environment in over-used areas such as outhouses or improved trails.
- ❑ In addition to restoration actions that protect existing human use, also conduct actions that increase existing human use. Examples are increasing existing sport- or commercial fish runs, or constructing recreation facilities such as public-use cabins.
- ❑ In addition to activities that protect or increase existing human use, also conduct actions that encourage appropriate new uses. Examples are new fish runs, commercial facilities, or visitor centers.
- ❑ No preference

Comments:

COMMENTS

Please use the space below to describe an area you would like the Trustee Council to acquire or protect, or an area appropriate for any other restoration option such as locations for public-use cabins, or fish passes. Or use the space to write any comments you would like the Trustee Council to know about. If you do describe a particular location, please provide enough detail about the location so we can understand where it is, and which injured resource or service it would benefit. Any comment you write will be greatly appreciated.

QUESTIONS ABOUT RESTORATION CATEGORIES

The questions below discuss the different categories of restoration activities. The questions ask about what categories of activities you believe the Trustee Council should use.

Monitoring and Research To effectively conduct restoration, it is necessary to monitor recovery and to monitor the effectiveness of individual restoration activities. It is also possible to conduct other monitoring activities: Ecological monitoring and restoration research.

In addition to Recovery and Restoration monitoring, should the Trustee Council also conduct other monitoring activities?

- ❑ NO
- ❑ YES. Please indicate which monitoring and research activities you believe are appropriate (you may mark more than one answer):
  - ❑ Ecological monitoring (monitor general ecosystem health to identify problems and prepare for future spills)
  - ❑ Restoration Research (basic and applied research to benefit injured resources and services)
  - ❑ Other

Comments:

Habitat Protection and Acquisition Four of the alternatives identify habitat protection and acquisition as a means of restoring injured resources or services (human uses).

Do you agree that habitat protection and acquisition should be a part of the plan?

- ❑ NO
- ❑ YES. Protection and acquisition will include all habitat types, but may emphasize one over another. Please indicate the habitat types, if any, that should be emphasized. Suggest your own approach if it isn't covered here.
  - ❑ Emphasize acquiring and protecting habitat important to injured resources. Important scenic areas and human use areas with little habitat important to injured resources would be less likely to be acquired.
  - ❑ Emphasize acquiring and protecting habitat important for human use (important scenic areas and human use areas). Habitat important to injured resources, but seldom used or viewed by people, would be less likely to be acquired.
  - ❑ Place equal emphasis on acquiring the most important habitats for injured species and on the most important habitats for human use (scenic and human use areas). Parcels that are only moderately important for injured resources or services would be less likely to be acquired.
  - ❑ Other

Comment:

QUESTIONS ABOUT SPENDING

Funding Method: Endowment. The Trustee Council could save some of the civil settlement to fund restoration activities after Exxon payments end. It is possible to save any portion of the settlement. For example, if approximately 20% of the remaining settlement funds were placed into an endowment and the principal inflation-proofed, the endowment could fund $3-$5 million worth of restoration activities indefinitely.

Are you in favor of an endowment or savings account of some kind?

- ❑ NO, I believe the funds should be spent within approximately 10 years.
- ❑ YES. Please indicate the amount that you believe should be placed into an endowment
  - ❑ Less than 20%
  - ❑ 20%
  - ❑ 40%
  - ❑ More than 40%
  - ❑ Other Amount. If you know the amount please indicate: _____%.

Comments:

If you answered "Yes" to the previous question, please indicate what the annual endowment earnings should be spent on (you may mark more than one answer):

- ❑ Monitoring and Research
- ❑ General Restoration
- ❑ Habitat Protection and Acquisition
- ❑ No Preference

Comments:

Potential Allocations

The table shows potential allocations in the five alternatives. If one of the alternatives reflects your view of which activities should be emphasized, please circle the number of that alternative. If not, please put write in your percentages in the box provided under category "YOUR ALTERNATIVE".. If you favor categories for restoration that are not listed below, please write your ideas in the space providied. If, in the question above, you marked "YES" to indicate you favor endowment, remember to put in a percentage for endowment. (Make sure your percentages add to 100%!).

ALTERNATIVE:	1 NATURAL RECOVERY	2 HABITAT PROTECTION	3 LIMITED RESTORATION	4 MODERATE RESTORATION	5 COMPREHENSIVE RESTORATION	YOUR ALTERNATIVE	If none of our alternatives reflect your views about allocating the funds. Write percentages below.
Administration & Public Information		4%	6%	7%	7%		Administration & Public Information
Monitoring & Research		5%	7%	8%	10%		Monitoring & Research
General Restoration			12%	35%	48%		General Restoration
Habitat Protection & Acquisition		91%	75%	50%	35%		Habitat Protection & Acquisition
							Other_____
							Other_____
Endowment							Endowment
Balance	100%						Balance
TOTAL:	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*	*TOTAL*

EIS E

natural recovery

Estimated Natural Recovery Rates of Injured Biological Resources

The estimates in the table contain a great deal of uncertainty. For some species there is substantial disagreement within the scientific community. The estimates are likely to change as recovery continues, more information is provided through monitoring, and scientists learn more about the species.

The table presents estimated natural recovery rates for injured biological resources. Predicting the amount of time needed for a species to recover is extremely difficult. Scientists often use models based on factors such as population numbers and growth rates. However, for many of the injured biological resources, the background information was not available to develop these predictive models. For those resources, peer reviewers and agency scientists based their estimates on the best available information.

For example, for black oystercatchers there have been no studies to determine a population growth rate anywhere within the species' range. In this case, the experts are forced to rely on information from a related species, the Eurasian oystercatcher, to estimate a recovery time. Under certain circumstances, a population of Eurasian oystercatchers would be capable of growing at 6.25% annually . If the injured black oystercatcher population grows at the same rate, it could recover to prespill numbers in 15 years. The amount of time could be considerably less if the growth rate is higher, or if animals from adjacent areas move to the oiled area. On the other hand, the recovery time could be considerably longer if the growth rate is less than that of the Eurasian oystercatcher, or if the habitat quality is low. Where oil persists in the environment, habitat quality is likely to be low.

Recovery estimates for services are not provided in the table below. Recovery is linked, in part, to the resources that support the service, and can vary widely between user groups.

	RESOURCES	NATURAL RECOVERY ESTIMATES *(Years from 1989)*	COMMENTS
POPULATION DECLINE	**BLACK OYSTERCATCHER**	15 to 30 years	Recovering.
	COMMON MURRE	50 to 120 years	Recovery varies by colony.
	HARBOR SEAL	Unknown	In decline before spill. Population may have stabilized.
	HARLEQUIN DUCK	10 to 50 years	Still no reproduction within oiled areas studied in Prince William Sound.
	INTERTIDAL ORGANISMS	10 to 25 years	Recovery estimates are combined for all organisms in the upper intertidal zone. Recovery in lower and mid-intertidal zones is expected to be faster than that in the upper intertidal zone.
	MARBLED MURRELET	Unknown	In decline before spill. Estimates vary widely on when the population may stabilize. It may be stable now, or may take about 50 years to stabilize at lower population size.
	PIGEON GUILLEMOT	Unknown	In decline before spill. Probably still declining. Should stabilize in less than 50 years.
	SEA OTTER	15 to 40 years	Population stable, but not recovering.
	SOCKEYE SALMON	10 to 50 years	Estimates ar for attaining a 10-year average similar to prespill populations for Kenai River and Red Lake sockeye salmon.
	SUBTIDAL ORGANISMS	Less than 10 years	Recovering in most places.
INJURED, BUT NO POPULATION DECLINE	**BALD EAGLE**	4 to 6 years	Back to prespill population between 1993 and 1995.
	CUTTHROAT TROUT	10 to 20 years	
	DOLLY VARDEN	10 to 20 years	
	KILLER WHALE	10 to 20 years	Estimates are for the injured pod to return to its prespill size. Currently recovering.
	PACIFIC HERRING	Unknown	Population decline may be documented after 1993.
	PINK SALMON	Less than 20 years	Estimates represent recovery of wild stocks to a population level that may be less than 100% of the prespill population.
	RIVER OTTER	Unknown	Injury and actual population size are difficult to assess.
	ROCKFISH	Unknown	

Courtesy of CHUGACH NATIONAL FOREST

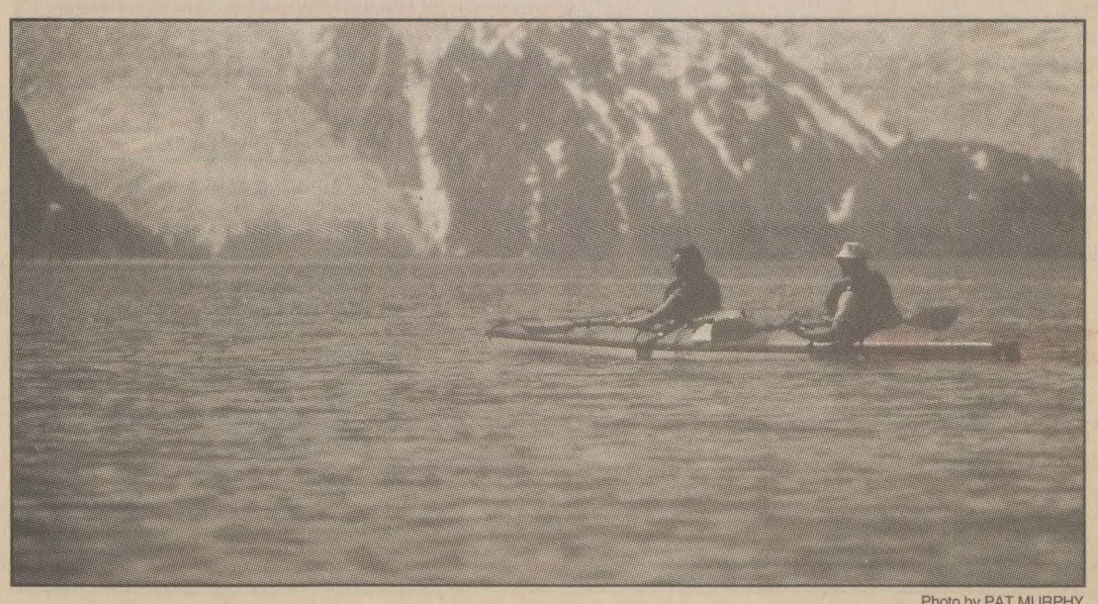


Photo by PAT MURPHY

STEP 1. fold on dotted line (top half, away from you)

Tape or Staple Here

RETURN ADDRESS:

_____

_____

_____

PLACE STAMP HERE

Exxon Valdez
Oil Spill Restoration Office
645 "G" Street
Anchorage, Alaska 99501

STEP 2. fold on dotted line (left half, away from you)

STEP 3 fold on dotted line (bottom half, away from you)

We would like to know your views about the appropriate policies, categories of restoration activities, and possible spending allocations. Please fill out the questions on the next page and let the Trustee Council know which approaches you believe will best restore the resources and services injured by the spill. If you need more information, please come to one of the public meetings. Also, feel free to comment on other parts of the plan alternatives. Attach additional sheets if you need more space.

Thanks for your help!

To be sure that you are on our mailing list and to receive further information when it is available, please put your name and address either here on or as the return address. If you would rather not list your name, please put the community where you live.

_____

_____

_____

☐ If you would like to receive a copy of the Draft Environmental Impact Statement and Draft Restoration Plan when it is avail able this June, please check the box.

While we would appreciate your comments as soon as possible, they must be received by **August 6, 1993.**

TELL US WHAT YOU THINK

NEXT PAGE