14.2.21 W

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178

MEMORANDUM

TO: Public Advisory Group

FROM: Molly McCammon, Executive Director

DATE: November 13, 1996

SUBJ: Public Advisory Group meeting — December 3, 1996

Please note that there will be a teleconference for the Public Advisory Group:

11:00 am - Tuesday, December 3, 1996
Anchorage: Restoration Office
645 G Street — 4th floor conference room
Juneau: Restoration Office
Federal Building — room 225

The purpose of the meeting will be to obtain PAG comment on issues that will be considered at the next Trustee Council meeting on December 6. A working draft agenda is provided below:

PUBLIC ADVISORY GROUP
11:00 am — Tuesday, December 3, 1996

1. Deferred FY 97 Work Plan projects
2. NRDA project reports
3. Review of December 6 Trustee Council meeting items
   - — TEK protocols
   - — Data Ownership and Archiving Policy
   - — Invitation for Archeology Project Proposals
   - — Restoration Reserve Planning
   - — Habitat Protection Program
4. Discussion of Spruce Bark Beetle as it pertains to restoration efforts

Please contact Cherri Womac at the Restoration Office (1-800-478-7745) to confirm whether you will be able to participate. PAG members are encouraged to meet at the Restoration Office (in Anchorage or Juneau). Others should contact Cherri to get the bridge number to dial in.

14.2.21 V

Exxon Valdez Oil Spill
Trustee Council

1997 Restoration Workshop

January 23-25

Anchorage, Alaska

It's time to make plans for the premier science event of the year.

- The Fourth Annual *Exxon Valdez* Oil Spill Restoration Workshop will be held January 23-25 at the Hotel Captain Cook.
- Telephone the Hotel Captain Cook to make reservations. From inside Alaska call 1-800-478-3100. From outside Alaska call 1-800-843-1950. Room rates are $75 single/$85 double. Ask for the special rate for Group No. 52519.
- Open to Restoration Project Leaders, Principal Investigators, Restoration Work Force members, Agency Liaisons, Public Advisory Group members, interested members of the public.
- IMPORTANT!! Call the Restoration Office (907) 278-8012 to pre-register in order to ensure you have a place at the workshop.

14.2.21 U

MEMORANDUM

DRAFT

TO: Exxon Valdez Oil Spill Trustee Council

FROM: Molly McCammon
Executive Director

RE: FY 97 Work Plan: Deferred Projects

DATE: November 22, 1996

My recommendation on FY 97 projects for which the Trustee Council deferred funding in August is attached. This recommendation brings total funding for the FY 97 Work Plan to just under our $16 million target. Achievement of the budget target is the result of strong cooperation from principal investigators and Restoration Work Force members in regard to individual project budgets and overall program goals.

Approved in August:	$15,390,300
Recommendation on Deferreds:	609,200
TOTAL:	$15,999,500

The $15, 995,500 represents funding for 69 projects, including the three large ecosystem projects (Sound Ecosystem Assessment, Nearshore Vertebrate Predators, and Alaska Predator Ecosystem Experiment), 50 other continuing projects, and 16 new projects.

Attachment: Numbers-only spreadsheet (cluster order)
Text spreadsheet (numerical order)

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	FY 97 Approved	**FY 97 Deferred**	**ExecDir Recom.**	FY 98 Estimate	FY 99 Estimate	Total FY97-02	Exec. Director's Recommendation
Pacific Herring		$380.3	$200.0	**$180.3**	**$140.3**	$0.0	$0.0	$340.3	
97166	Herring Natal Habitats	$340.3	$200.0	**$140.3**	**$140.3**			$340.3	Fund
97248	Collection Historical Data/Local Knowledge	$40.0	$0.0	**$40.0**		$0.0	$0.0	$0.0	Continue defer
Sockeye Salmon		$301.3	$0.0	**$294.3**	**$43.7**	$0.0	$0.0	$43.7	
97239	Salmon Carcasses and Juvenile Chinook	$134.5	$0.0	**$127.5**	**$0.0**	$0.0	$0.0	$0.0	Do not fund
97251	Akalura Lake Restoration	$43.7	$0.0	**$43.7**	**$43.7**	$0.0	$0.0	$43.7	Fund
97254	Delight and Desire Lakes Restoration	$123.1	$0.0	**$123.1**	**$0.0**	$0.0	$0.0	$0.0	Do not fund
Marine Mammals		$157.5	$1.5	**$156.0**	**$156.0**			$157.5	
97012-BAA	Killer Whale Investigation	$157.5	$1.5	**$156.0**	**$156.0**			$157.5	Fund
Nearshore Ecosystem		$1,836.6	$1,705.8	**$130.8**	**$45.6**	$1,669.4	$450.0	$3,870.8	
97025	Nearshore Vertebrate Predators (NVP)	$1,821.5	$1,705.8	**$115.7**	**$30.5**	$1,669.4	$450.0	$3,855.7	Fund contingent
97026-CLO	Report Writing: Microbial Sediments	$15.1	$0.0	**$15.1**	**$15.1**	$0.0	$0.0	$15.1	Fund
Seabird/Forage Fish and Related Projects		$154.5	$45.1	**$109.4**	**$74.4**	$78.1	$83.8	$294.2	
97159-CLO	Marine Bird Abundance Surveys	$60.1	$45.1	**$15.0**	**$15.0**			$60.1	Fund

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	FY 97 Approved	**FY 97 Deferred**	**ExecDir Recom.**	FY 98 Estimate	FY 99 Estimate	Total FY97-02	Exec. Director's Recommendation
97169	Genetics of Murres, Guillemots, Murrelets	$59.4	$0.0	**$59.4**	**$59.4**	$78.1	$83.8	$234.1	Fund
97305	Stable Isotope Analysis of Seabirds	$35.0	$0.0	**$35.0**	**$0.0**	$0.0	$0.0	$0.0	Do not fund
Archaeological Resources		$318.5	$0.0	**$318.5**	**$0.0**			$0.0	
97277	Chenega Bay Archaeological Repository	$318.5	$0.0	**$318.5**	**$0.0**			$0.0	Do not fund
Subsistence		$131.4	$0.0	**$165.8**	**$81.4**	$157.3	$92.6	$560.5	
97247	Kametolook River Coho Salmon	$31.4	$0.0	**$31.4**	**$31.4**	$13.8	$14.1	$103.4	Fund contingent
97256A	Columbia Lake Sockeye Salmon Stocking	$0.0	$0.0	**$34.4**	**$0.0**	$0.0	$0.0	$0.0	Not feasible
97256B	Solf Lake Sockeye Salmon Stocking	$50.0	$0.0	**$50.0**	**$50.0**	$143.5	$78.5	$457.1	Fund contingent
97281	Forest Workshops	$50.0	$0.0	**$50.0**	**$0.0**	$0.0	$0.0	$0.0	Do not fund
Habitat Improvement		$67.8	$0.0	**$67.8**	**$67.8**	$0.0	$0.0	$67.8	
97230	Valdez Duck Flats Restoration	$67.8	$0.0	**$67.8**	**$67.8**	$0.0	$0.0	$67.8	Fund
Administration, Science Management, and Public Information		$143.2	$0.0	**$137.5**	**$0.0**	$0.0	$0.0	$0.0	
97275	Applied Field-Based Research Program	$37.5	$0.0	**$37.5**	**$0.0**	$0.0	$0.0	$0.0	Do not fund
97301	Television Pilot	$105.7	$0.0	**$100.0**	**$0.0**	$0.0	$0.0	$0.0	Do not fund

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	FY 97 Approved	**FY 97 Deferred**	**ExecDir Recom.**	FY 98 Estimate	FY 99 Estimate	Total FY97-02	Exec. Director's Recommendation
Total:		$3,491.1	$1,952.4	**$1,560.4**	**$609.2**	$1,904.8	$626.4	$5,334.8	

Approved in August: $15,390.3
New Total: $15,999.5

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97012-BAA *Marine Mammals*	Comprehensive Killer Whale Investigation in Prince William Sound	C. Matkin/North Gulf Oceanic Society	NOAA	Cont'd 5th yr. 5 yr. project	$157.5	$1.5	**$156.0**	**$156.0**		$157.5

Project Abstract

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

Chief Scientist's Recommendation

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

Executive Director's Recommendation

Fund. However, funding beyond FY 97 will be contingent on developing objectives and milestones for completion of the project. This project is providing valuable information about the long-term effects of the oil spill on resident and transient pods of killer whales in Prince William Sound and correlates the effects in part to their prey.

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97025 *Nearshore Ecosystem*	Mechanisms of Impact and Potential Recovery of Nearshore Vertebrate Predators (NVP)	L. Holland-Bartels, et al/NBS-DOI	DOI	Cont'd 3rd yr. 5 yr. project	$1,821.5	$1,705.8	**$115.7**	**$30.5**	$1,669.4	$3,855.7

Project Abstract

The Nearshore Vertebrate Predator project (NVP) makes an integrated assessment of trophic, health, and demographic factors across a suite of apex predators injured by the spill to determine mechanisms constraining recovery and to improve knowledge of the status of recovery. Primary hypotheses are: 1) Recovery of nearshore resources injured by EVOS is limited by recruitment processes; 2) Initial and/or residual oil in benthic habitats and in or on benthic prey organisms has had a limiting effect on the recovery of benthic foraging predators; and 3) EVOS-induced changes in populations of benthic prey species have influenced the recovery of benthic foraging predators.

Chief Scientist's Recommendation

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

Executive Director's Recommendation

Fund, including an additional $30,500 for the final year of limited avian copredator work which was deferred by the Trustee Council in August (final analyses in FY 98 will be conducted within the $1,669,400 expected to be approved for FY 98). Funding for the avian copredator component is contingent on receipt of the report on 95320Q. Funding for preparation of sea otter publications ($10,000 approved in August) is contingent on acceptance by the Chief Scientist of the reports from Project MM6. The researchers conducting sea otter surveys under this project should explore ways of involving local sea otter hunters in their research/monitoring efforts. In general, the nearshore ecosystem, including intertidal habitat and organisms, was the area hardest hit by the oil spill. This project monitors recovery of intertidal organisms and closely linked vertebrate predators and addresses the question of whether continuing contamination is slowing recovery of vertebrate predators.

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97026-CLO *Nearshore Ecosystem*	Report Writing: Integration of Microbial and Chemical Sediment Data	J. Braddock/UAF	ADEC	Cont'd 1st yr. 1 yr. project	$15.1	$0.0	**$15.1**	**$15.1**	$0.0	$15.1

Project Abstract

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

Chief Scientist's Recommendation

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

Executive Director's Recommendation

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

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97159-CLO *Seabird/Forage Fish and Related Projects*	Surveys to Monitor Marine Bird Abundance in Prince William Sound During Winter and Summer: Report and Publication Writing	B. Agler/DOI-FWS	DOI	Cont'd 4th yr.	$60.1	$45.1	**$15.0**	**$15.0**		$60.1

Project Abstract

In FY 97, this project will fund report and publication writing. Data collected during March 1990, 1991, 1993, 1994, and 1996 and July 1989, 1990, 1991, 1993, and 1996 will be used to examine trends by determining whether populations in the oiled zone changed at the same rate as those in the unoiled zone. Overall population trends for Prince William Sound from 1989-96 will also be examined. In addition, marine bird damage assessment information will be prepared for publication.

Chief Scientist's Recommendation

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

Executive Director's Recommendation

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

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97166 *Pacific Herring*	Herring Natal Habitats	M. Willette/ADFG	ADFG	Cont'd 4th yr. 6 yr. project	$340.3	$200.0	**$140.3**	**$140.3**		$340.3

Project Abstract

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

Chief Scientist's Recommendation

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

Executive Director's Recommendation

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

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97169 *Seabird/Forage Fish and Related Projects*	A Genetic Study to Aid in Restoration of Murres, Guillemots, and Murrelets to the Gulf of Alaska	V. Friesen/Queen's University, J. Piatt/DOI-FWS	DOI	New 1st yr. 4 yr. project	$59.4	$0.0	**$59.4**	**$59.4**	$78.1	$234.1

Project Abstract

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

Chief Scientist's Recommendation

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

Executive Director's Recommendation

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

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97230 *Habitat Improvement*	Valdez Duck Flats Restoration Project	J. Winchester/PWS Economic Development Council	ADNR	New 1st yr. 1 yr. project	$67.8	$0.0	**$67.8**	**$67.8**	$0.0	$67.8

Project Abstract

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

Chief Scientist's Recommendation

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

Executive Director's Recommendation

Fund development of a concept plan for protection of habitat on the Valdez Duck Flats. One option for protecting the flats is affected by the acquisition of three small parcels, for which the appraisals are being reviewed. The Valdez Duck Flats are a large and complex intertidal mudflat and salt marsh that offer valuable habitat to several injured resources and services. A locally developed plan for protecting habitat on the Duck Flats will increase the probability that future use of the flats will promote the recovery of injured resources and services given increased public usage.

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97239 *Sockeye Salmon*	Salmon Carcasses and Juvenile Chinook Salmon Production in the Kenai River Ecosystem	D. Schmidt/ADFG	ADFG	New 1st yr. 2 yr. project	$134.5	$0.0	**$127.5**	**$0.0**	$0.0	$0.0

Project Abstract

This project will investigate the role sockeye salmon carcasses play in primary and secondary production within the Kenai River and the potential symbiotic role sockeye salmon escapements have on nutrients and secondary productivity. An ecosystem approach to restoration of this system requires examination of the role salmon carcasses play in freshwater life history of other species. Chinook salmon production may be positively influenced by nutrient additions to the Kenai River. An important feature of the Kenai River studies is to ascertain if there are significant benefits to chinook salmon juveniles with increased escapements.

Chief Scientist's Recommendation

This is an innovative proposal that would examine the sources of carbon and nitrogen for juvenile chinook salmon production in the Kenai River system. The proposal hypothesizes that the nutrients released from sockeye salmon carcasses may provide a significant source of nutrients for juvenile chinook salmon. This approach may provide insight into the importance of sockeye carcasses to the Kenai River ecosystem, but it is somewhat narrowly focused on one species. Although the project would evaluate the broad effects of large sockeye escapements, which may benefit the economically important chinook fishery, the management value of the project is not clear. Lower priority; do not fund.

Executive Director's Recommendation

Do not fund; lower priority for funding this year. This project was designed to contribute to an ecosystem-level understanding of the Kenai River system by examining the benefits of sockeye escapement to other in-river processes. Although the project was favorably reviewed by the science reviewers, its potential management value needs to be clarified.

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97247 *Subsistence*	Kametolook River Coho Salmon Subsistence Project	J. McCullough & L. Scarborough/ADFG	ADFG	New 1st yr. 6 yr. project	$31.4	$0.0	**$31.4**	**$31.4**	$13.8	$103.4

Project Abstract

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

Chief Scientist's Recommendation

PEER REVIEW OF REVISED DPD STILL UNDERWAY; EXPECT BY TIME OF DECEMBER MEETING

Executive Director's Recommendation

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

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97248 *Pacific Herring*	Collection of Historical Data and Local Environmental Knowledge of Forage Fish and Herring	J. Seitz	ADFG	New 1st yr. 1 yr. project	$40.0	$0.0	**$40.0**		$0.0	$0.0

Project Abstract

Using personal interviews, surveys, and mapping, this project will collect historical and contemporary knowledge about the ecology of herring and other forage fish and map information on their distribution; create an ascii file of mapped data; and create a subject index of textual information on the ecology and life cycle of the fish by species. Data and reports will be provided to participating projects -- SEA (/320) and APEX (/163).

Chief Scientist's Recommendation

This project could contribute to the redevelopment of confidence in fish resources by subsistence users, and possibly provide information on recovery using traditional and local knowledge of pre-spill abundance. The institutional arrangements and project management responsibilities are inadequately defined, and it may be beneficial to formally link this project with other efforts attempting to develop traditional ecological knowledge. Reconsider revised proposal after assessment of all traditional ecological knowledge projects.

Executive Director's Recommendation

Defer decision on funding until Project 97052B/Traditional Ecological Knowledge is underway and a determination has been made as to how the objectives of this project can best be achieved. This project is designed to address restoration objectives for herring and seabirds by contributing indigenous and local knowlege on herring and other forage fish.

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97251-CLO *Sockeye Salmon*	Akalura Lake Sockeye Salmon Restoration	C. Swanton/ADFG		1st yr. 1 yr. project	$43.7	$0.0	**$43.7**	**$43.7**	$0.0	$43.7

Project Abstract

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

Chief Scientist's Recommendation

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

Executive Director's Recommendation

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

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97254 *Sockeye Salmon*	Delight and Desire Lakes Restoration	N. Dudiak/ADFG	ADFG	New 1st yr. 2 yr. project	$123.1	$0.0	**$123.1**	**$0.0**	$0.0	$0.0

Project Abstract

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

Chief Scientist's Recommendation

This appears to be, in theory, a reasonable resource replacement proposal. The initial limnological work proposed in FY 97 appears reasonable. Questions remain, however, about the appropriateness of fertilization if it were to be undertaken. For example, would the project produce fish at a time that would make them suitable replacements? Do not fund; lower priority.

Executive Director's Recommendation

Do not fund. In FY 97 this project would explore the feasibility of fertilization to enhance the sockeye runs in Delight and Desire lakes for commercial and sport fish use. However, unanswered questions about the appropriateness of fertilization and the likelihood of other funding sources for actual implementation make this project a low priority for Trustee Council support. In addition, in light of the uncertain economic situation for salmon fisheries, creating replacement fisheries is a low priority for the Council, with the exception of small scale, targeted enhancement projects for subsistence purposes.

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97256A *Subsistence*	Sockeye Salmon Stocking at Columbia Lake	D. Gillikin/USFS	USFS	Cont'd 2nd yr. 7 yr. project	$0.0	$0.0	**$34.4**	**$0.0**	$0.0	$0.0

Project Abstract

This project is designed to benefit subsistence users of northern Prince William Sound by stocking sockeye salmon in Columbia Lake. The lake is a predominantly clearwater lake that has recently become accessible to anadromous fish as Columbia Glacier has retreated. There are two phases to this project. The feasibility phase of the project (FY 96 and FY 97) will determine the ability of Columbia Lake to support a resident population of sockeye salmon. Phase 2 of the project will be to stock the lake with sockeye salmon. If the project is found to be feasible, stocking of the lake could begin in 1999. The stocking program will take five years to establish a self-sustaining run.

Chief Scientist's Recommendation

Feasibility survey conducted by U.S. Forest Service and Alaska Department of Fish and Game concluded that Columbia Lake is not able to support a viable sockeye salmon population. Do not fund.

Executive Director's Recommendation

Do not fund based on feasibility study, which concluded that Columbia Lake is not productive enough to support a viable population of sockeye salmon.

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97256B *Subsistence*	Sockeye Salmon Stocking at Solf Lake	D. Gillikin/USFS	USFS	Cont'd 2nd yr. 7 yr. project	$50.0	$0.0	**$50.0**	**$50.0**	$143.5	$457.1

Project Abstract

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

Chief Scientist's Recommendation

PEER REVIEW OF REVISED DPD STILL UNDERWAY; EXPECT BY TIME OF DECEMBER MEETING

Executive Director's Recommendation

WAITING FOR PEER REVIEW. IF PEER REVIEW IS FAVORABLE, RECOMMENDATION WILL BE TO FUND.
This project is intended to provide sockeye salmon as a replacement for subsistence and sport fishing resources injured by the oil spill, particularly for the residents of Chenega Bay.

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97275 *Administration, Science Management, and Public Information*	Rural Development Applied Field-Based Research Program in Oil Spill Affected Areas	G. Pullar/UAF-College of Rural Alaska	ADFG	New 1st yr. 6 yr. project	$37.5	$0.0	**$37.5**	**$0.0**	$0.0	$0.0

Project Abstract

Human resources will be strengthened through an interdisciplinary Bachelor's degree program in Rural Development and community restoration through applied research, distance education, and mentoring. Trustee Council priorities will be addressed integrating western science and indigenous knowledge. Students will be provided with a broad understanding of rural development in a global economy and a mastery of specific tools for effective community leadership. Specialization in one of five areas is linked to jobs in communities. Coursework will be delivered through interactive video and other distance delivery techniques and intensive rural development seminars.

Chief Scientist's Recommendation

This proposal is an excellent idea with a sound technical approach. However, it is justified based on an implied lack of leadership in the community, which does not seem to be apparent. There would be more incentive to fund this proposal if village leaders had requested it from the Trustee Council. In addition, the proposal lacks sufficient relationship to restoration objectives. Do not fund.

Executive Director's Recommendation

Do not fund. The decision on funding this project was deferred by the Trustee Council in August, pending further review of the Detailed Project Description and commitments from PIs to incorporate student research into specific restoration projects. The project proposer has not confirmed commitments from PIs.

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97277 *Archaeological Resources*	Archaeological Repository and Cultural Facility in Chenega Bay	C. Totemoff/Chenega Corporation	USFS	New 1st yr. 3 yr. project	$318.5	$0.0	**$318.5**	**$0.0**		$0.0

Project Abstract

This project will fund an archaeological repository in Chenega Bay. Additional programming under the project will include stewardship of the facility, preservation and curation of artifacts, and educational/cultural programs. During 1997, the work planned for the period includes site control, architectural and engineering final proposals, and program development (in league with Chugach Heritage Foundation), as well as artifact and site inventorying, cataloging, and collecting. Completion of the operations and maintenance plan is also expected during this phase.

Chief Scientist's Recommendation

Although this project would contribute to archaeological restoration objectives with respect to Chenega Bay, there are major long-term issues to be resolved in regard to operation of the facility. This raises both financial and policy questions, which must be addressed by others. Based on this limited proposal and the unresolved long-term issues, I cannot recommend funding at this time.

Executive Director's Recommendation

Do not fund this year. Proposals for archaeological repositories will be considered as part of the FY 98 Invitation.

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97281 *Subsistence*	Habitat Improvement Through Redesigned Forest Workshops	R. Ott/Native Village of Eyak Tribal Council	USFS	New 1st yr. 1 yr. project	$50.0	$0.0	**$50.0**	**$0.0**	$0.0	$0.0

Project Abstract

This project will promote habitat improvement by providing Alaska Natives and community leaders with tools for self determination of culturally appropriate economic development of forested lands. These tools will be provided through a series of facilitated workshops that will reexamine all possible land use options in light of the effects of logging on the ecosystem. Cultural needs of the traditional and customary users of the natural resources associated with those lands will be prioritized at the same time as recognizing the priority for maintaining a strong economic base for the land owners. These land use options will provide a much more cost effective way to provide habitat improvement than outright acquisition.

Chief Scientist's Recommendation

While reforestation and sustained uses of forests have a link to habitat protection as a restoration objective, this proposal gives little detail as a basis for technical evaluation. To be successful, any work along the lines of what is proposed would need full support and participation of the Eyak Village Corporation and the Chugach Native Corporation, which are the land owners/managers. Based on the merits of the proposal as presented, the reviewers cannot recommend funding.

Executive Director's Recommendation

Do not fund. The Trustee Council deferred a decision on funding this project until the proposer confirms joint sponsorship by key stakeholders (e.g., Chugach Alaska Corporation, the village corporations, and other village councils). Although the proposer has requested support from key stakeholders, no commitments have been confirmed.

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97301 *Administration, Science Management, and Public Information*	The Alaska Laboratory Series Television Pilot	S. Reed/Alaska Public Telecommunications , Inc.	ADFG	New 1st yr. 3 yr. project	$105.7	$0.0	**$100.0**	**$0.0**	$0.0	$0.0

Project Abstract

This project will create a television program that will document ongoing restoration and rehabilitation efforts in Prince William Sound and other spill affected areas. This program will be a pilot to launch The Alaska Laboratory, a national science education series on science and research in Alaska. Many episodes, including the pilot, will center on marine research, rehabilitation, and restoration efforts in Prince William Sound, the Kenai Peninsula and the Gulf of Alaska. APTI, in cooperation with the Alaska SeaLife Center, will produce and distribute the series through national networks, cable, and on Alaska's PBS stations.

Chief Scientist's Recommendation

The proposed television program could increase awareness, both within and beyond Alaska, about the restoration program. This particular proposal is more of an idea than a full proposal. I do not know what priority the Trustee Council wants to give to educational projects such as this television program, but the idea does have merit and may deserve going forward. If deemed appropriate by the Trustee Council, a more complete proposal should be invited.

Executive Director's Recommendation

Do not fund this proposal. Consider further the possibility of funding some elements of this proposal together with media footage to be used for various educational/outreach efforts.

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS -- FY 97 WORK PLAN

Proj.No./ *Research Cluster*	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Revised Request	FY97 Approved	**FY97 Deferred**	**Exec. Dir. Recommend**	FY98 Estimate	Total FY97-02 Estimate
97305 *Seabird/Forage Fish and Related Projects*	Monitoring Response of Seabirds to Changing Prey Availability Using Stable Isotope Analysis	J. Piatt/DOI-NBS	DOI	New 1st yr. 4 yr. project	$35.0	$0.0	**$35.0**	**$0.0**	$0.0	$0.0

Project Abstract

A key component of the ecosystem-level study (APEX-/163) designed to evaluate the response of seabirds to fluctuations in forage fish density following the oil spill is the accurate evaluation of seabird diet through time. Recent advances in the use of naturally occurring stale isotopes of carbon and nitrogen to trace food webs can be applied to seabird communities. This technique will allow trophic dynamics and location of feeding to be traced in association with intra- and inter-seasonal changes in seabird prey. Moreover, the measurement of several tissues of seabirds, including those of their eggs, will be used to establish diet of birds integrated over various time periods.

Chief Scientist's Recommendation

Stable isotope measurement of seabird tissues could contribute much to our understanding of declines of seabird populations relative to food sources. It is recommended that samples gathered in the APEX program in 1995 and 1996 be initially analyzed under Project /170. Lower priority; do not fund.

Executive Director's Recommendation

Do not fund. There is the potential for samples gathered in the APEX project (/163) to be analyzed under Project 97170 using stable isotope analysis.

14.2.21 T

nrda.tc

DRAFT

MEMORANDUM

TO: *Exxon Valdez* Oil Spill Trustee Council

FROM: Molly McCammon
Executive Director

RE: Natural Resource Damage Assessment (NRDA) Project Reports

DATE: November 22, 1996

At its August 1996 meeting, the Council asked staff to put together information on (1) the status of final reports on Natural Resource Damage Assessment studies and (2) what it would take to complete a final report on each NRDA study which doesn't already have one underway. ("Final report" means a report encompassing 1989-1991 work that has been approved by the Chief Scientist and formatted per the Council's report writing procedures.)

Of the 75 NRDA studies funded in 1989, 1990, and 1991, all but 22 have a final report completed or near completion -- the progress of which is tracked in the Project Status Summary and submitted to the Council quarterly. Of these 22, all but four have a draft report on file at OSPIC as well as at 19 other libraries around the state and in Washington, D.C. and are accessible through the Western Library Network. The fact that these drafts are not in the process of being finalized appears to be the result of a decision in 1992 to not provide funding for final reports on these projects. ("Draft report" means a report that has not been peer reviewed.)

In developing a recommendation on how to address the 22 studies without final reports, staff considered the following four options and **recommends Option #4**:

#1 Require that a final report be prepared. This option would involve identifying PIs to take on the responsibility of completing the reports (some of the original PIs are no longer part of the EVOS process and may not be available or willing to take on this task). This is the highest cost option: funds would be needed to pay for the PIs' time, peer review, and printing/copying.

#2 Bring the existing draft reports into our current system by simply putting a cover on the drafts with a disclaimer that they have not been peer reviewed. This

option raises the concern that the drafts may be of varying quality and thoroughness, contain confidential information, or include insupportable scientific conclusions. While of lesser cost than Option #1, funds would be needed to pay for the time to prepare report covers (including abstract, etc.) and printing/ copying.

#3 Maintain the status quo. As mentioned, the existing draft reports are available to the public -- they are logged into the library system and can be retrieved through key word searches. There is no cost associated with this option.

#4 Combination of the above. Decide on a study-by-study basis what to do with each report: maintain the status quo, put on a new cover and bring it into our system, or finalize the report (i.e., peer review and revise accordingly).

Proposed Implementation of Option #4

Bob Spies, the Chief Scientist, and Stan Senner, the Science Coordinator, will work with the relevant agency liaison for each NRDA study to determine which reports should be in which category, who should do the necessary work, and the cost and timeline for completing the work. The PIs on each NRDA study will also participate in the decision if they are available. We will then come back to the Trustee Council with a detailed recommendation and what I expect to be a modest request for funding.

For your information, a list of the 75 NRDA studies is attached. The status of each study's report is noted in the right-hand column. The shaded studies are those without a final report at OSPIC or in progress.

STATUS OF REPORTS ON NRDA STUDIES

NUMBER	STUDY TITLE	PI/AUTHOR	AGENCY	YEARS	REPORT STATUS
ARCHAEOLOGY					
ARC1	Archaeological survey			90, 91	OSPIC *
AIR/WATER					
AW1	Geographic extent of oil			89	Report terminated
AW2	Injury subtidal sediment			89, 90, 91	OSPIC, combined with ST2B *
AW3	Hydrocarbons in water			89, 90, 91	OSPIC, combined with ST3A*
AW4	Injury to deep water			89	OSPIC, combined with AW2 *
AW5	Injury to air	G. Guay	ADEC	89	No known draft
AW6	Oil fate and toxicity			90	OSPIC, combined with ST4 *
BIRDS					
B1	Beached bird survey	K. Wohl, L. Denlinger	DOI/FWS	89, 90	Draft at OSPIC (also in Symposium Proceedings)
B2	Seasonal distribution/ boat surveys			89, 90, 91	OSPIC *
B3	Seabird surveys/ murres			89, 90, 91	OSPIC *
B4	Bald eagles			89, 90, 91	OSPIC *
B5	Peregrine falcons	J. Hughes	ADFG	89, 90	Draft at OSPIC
B6	Marbled murrelets			89	OSPIC *
B7	Storm petrels			89	OSPIC *
B8	Black-legged kittiwakes			89	Under peer review *
B9	Pigeon guillemots			89	OSPIC *
B10	Glaucous-winged gulls	S. Patten	ADFG	89	Draft at OSPIC
B11	Sea ducks/harlequins			89, 90, 91	Peer reviewed; PI revising *
B12	Shorebirds			89	1 report at OSPIC, 1 accepted by Spies but not yet at OSPIC *
B13	Passerines		DOI/FWS	89, 90	No known draft
B14	Exposure N. Slope oil		DOI/FWS	89	No known draft
COASTAL HABITAT					
CH1	Intertidal studies			89, 90, 91	NOAA report at OSPIC, USFS report being copied for submittal to OSPIC*
FISH/SHELLFISH					
FS1	Salmon spawning			89, 90, 91	Final report being drafted*
FS2	Eggs/pre-emergent fry			89, 90, 91	OSPIC *
FS3	Coded-wire tagging			89, 90, 91	OSPIC *
FS4	Early marine injury			89, 90, 91	ADFG/NOAA reports at OSPIC *
FS5	Dolly varden			89, 90, 91	OSPIC *
FS6	Sport fishing	C. Whitmore, K. Roth, R. Holmes, P. Hansen	ADFG	89	Draft at OSPIC
FS7	Spawning injury outside PWS			89, 90	OSPIC, combined with FS8

* Included in Quarterly Project Status Report for '92 Work Plan

11/22/96

STATUS OF REPORTS ON NRDA STUDIES

FS8	Eggs/pre-emergent fry outside PWS			89, 90	OSPIC, combined with FS7
FS9	Early marine injury outside PWS	J. Raymond	ADFG	89	Draft at OSPIC
FS10	Dolly varden/sockeye lower Cook Inlet	N. Dudiak, et al	ADFG	89	Project canceled before any field work
FS11	Herring injury			89, 90, 91	Under peer review *
FS12	Herring outside PWS	K. Brennan	ADFG	89	Draft at OSPIC
FS13	Clam injury			89, 90, 91	Peer reviewed; returned to PI for revision*
FS14	Crab injury	J. Hilsinger, C. Trowbridge	ADFG	89	Draft at OSPIC
FS15	Shrimp injury			89, 90	OSPIC, combined with ST5 *
FS16	Oyster injury	M. Kaill, M. Babcock	ADFG, NOAA	89	Draft in ADF&G files
FS17	Rockfish injury			89, 90	OSPIC, combined with ST6 *
FS18	Trawl assessment			89, 90	OSPIC
FS19	Larval fish injury	B. Norcross	ADFG	89	Draft at OSPIC
FS20	Underwater observations	D. Huttunen, P. Skvorc	ADFG	89	Draft at OSPIC
FS21	Clams outside PWS			89	Combined with FS13*
FS22	Crab outside PWS			89, 90	OSPIC
FS23	Rockfish outside PWS			89	OSPIC, combined with FS 17 *
FS24	Demersal fish injury			89, 90	OSPIC, combined with ST7 *
FS25	Scallop mariculture	M. Kaill	ADFG	89	Draft at OSPIC
FS26	Sea urchin injury	W. Donaldson S. Byersdorfer	ADFG	89	Draft at OSPIC
FS27	Sockeye overescapement			90, 91	OSPIC *
FS28	Run reconstruction			90, 91	OSPIC *
FS29	Life history modeling				OPSIC, combined with FS28 *
FS30	Database management			90, 91	OSPIC *
MARINE MAMMALS					
MM1	Humpback whale			89, 90	OSPIC *
MM2	Killer whale			89, 90, 91	OSPIC *
MM3	Cetacean necropsy	T. Loughlin	NOAA	89	Draft at OSPIC
MM4	Sea lion	D. Calkins	ADFG	89, 90	Draft at OSPIC
MM5	Harbor seal			89, 90, 91	OSPIC *
MM6	Sea otter injury			89, 90, 91	19 reports, 14 at OSPIC *
MM7	Rehabilitated sea otters			89, 90	Combined with MM6 *
SUBTIDAL					
ST1	Microbial and meiofaunal effects			91	NOAA and DEC reports at OSPIC *
ST2	Benthic communities			91	OSPIC *
ST3	Bio-availability/caged mussels			91	2 NOAA reports and DEC report at OSPIC *
ST4	Sediment toxicity			91	OSPIC *

* Included in Quarterly Project Status Report for '92 Work Plan

11/22/96

STATUS OF REPORTS ON NRDA STUDIES

ST5	Injury to shrimp			91	OSPIC *
ST6	Injury to rockfish			91	OSPIC *
ST7	Injury to demersal fish			91	OSPIC *
TERRESTRIAL MAMMALS					
TM1	Sitka black-tailed deer	D. Calkins, J. Lewis	ADFG	89, 90	Draft at OSPIC
TM2	Black bear	B. McCracken	ADFG	89, 90	Draft at OSPIC
TM3	River otter and mink			89, 90, 91	OSPIC *
TM 4	Brown bear	J. Lewis, R Sellers	ADFG	89, 90, 91	Draft at OSPIC
TM5	Small mammals	D. Calkins	ADFG	89	Project canceled before any field work
TM6	Mink reproduction	R. White, G. Blake, M. Sousa, J. Rowell	ADFG	89, 90	No known draft
TECHNICAL SERVICES					
TS1	Hydrocarbon analysis			89, 90, 91	Combined with ST8, not yet at OSPIC *
TS2	Histopathology	G. Marty, D. Hinton	ADFG, DOI/FWS	89, 90	Draft at OSPIC
TS3	GIS mapping			89, 90, 91	No report required *

* Included in Quarterly Project Status Report for '92 Work Plan

14.2.21.

DRAFT

MEMORANDUM

TO: *Exxon Valdez* Oil Spill Trustee Council

FROM: Molly McCammon
Executive Director

RE: Protocols for Including Traditional Ecological Knowledge in the Restoration Process

DATE: November 21, 1996

Attached are draft protocols for including Traditional Ecological Knowledge (indigenous knowledge) in the EVOS restoration process. The protocols are submitted for your adoption as a guiding document for the collection of TEK by EVOS researchers.

The effort to adopt protocols was initiated at the request of Alaska Native communities in the spill area. Simultaneous with requests to be further involved in the restoration process and suggestions on how Traditional Ecological Knowledge (TEK) can contribute to restoration, community representatives asked that guidelines for collecting TEK be established. The guidelines (i.e., protocols) are intended to facilitate collaboration between Alaska Natives and EVOS researchers by describing the expectations of Alaska Native communities in this regard.

The first draft was developed at a two-day workshop in April 1996 attended by the community facilitators hired through the Community Involvement Project (/052), some Restoration Work Force members, some Principal Investigators, and Restoration Office staff. That first draft was revised to accommodate comments and concerns raised by Trustee Council agencies. The attached revised draft has been agreed to by the Restoration Work Force and the community facilitators, and is now out for formal approval by the village councils in the spill area. Village council resolutions are to be submitted to the Restoration Office by December 1, 1996.

I would like to point out that two significant issues raised by the Restoration Work Force in regard to the original draft of the protocols have been addressed in the attached draft:

1. To which projects do the protocols apply?
   A purpose section was added to the Introduction to make clear that the protocols apply to those EVOS researchers planning to work with local respondents in the collection of traditional knowledge or whose proposed research is likely to affect subsistence activities. The protocols do not require that EVOS projects collect traditional knowledge.

2. How do the protocols affect existing laws regarding paying research participants, confidentiality, and who has access to the data once it is collected?
   Protocol 4 says that research agreements entered into by researchers and village councils on EVOS projects must be consistent with existing laws. In developing a research agreement, the researcher and the community must consider compensation of participants, anonymity and confidentiality of personal and other sensitive information, and final disposition of data (among other things). These items must be discussed so that village residents are aware of how the information they provide might be used, whether or not they will be paid, and so on, so that they can make an informed decision about whether or not to participate in a particular EVOS study.

In addition, a number of other, more minor revisions and clarifications were made, also in response to Restoration Work Force comments.

Attachment

PROTOCOLS FOR INCLUDING INDIGENOUS KNOWLEDGE IN THE *EXXON VALDEZ* OIL SPILL RESTORATION PROCESS

***Exxon Valdez* Oil Spill Trustee Council**
October 1996

Introduction, Purpose, and Objectives

Indigenous knowledge, including traditional ecological knowledge (TEK), provides an important perspective that can help the *Exxon Valdez* Oil Spill (EVOS) restoration effort by providing information and analysis of the environment and resources affected by the oil spill. Fishers, hunters, and gatherers have detailed descriptions of animal behavior and ecology. For many species, subsistence harvesters possess the following information:

- where it is found in any season
- what it eats
- how it moves from place to place
- when it mates
- where its young are born
- what preys on it
- how it protects itself
- how best to hunt for it
- population cycles

As astute observers of the natural world and as repositories of knowledge on the long term changes in their biophysical environment, practitioners of traditional ecological knowledge (TEK) can provide western biologists and ecologists with systematic and analytical observations that cover many years. While the differences between

indigenous and scientific ways of knowing must be understood, restoration projects which successfully incorporate both perspectives will improve our collective understanding of the natural processes involved in the EVOS-affected region.

Working in and with Alaska Native communities requires sensitivity to their cultures, customs, traditions, and history. Successful working relationships are built on mutual respect and trust. The people of the communities of the oil spill area have experienced severe dislocations in their lives due to the *Exxon Valdez* Oil Spill. Subsistence and commercial fishing activities have been interrupted. Researchers and agency personnel have used the communities as logistical bases. Disruptions related to the clean up, litigation, and increased bureaucratic demands have impacted the people's ability to conduct their daily business.

As a consequence of these stresses to their privacy and out of concern to preserve respect for their traditions, the Alaska Native communities of the area affected by the spill, assisted by EVOS staff, the Chugach Regional Resources Commission, and staff from Trustee Council agencies, have developed a series of protocols formalizing their relationship with outside researchers. These protocols provide a set of guidelines that will facilitate collaboration between Alaska Natives and scientists in meeting the goals of EVOS restoration. The protocols describe the major elements of a research

partnership, but their application depends on common sense and courtesy. For those researchers planning to collaborate with local respondents in the collection of indigenous knowledge or whose proposed research is likely to affect subsistence activities, the EVOS Trustee Council requires consideration of these protocols prior to the initiation of research.

The objectives of these protocols are:

1. Provide guidelines for restoration project planning and review
2. Identify a set of ethical principles that establishes the parameters for a research partnership between Alaska Native communities and restoration scientists
3. Establish procedures for facilitating the collection of indigenous knowledge in restoration projects
4. Provide guidance on the development of research agreements between Alaska Native communities and researchers.

Protocols

1. Project planning and review.

a) In developing projects that include the collection and use of indigenous knowledge, researchers and community residents should keep in mind how this information will be used in improving restoration, management, education, and future research.

b) In designing restoration projects that include indigenous knowledge, researchers should recognize that local communities' knowledge of and interest in natural resources extends beyond the physical boundaries of the communities themselves to their harvest areas and beyond.

c) All research proposals involving indigenous knowledge will be reviewed by the TEK Specialist, the Community Facilitators, and village councils, and their recommendations will be forwarded to the Executive Director. The overall program of research involving indigenous knowledge will be reviewed annually.

d) In developing proposals and research plans and budgets for projects involving indigenous knowledge, researchers should include the costs of a research program that is consistent with these protocols.

2. Ethical principles. EVOS research which involves the collection and use of indigenous knowledge should follow the ethical principles for research listed below, which are based upon guidelines adopted by the Alaska Federation of Natives (AFN) Board of Directors in May 1993 (attached).

e) Advise Alaska Native communities and people who are to be involved in or affected by the study of the purpose, goals, and time-frame of the research, the proposed data-gathering techniques, and the potential positive and negative implications and impacts of the research.

f) Obtain the informed consent of the appropriate governing bodies and of individual participants

g) Protect the knowledge and cultural/intellectual property of the Alaska Native people

h) Seek to hire local community research assistants, and provide meaningful training to Alaska Native people to develop research skills, as appropriate

i) Use the local Alaska Native language whenever English is the second language

j) Address issues of confidentiality of sensitive material

k) Include Alaska Native viewpoints in the final study report

l) Acknowledge the contributions of local research assistants and respondents in project reports

m) Provide the communities with a summary of the major findings of the study in non-technical language.

n) Provide copies of the annual and final project reports and related publications to the local library

The AFN Guidelines also include establishing and funding a "Native Research Committee." This may not be necessary in most EVOS Restoration Projects, depending upon the scope of the collection of indigenous knowledge and the wishes of the local community. Also, a new entity may not be necessary. For example, the traditional council may serve as such a review body. This point should be addressed in

a "research agreement," as discussed in #4, below.

3. Facilitating the collection of indigenous knowledge.

o) Initial contacts should be made through the TEK Specialist hired under Project 97052B to discuss the potential collection of indigenous knowledge in a project. The TEK Specialist will then pass the requests on to the communities concerned, and assist in establishing contact between the researcher and the Community Facilitator. The TEK Specialist will also inform the Spill Area Wide Coordinator of such requests.

p) Once contact has been established through the TEK Specialist, researchers should use the Community Facilitator or designee as the primary community contact.

q) The Community Facilitator or designee will arrange for the researcher to meet with the Village Council (or other appropriate body authorized by the Village Council) to discuss the project's goals, scope, methods, expectations, benefits and risks. The Facilitator or designee will help orient the researcher to the community and its customs.

4. Research agreements.

The researcher and the Village Council (or other appropriate body authorized by the Village Council), assisted by the Community Facilitator, will work together to set up a

research agreement. In developing the agreement, the following topics should be considered: the nature of the research, the form of consent that will be required, the need for local research assistants, compensation of participants, acknowledgments, anonymity and confidentiality of personal and other sensitive information, project monitoring, project review, final disposition of data, and provision of study results. The agreement may take one of several forms, such as a binding contract, a memorandum of agreement, a letter of agreement, or a village resolution. In any agreement, the responsibility and expectations of the researcher and the community should be spelled out. Terms and conditions should be clear and understandable to all parties, should not place unreasonable or unfair burdens on the participants, and must be consistent with applicable laws.

AFN BOARD ADOPTS POLICY GUIDELINES FOR RESEARCH

At its quarterly meeting in May, the AFN Board of Directors adopted a policy recommendation that includes a set of research principles to be conveyed to scientists who plan to conduct studies among Alaska Natives.

The principles will be sent to all Native organizations and villages in the hope that compliance by researchers will deter abuses such as those committed in the past which lately have come to light.

Alaska Natives share with the scientific community an interest in learning more about the history and culture of our societies. The best scientific and ethical standards are obtained when Alaska Natives are directly involved in research conducted in our communities and in studies where the findings have a direct impact on Native populations.

AFN recommends to public and private institutions that conduct or support research among Alaska Natives that they include a standard category of funding in their projects to ensure Native participation.

AFN conveys to all scientists and researchers who plan to conduct studies among Alaska Natives that they must comply with the following research principles:

* Advise Native people who are to be affected by the study of the purpose, goals, and time-frame of the research, the data-gathering techniques, the positive and negative implications and impacts of the research.

* Obtain the informed consent of the appropriate governing body.

* Fund the support of a Native Research Committee appointed by the local community to assess and monitor the research project and ensure compliance with the expressed wishes of Native people.

* Protect the sacred knowledge and cultural/intellectual property of Native people.

* Hire and train Native people to assist in the study.

* Use Native language whenever English is the second language.

* Guarantee confidentiality of surveys and sensitive material.

* Include Native viewpoints in the final study.

* Acknowledge the contributions of Native resource people.

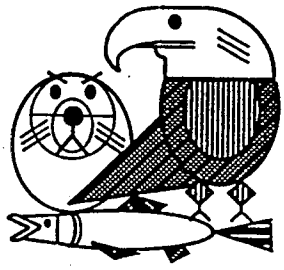
* Inform the Native Research Committee in a summary and in non-technical language of the major findings of the study.

* Provide copies of studies to the local library.

14.2.21R

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



MEMORANDUM

To: Gina Belt, Maria Lisowski, Barry Roth, and Alex Swiderski

From: Molly McCammon, Executive Director

Subject: Data Ownership and Archiving

Date: November 15, 1996

From time to time questions arise about the ownership and maintenance of data and other products from restoration projects. The *Restoration Plan* makes clear that since the restoration program is funded by public money the public owns the results of restoration projects.

It would be useful if we could amplify this policy for the benefit of our investigators and for those people who in the future will apply to receive restoration funds. I plan to discuss the attached draft statement at the Restoration Work Force meeting scheduled for Wednesday, November 20. This item is also on the agenda for the December 6 meeting of the Trustee Council.

The intent is to state more clearly what I believe is already a matter of state and federal law. If the Trustee Council adopts some version of this statement, we may need to add some "boilerplate language" to any state or federal contracts or agreements to carry out restoration projects. We can discuss this following the Trustee Council meeting.

Would you please review the attached and give either me or Stan Senner any comments before the Work Force meeting next week.

encl: (1)

DRAFT

According to Policy Number 20 in the *Exxon Valdez Oil Spill Restoration Plan* (November 1994):

> **Restoration must reflect public ownership of the process by timely release and reasonable access to information and data.**
>
> Information from restoration projects must be available to other scientists and to the general public in a form that can be easily used and understood. An effective restoration program requires the timely release of such information. This policy underscores the fact that since the restoration program is funded by public money, the public owns the results.

We now propose to clarify this statement of Trustee Council policy by adoption of the following:

> Therefore, consistent with state and federal laws, the public owns any data or other products resulting from any project to which the Trustee Council has contributed financially. Data means recorded information, regardless of form or the media on which it is recorded, including computer programs, data bases, and software. Each final report on a restoration project shall include a brief description of data gathered in the project, including definition of the types of data gathered, the form or forms in which the data are recorded, the location of the data, and a permanent contact at a public institution such that the data are accessible to the public, including scientific users, after completion of the project.

14.2.21 Q

DRAFT

MEMORANDUM

TO: Trustee Council

FROM: Molly McCammon
Executive Director

SUBJECT: Restoration Reserve Planning: Proposed Time Line

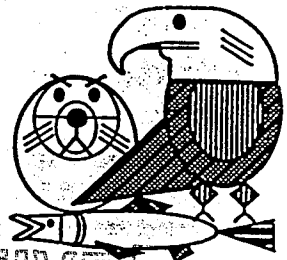
DATE: November 18, 1996

The purpose of this memorandum is to propose a time line for planning the future of the Restoration Reserve, a fund established by the Trustee Council to support future restoration efforts byond the last payment from Exxon in 2001. The Council has thus far approved $48 million in deposits into the Reserve. Annual deposits of $12 million in each of the five years remaining in the settlement period would bring the total reserve to $108 million plus interest. The Council has made no decisions about the long-term management or use of the Reserve Fund.

1996-1997	Staff brainstorms with interested parties and Public Advisory Group, identifies issues, develops options. Preliminary legal review of options.
December 1997	Trustee Council decides which options to consider further.
Spring 1998	Staff conducts in-depth research and legal review; prepares for public workshops.
Fall/Winter 1998	Staff conducts public workshops and other forms of outreach throughout spill area and in Anchorage, Fairbanks and Juneau.
March 1999	Trustee Council makes its decision about the future management and use of the Restoration Reserve.
March 1999-Sept. 2001	Required changes are made in legislation and court orders, if needed.
Sept. 2002	Required administrative changes are made, if needed.

14.2.21 P
S

Exxon Valdez Oil Spill Trustee Council
Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



Habitat Protection Program: Small Parcels Status Report

October 31, 1996

One of the ways the Trustee Council protects habitat for resources and services injured by the *Exxon Valdez* oil spill is by buying land that has habitat value. The Council has already protected habitat on 489,000 acres of land in large tracts. In recognition of the unique habitat qualities and strategic value of smaller tracts of land (less than 1,000 acres), the Council initiated the Small Parcel Program in 1994.

In response to a public solicitation, 301 small parcels have been nominated. Council staff evaluate, score, and rank the parcels, taking into account the resource value of the parcel, adverse impacts from human activity, and potential benefits to management of public lands. The nomination period is open-ended. The Restoration Office continues to receive and evaluate nominations.

The Council has expressed interest in acquiring 51 of the parcels that have been nominated, along with a package of lands owned by the Kenai Natives Association and key waterfront parcels that were forfeited to Kodiak Island Borough for tax delinquency. The Council has authorized offers to purchase 34 small parcels at appraised fair market value, and contributions of $4 million to the Kenai Natives Association Package and up to $1 million for the Kodiak Island Borough Tax Parcels.

Table 1 summarizes the status of each of the offers. Fourteen small parcels (about 2,200 acres) have been acquired for $7.8 million. Owners of 12 additional parcels (about 700 acres) have accepted offers for a total of $3.2 million. Landowners are considering offers on five parcels, negotiations continue on the Kenai Natives Association Package, and the Kodiak Island Borough Tax Parcels are being appraised. The owners of three parcels have rejected offers to purchase their parcels at appraised fair market value.

The Council is also considering acquisition of the 17 parcels listed in **Table 2**, but has not yet authorized offers to purchase these parcels. **Table 3** is a list of 16 additional parcels that have been nominated in the past 15 months.

Table 1. Status of Small Parcel Acquisitions

October 31, 1996

Parcel ID	Description	Acres	Value	Status
Acquisitions Complete				
PWS 17	Ellamar Subdivision	22.0	$310,000	
PWS 17 A&D	Ellamar Subdivision	9.4	$276,500	
PWS 52	Hayward Parcel	9.5	$150,000	
KEN 10	Kobylarz Subdivision	20.0	$320,000	
KEN 29	Tulin Parcel	220.0	$1,200,000	
KEN 34	Cone Parcel	100.0	$600,000	
KEN 54	Salamatof Parcel	1,377.0	$2,540,000	
KEN 1006	Girves Parcel	110.0	$1,835,000	
KEN 1014	Grouse Lake	64.0	$211,000	
KAP 99	Shugak Parcel (Kiliuda Bay)	160.0	$155,200	
KAP 105/142	Three Saints Bay	88.0	$168,000	
KAP 135	Capjohn Parcel (Kiliuda Bay)	70.0	$73,500	
	Subtotal:	**2,249.9**	**$7,839,200**	
Offers Accepted				
PWS 17 B&C	Ellamar Subdivision	2.0	$69,000	Acquisition is expected to close within a few days.
KEN 19	Coal Creek Moorage	53.0	$260,000	
KEN 148	River Ranch	146.0	$1,650,000	
KEN 1015	Lowell Point	19.4	$531,000	
KEN 1049	Mansholt Parcel (Kenai River)	1.6	$55,000	
KAP 98	Pestrikoff Parcel (Sitkalidak Strait)	80.0	$128,000	
KAP 101	Haakanson Parcel (Sitkalidak Strait)	80.0	$52,000	
KAP 103	Kahutak Parcel (Sitkalidak Strait)	40.0	$66,000	
KAP 115	Johnson Parcel (Uyak Bay)	65.0	$110,500	
KAP 131	Matfay Parcel (Kiliuda Bay)	40.0	$68,000	
KAP 132	Peterson Parcel (Sitkalidak Strait)	160.0	$256,000	
	Subtotal:	687.0	$3,245,500	
Offers Under Review				
KEN 55	Overlook Park	97.0	$244,000	Appraisal will be updated.
KEN 1009	Cooper Parcel	30.0	$48,000	No response has been received.
KEN 1034	Patson Parcel	76.3	$375,000	Discussions continue.
KAP 220	Mouth of Ayakulik R.	56.0	$213,000	Willing to sell a larger package.
KAP 226	Karluk River Lagoon	21.5	$146,000	Willing to sell a larger package.
Kenai Natives Association Package		3,254.0	$4,000,000	Legislation approved.
Kodiak Island Borough Tax Parcels			$1,000,000	Authorized in Shuyak Is. resolution; appraisal contract underway.
	Subtotal:	**3,534.8**	**$6,026,000**	

Table 1. Status of Small Parcel Acquisitions (contd.)

October 31, 1996

Offers Rejected				
KEN 12	Baycrest	90.0	$450,000	Counteroffer of $720,000; appraisa will be updated.
KEN 1001	Deep Creek	91.0	$672,000	Not ready to sell at this time.
KEN 1005	Ninilchik	16.0	$50,000	Counteroffer of $60,000.
	Subtotal:	**197.0**	**$1,172,000**	

Table 2. Parcels Under Consideration*

October 31, 1996

Parcel ID	Description	Acres	Fair Market Value / Comments
Appraisal Approved			
KEN 1038	Schilling Parcel	5.9	$1,304,000
KAP 1055	Abston Parcel (Uyak Bay)	160.0	$281,300
	Subtotal:	**165.9**	**$1,585,300**
Appraisal Under Review			
PWS 05	Valdez Duck Flats (USS 349 & 448)	42.0	
PWS 06	Valdez Duck Flats (USS 447)	24.7	
PWS 11	Horseshoe Bay	315.0	$200,000
PWS 1010	Jack Bay	942.0	Second appraisal rejected; third appraisal under review.
KEN 1039	Oberts Parcel (Big Eddy)	31.7	
KEN 1040	Oberts Parcel (Honeymoon Cove)	4.2	
KEN 1041	Oberts Parcel (Peterkin Hmstd.)	30.0	
KAP 91	Adonga Parcel (Sitkalidak Strait)	137.0	Awaiting probate.
KAP 114	Johnson Parcel (Uyak Bay)	55.0	
	Subtotal:	**1,581.6**	
Appraisal Underway			
KEN 1051	Salamatof Native Assn. (Kenai NWR)	16.0	
KEN 1052	Salamatof Native Assn. (Kenai NWR)	10.0	
KAP 118	Cusack Parcel (Sturgeon Lagoon)	160.0	
KAP 145	Termination Point	1,028.0	
	Subtotal:	**1,214.0**	

Table 2. Parcels Under Consideration* (contd.)

October 31, 1996

Owner Unwilling to Sell

KAP 22	The Triplets	65.0	Owner unwilling to sell at appraised fair market value ($6,500).
KAP 150	Karluk	5.0	Owner unwilling to sell at appraised fair market value ($105,000).
	Subtotal:	**70.0**	

* Perl Island (KEN 149), a 156-acre parcel south of the Kenai Peninsula, is no longer under consideration because sponsorship has been withdrawn.

* Fleming Spit (PWS 1027), a 5.4-acre parcel in Cordova, is no longer under consideration because the Alaska Division of Parks has executed an agreement to purchase this parcel with State criminal settlement funds.

Table 3. Small Parcel Nominations

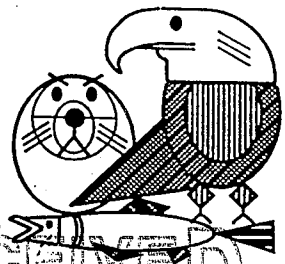
July 1995 to October 1996

Parcel ID	Description	Acres	Sponsor	Rank
PWS 1045	Dennis Parcel (Valdez Duck Flats)	4.3	Sponsorship withdrawn	Does not meet threshold criteria.
PWS 1056	Blondeau Parcel (Valdez)	100.0	No sponsor	Not yet evaluated.
KEN 1030	Anchor River	127.8	No sponsor	Does not meet threshold criteria.
KEN 1032	Matson Parcel (Ninilchik River)	7.4	ADFG	Low
KEN 1035	Mullen Parcel (Kenai River)	8.5	ADNR/ADFG	Low
KEN 1036	Weilbacher Parcel (Kenai River)	28.7	ADNR/ADFG	Low
KEN 1037	Coyle Parcel (Kenai City Boat Dock)	26.0	No sponsor	Does not meet threshold criteria.
KEN 1042	College Estates (Kenai River)	56.0	ADNR/ADFG	Low
KEN 1043	College Estates (Kenai River)	77.9	ADNR/ADFG	Low
KEN 1044	Breeden Parcel (Kenai River Flats)	25.0	ADNR/ADFG	Low
KEN 1046	Pollard Parcel (Kasilof River)	155.0	ADFG	Low
KEN 1047	Calvin Parcel (Kasilof River)	76.8	ADFG	Does not meet threshold criteria.
KEN 1048	Lahndt Parcel (Kasilof River)	30.0	ADFG	Does not meet threshold criteria.
KAP 1050	Christiansen Parcel (Sitkalidak Strait)	159.0	USFWS	Low
KAP 1054	Christiansen Parcel (Kiliuda Bay)	160.0	USFWS	Low
KEN 1057	Lowe Parcel (Kenai River)	22.0	ADNR	Not yet evaluated.
	Total:	**1,064.4**		

14.2.21P

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



Habitat Protection Program: Large Parcels Status Report

October 7, 1996

The *Exxon Valdez* Trustee Council funds the acquisition of land to protect the habitat of injured resources and services. The goals of habitat protection are to prevent additional injury to resources and services while recovery is taking place and to provide a long-term safety net for these resources.

In 1992, the Restoration Office evaluated 16 large parcels (over 1,000 acres) that were imminently threatened by development. In March 1993, the Restoration Office contacted 90 owners of large parcels in the spill area. Thirty-two landowners expressed interest in having their land considered for acquisition and 850,000 acres of land were subsequently evaluated.

As of October 1996, the Council has committed $207.3 million to protect 489,000 acres of land, with parcels ranging in size from 2,000 to 119,000 acres. Seven large parcels have been purchased, including inholdings in Kachemak Bay State Park, land adjacent to Seal Bay/Tonki Cape on Afognak Island, commercial timber rights on land along Orca Narrows, lands owned by Akhiok-Kaguyak, Inc., Old Harbor Native Corporation and Koniag, Inc., and a 27,000-acre parcel on Shuyak Island.

In May 1996, the Council offered to acquire interests in 60,997 acres of land from the Chenega Corporation. In August 1996, the Council agreed to acquire interests in 66,443 acres of land owned by the Tatitlek Corporation. The acquisition of these parcels depends on shareholder votes, which are expected to be held in late October.

Negotiations continue with five landowners to protect additional habitat. The landowners are Afognak Joint Venture, English Bay Corporation, Eyak Corporation, Koniag, Inc., and Port Graham Corporation.

Table 1 summarizes the status of land acquisitions as of October 1996 — whether acquisitions are complete, offers are pending or negotiations continue. Table 1 also indicates the acreage of each parcel and, if known, its purchase price, contributions from the joint trust fund, and contributions from other sources.

Table 1. Status of Large Parcel Acquisitions

October 7, 1996

Parcel Description	Acreage	Total Price (Incl. Interest)	Trust Fund	Other Sources
Acquisitions Complete				
Kachemak Bay State Park Inholdings	23,800	$22,000,000	$7,500,000	$14,500,000[1]
Seal Bay / Tonki Cape	41,549	$39,447,600	$39,447,600	$0
Orca Narrows (timber rights)	2,052	$3,650,000	$3,650,000	$0
Akhiok - Kaguyak, Inc.	118,674	$46,000,000	$36,000,000	$10,000,000*
Old Harbor[2]	31,609	$14,500,000	$11,250,000	$3,250,000*
Koniag (fee title)	59,689	$26,500,000	$19,500,000	$7,000,000*
Koniag (limited term easement)	57,082	$2,000,000	$2,000,000	$0
Shuyak Island	26,665	$42,000,000	$42,000,000	$0
Subtotal:	**361,120**	**$196,097,600**	**$161,347,600**	**$34,750,000**
Offers Pending				
Chenega	60,997	$33,000,000	$23,000,000	$10,000,000*
Tatitlek	66,443	$33,000,000[3]	$23,000,000	$10,000,000*
Subtotal:	**127,440**	**$66,000,000**	**$46,000,000**	**$20,000,000**
TOTAL:	**488,560**	**$262,097,600**	**$207,347,600**	**$54,750,000**
Negotiations Continuing				
Afognak Joint Venture	112,827			
English Bay	33,350			
Eyak	72,000			
Koniag (fee title)[4]				
Port Graham	46,170			
Subtotal:	**264,347**			
Total Acreage to be Protected:	**752,907**			

* Federal contribution from the Exxon plea agreement.

[1] State of Alaska contribution using $7 million from the Exxon plea agreement and $7.5 million from the civil settlement with Alyeska Pipeline Service Company.

[2] As part of the protection package, the Old Harbor Native Corporation agreed to protect an additional 65,000 acres of land on Sitkalidak Island as a private wildlife refuge.

[3] Interest has not yet been calculated.

[4] Negotiations with Koniag concern fee title to the 57,082 acres that are currently protected under a limited conservation easement.

Acquisitions Complete. Seven large parcels have been acquired.

Kachemak Bay. In August 1993, the state acquired surface title to 23,800 acres of private inholdings within Kachemak Bay State Park on the Kenai Peninsula. This acquisition protects a highly productive estuary, several miles of anadromous fish streams and intertidal shoreline and upland habitat for bald eagles, marbled murrelets, river otters, and harlequin ducks. The Council contributed $7.5 million to this purchase and the State of Alaska contributed $7 million from the Exxon plea agreement and $7.5 million from the civil settlement with Alyeska Pipeline Service Company.

Seal Bay and Tonki Cape (Afognak Island). In November 1993, the state purchased surface title to 41,549 acres on northern Afognak Island. This mature spruce forest is adjacent to highly productive marine waters, includes anadromous fish streams, and provides excellent habitat for bald eagles and marbled murrelet nesting. The Council authorized $39.4 million (including interest) for this purchase. In 1994, the Alaska State Legislature designated these lands as the Afognak Island State Park.

Orca Narrows Subparcel. In January 1995, the federal government purchased from the Eyak Corporation commercial timber rights on 2,052 acres of land in Orca Narrows. This parcel is near Cordova in Prince William Sound and contains anadromous fish streams, active bald eagle nests and favorable habitat for marbled murrelet nesting. The Council authorized $3.65 million for this acquisition.

Akhiok-Kaguyak. In May 1995, the federal government agreed to purchase from Akhiok-Kaguyak, Inc., surface title to 76,211 acres of land and conservation easements on 42,463 acres, for a total of 118,674 acres. These lands are within the Kodiak National Wildlife Refuge. The Council contributed $36 million to this acquisition and the federal government contributed $10 million from the federal restitution fund.

Old Harbor. Also in 1995, the federal government purchased from the Old Harbor Native Corporation surface title to 28,609 acres of land and the corporation donated a conservation easement on 3,000 acres. These lands are within the Kodiak National Wildlife Refuge. In addition, the Old Harbor Native Corporation agreed to preserve 65,000 acres of land on nearby Sitkalidak Island as a private wildlife refuge. The Council contributed $11.25 million to this acquisition and the federal government contributed $3.25 million from the federal restitution fund.

Koniag. In November 1995, the federal government purchased from Koniag, Inc., surface title to 59,689 acres of prime habitat for bear, salmon, bald eagles, and other species in the Kodiak National Wildlife Refuge. This agreement protected an additional 57,082 acres under a nondevelopment easement through the year 2001. The nondevelopment easement includes land along the Karluk and Sturgeon Rivers. The

Council contributed $21.5 million to this acquisition and the federal government contributed $7 million from the federal restitution fund.

Shuyak Island. In December 1995, the Council approved $42 million (including interest) to purchase from the Kodiak Island Borough surface title to 26,665 acres of prime habitat on Shuyak Island, at the northern tip of the Kodiak archipelago. The Kodiak Island Borough agreed to commit $6 million from the land sale to expansion of Kodiak's Fishery Industrial Technology Center.

As part of the purchase agreement for lands on Shuyak Island, the Council authorized up to an additional $1 million to purchase small parcels within the Kodiak National Wildlife Refuge that have been acquired by the Kodiak Island Borough as a result of the property owners' failure to pay borough taxes. These parcels are about 10 acres in size and occupy key waterfront locations along Uyak Bay on Kodiak Island. They are embedded in two highly ranked large parcels approved as part of the Koniag purchase agreement.

Offers Pending. Offers on two large parcels are pending shareholder approval.

Chenega. In May 1996, the Council authorized $23 million for an offer to purchase 60,997 acres from Chenega Corporation. An additional $10 million would come from the federal restitution fund, for a total purchase price of $33 million. The offer includes acquisition of surface title to 38,228 acres together with a conservation easement on 22,769 acres with public access on all but 3,330 acres of these lands on the southern portion of Chenega Island in the vicinity of the original Chenega village site. Two parcels to be acquired in fee simple, the Eshamy Bay and Jackpot Bay parcels, are among the highest ranked parcels in the oil spill area.

Tatitlek. In August 1996, the Council authorized $23 million for an agreement to purchase 66,443 acres from Tatitlek Corporation. An additional $10 million would come from the federal restitution fund, for a total of $33 million. The agreement includes acquisition of surface title to 31,490 acres together with conservation easements on 34,953 acres. Two of the parcels in which interests will be acquired, Bligh Island and Two Moon Bay, were respectively the third and fourth highest ranked parcels in Prince William Sound. The offer includes a timber only conservation easement to be conveyed on the north shore of Port Fidalgo. Several development sites would be excluded from the conveyance, including a site not to exceed 20 acres on Two Moon Bay, a 15-acre hydroelectric site at Galena Bay and easements for related transmission lines and access roads, a limited use easement for an existing road from Two Moon Bay to the Hells Hole area, existing homesites and small areas for development of cabins or tent platforms.

Negotiations Continuing. Negotiations continue on five additional large parcels.

Afognak Joint Venture. In December 1994, the Council authorized up to $70 million for an offer to purchase from Afognak Joint Venture surface title to 48,728 acres on northern Afognak Island. The Council also authorized further negotiations about the acquisition of an additional 64,099 acres, for a total acquisition of 112,827 acres. The property consists of seven dispersed parcels, five of which are adjacent to or near the previously acquired Seal Bay parcel, one is adjacent to Shuyak Strait, and one is in the western part of Afognak Island. The appraisal of these parcels is currently ahead of schedule and is expected to be finalized in late November 1996.

English Bay and Port Graham. The U.S. Department of the Interior, on behalf of the Council, is holding discussions with English Bay Corporation and Port Graham Corporation about the purchase of 79,520 acres, much of which is within Kenai Fjords National Park.

Eyak. Discussions continue with Eyak Corporation on how to protect about 72,000 acres of corporation lands, particularly Port Gravina, Sheep Bay, and Windy Bay. These lands include the "Core Parcels" and Orca Narrows.

Koniag. The Council is interested in acquiring fee interest in the 57,082 acres covered by the limited term nondevelopment easement acquired in November 1995, and has agreed to maintain unobligated funds totaling $16.5 million for this purpose. The nondevelopment easement includes land along the Karluk and Sturgeon Rivers and expires on December 2, 2001.

14.2.210

Exxon Valdez Oil Spill Trustee Council

Public Advisory Group
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone 907-278-8012 Fax 907-276-7178

AGENDA

Exxon Valdez Oil Spill Trustee Council
Public Advisory Group
First floor conference room
645 G Street, Anchorage, Alaska

Tuesday-Wednesday, August 6-7, 1996

7:00 PM - Tuesday
8:00 AM - Wednesday

DRAFT **DRAFT**
7/25/96

PURPOSE:

1. Receive status reports on restoration program and habitat acquisition

2. Develop recommendations for Fiscal Year 1997 Work Plan

Tuesday

7:00 PM	Public hearing on Fiscal Year 1997 Work Plan for Public Advisory Group and Trustee Council	Molly McCammon, Executive Director Vern McCorkle, Chair

Wednesday

8:00 AM	Call to order/roll call/ approval of agenda	Vern McCorkle, Chair
8:05	Approval of summaries of March 13 and June 5, 1996 PAG meetings	Vern McCorkle, Chair

8:10	Executive Director's Report • Status report on recent activities • Habitat Protection • Administrative issues - reduction of investment fees • PAG field trip • PAG membership renewal	Molly McCammon, Executive Director
8:45	Community Involvement Coordinator's Report	Martha Vlasoff, Community Involvement Coordinator
9:00	Discussion of Food Policy	Molly McCammon, Executive Director
9:15	Policies and Procedures	Molly McCammon, Executive Director Traci Cramer, Administrative Officer
10:00	10th Anniversary Planning	Molly McCammon, Executive Director Stan Senner, Science Coordinator Dr. Robert Spies, Chief Scientist
10:15	Update on Injured Resources and Services	Stan Senner, Science Coordinator Dr. Robert Spies, Chief Scientist
10:45	National Biological Survey Collection Request	Stan Senner, Science Coordinator Dr. Robert Spies, Chief Scientist
11:00	Recommendations for FY 97 Work Plan	Stan Senner, Science Coordinator Dr. Robert Spies, Chief Scientist
12:00 PM	Working Lunch - brief recess for takeout. (return to meeting to eat and continue working on recommendations)	
12:15	Recommendations for FY 97 Work Plan - continued	

ACTION ITEM: Motion on Fiscal Year 1997 Work Plan Recommendation

5:00 Adjourn

14.2.21 N

Meeting Summary

A. GROUP: Exxon Valdez Oil Spill Public Advisory Group (PAG)

B. DATE/TIME: March 13, 1996

C. LOCATION: Anchorage, Alaska

D. MEMBERS IN ATTENDANCE:

Name	Principal Interest
Rupert Andrews	Sport Hunting and Fishing
Kim Benton	Forest Products
Chris Beck	Public-at-Large
Pam Brodie	Environmental
Sheri Buretta	Public-at-Large
Jim Diehl	Recreation Users
Dave Dengel (for Dave Cobb)	Local Government
John French	Science/Academic
James King	Public-at-Large
Nancy Lethcoe	Commercial Tourism
Vern McCorkle	Public-at-Large
Brenda Schwantes	Subsistence
Thea Thomas	Commercial Fishing
Chuck Totemoff	Native Landowners
Gordon Zerbetz	Public-at-Large

E. NOT REPRESENTED:

Name	Principal Interest
Mary McBurney	Aquaculture
Chip Dennerlein	Conservation
Georgianna Lincoln (*ex officio*)	Alaska State Senate
Alan Austerman (*ex officio*)	Alaska State House

F. OTHER PARTICIPANTS:

Name	Organization
Veronica Christman	Trustee Council Staff
L.J. Evans	Trustee Council Staff
Carol Fries	AK Dept. Natural Resources
Sharon Gagnon	Jim King Alternate
Dave Gibbons	U.S. Forest Service
Carrie Holba	Oil Spill Public Info. Center
Eleanor Huffines	Nancy Lethcoe Alternate
George Keeney	Cordova

Molly McCammon	Trustee Council Executive Director
Charles McKee	Public
Dorothy Mortenson	AK Dept. Natural Resources
Doug Mutter	Designated Federal Officer, Dept. of Interior
Eric Myers	Trustee Council Staff
Chris Overbeck	Whittier
Ernie Piper	AK Dept. of Envir. Conservation
Sandra Schubert	Trustee Council Staff
Stan Senner	Trustee Council Staff
Joe Sullivan	AK Dept. Fish and Game
Martha Vlasoff	EVOS Community Coordinator
Dave Wigglesworth	AK Dept. of Envir. Conservation
Bill Wilcox	Valdez
Cherri Womac	Trustee Council Staff

G. SUMMARY:

The meeting was opened March 13 at 9:05 a.m. by Vern McCorkle, Chair. Roll call was taken, a quorum was present. No modifications were identified for the summary of the December 6, 1995 PAG meeting.

Molly McCammon provided the Executive Director's report. She reviewed the status of habitat protection negotiations, including land acquisitions at Eyak, Tatitlek, Chenega, English Bay, Konig, Afognak Joint Venture, and Shuyak. She also covered the small parcel program (attachment #3), noting that the State Legislature had to accept EVOS funds in order to acquire the parcels for the State (attachment #4).

The EVOS audit report is complete, and once it is delivered to the Trustee Council members, it will be mailed to the PAG. Some highlights: finances/trust fund accounts were determined to be in good shape; a revision of the Financial Operating Procedures is recommended, the auditors believe the fees paid to the Court system in Texas for handling trust fund investments appear too high; and use of wire transfers of funds is suggested.

McCammon summarized recent public outreach efforts (attachment #5). Kodiak Island public meetings will be held in Kodiak villages March 27-29; the Trustee Council plans a meeting in Kodiak this spring; a PAG field trip will be scheduled for lower Cook Inlet this spring or fall; and a community workshop will be held in Anchorage April 9-10 to discuss protocols for collections and use of traditional ecological knowledge protocols. Press contacts increased after the oil spill on the coast of Wales. John Bauer (ADEC) and Bob Spies (Chief Scientist) went to Wales to advise on cleanup and restoration planning (at the expense of the British and on behalf of Alaska Governor Tony Knowles).

The EVOS Annual Report will be available the week of March 23, and will be mailed to PAG members. Additional copies are available upon request.

The Alaska SeaLife Center has achieved full financing for the project, and thus met the contingency placed on approval by the State Legislature of the Council's $25 million

contribution. The bid for construction was announced Monday and bids will be opened April 23. The Center is scheduled for operation in 1998.

A project status report was mailed to PAG members. The FY 1997 Invitation to Submit Restorations Proposals has gone public. The request for proposals is more targeted this year. Funds available for projects total approximately $16 million (about $14 million is earmarked for continuing projects, so about $2 million will be competitive). Veronica Christman reviewed the project proposal/work plan schedule (attachment #6).

A report on the progress and future of the Sound Waste Management Plan, an EVOS funded project, was given by Dave Dengel, Bill Wilcox, George Keeney, Chris Overbeck, Chuck Totemoff, and Dave Wigglesworth (attachment #7). Opportunities to clean up and prevent further contamination from oil and other wastes were examined. This has been a joint effort of the communities in Prince William Sound. The project received an award from the Alaska Municipal League.

Stan Senner reported on the 1996 EVOS Annual Workshop (attachment #8). Some 250-300 people participated. Several important findings and projects were highlighted, including presentations on traditional ecological knowledge, salmon escapement studies on the Kenai, harbor seals' food sources, and a database of trawl surveys of marine species (attachment #9). Updated recovery objectives for each injured resource and service will be going out for public review in the near future.

The meeting was opened at 1:00 for public comment. Charles McKee offered comments.

McCammon discussed the status of the Trustee Council communication plan (attachment #5). One focal point is providing information to the general public. Martha Vlasoff is helping with the community involvement project. Jodi Seitz has developed for the Trustee Council 13 short radio spots called "Alaska Coastal Currents," which provide information about restoration and recovery of the EVOS area. The Oil Spill Public Information Center (OSPIC) has logged over 9,000 "hits" on the EVOS Home Page on Internet. Carol Fries and Dorothy Mortenson reported on the project to synthesize scientific information and create an automated bibliography and geographic information system (GIS) database. Chris Beck outlined thoughts (attachment #10) on priorities for public information efforts—PAG members were asked to comment on the draft priorities. Pam Brodie noted that the Pratt Museum's traveling exhibit about EVOS was a useful public information tool. McCammon asked if the newsletter was worthwhile—PAG response was yes.

Ernie Piper reported on the residual oiling workshop, held in November 1995. Checking shorelines for oil is expensive. Oil is now stable and will not change much, so future monitoring may not be cost-effective. Residual oil appears not to be harmful to harbor seals. At issue is the perception of cleanliness—would you buy food from a dirty supermarket? The cleanup of residual oil in a high-use subsistence area, e.g., around Chenega, would cost $2-3 million. Key questions are: Can we technically remove the oil? Would the cleanup hurt the environment more than leaving the oil? Is it cost-effective? What regulatory authority do we have to do this? Is there precedent to do a cleanup this far beyond the end of response?

Options for cleanup around Chenega will be presented to the Trustee Council for a decision in the near future.

Jim King reviewed his proposal (attachment #1) to create a University of Alaska endowed chairs program with restoration reserve funds. McCammon stated that the Trustee Council believes it would be premature to begin a full-scale public discussion of uses for the reserve fund for at lest another 1-2 years

Options for the next PAG field trip were discussed. A May or September trip to Homer, Seldovia, and Port Graham was outlined (attachment #11). No decision was made.

PAG members offered comments:

—Nancy Lethcoe is interested in small parcel acquisitions.
—Kim King encourages consideration of University endowed chairs.
—John French supports the endowed chairs concept.
—Jim Diehl supports the endowed chairs and is concerned about logging impacts on the Kenai Peninsula.
—Sheri Buretta encourages including Natives in reserve fund discussions.
—Pam Brodie suggests looking at how public lands in the EVOS area are managed.
—Kim Benton stated the public information/GIS program looked good.
—Rupert Andrews thought that our knowledge had advanced substantially since the spill.
—Vern McCorkle asked that PAG members get extra copies of the Annual Report and pass them along, and that PAG members read the recovery update information mailed to them.

McCammon identified several items for consideration over the long-term: a synthesis of scientific reports, the 10th anniversary of the spill in March 1999 (a book describing 10 years of restoration efforts and a 10-year spill symposium are planned), the last Exxon payment is scheduled for 2001, and formal long-term planning for the restoration reserve will begin in the next 1-3 years.

The meeting adjourned at 4:00 p.m.

H. FOLLOW-UP:

1. McCammon will mail the EVOS Audit Report to PAG members.

2. McCammon will arrange to have the EVOS Audit Team give a presentation at the June PAG meeting.

3. McCammon will arrange for a presentation by Bob Spies on the Wales spill at a future PAG meeting.

4. Vern McCorkle and John French volunteered to participate in the development of the FY 1997 Work Plan on May 23.

5. McCammon will follow-up on timing for the PAG field trip.

6. PAG members are to send updates of addresses and phone numbers (attachment #12) to Cherri Womac—this information is available to the public.

I. NEXT MEETINGS:

—PAG field trip: either mid-May or mid-September (to be determined)
—PAG meeting: June 5, 1996
—PAG meeting: August 7, 1996
—Trustee Council meeting in Juneau: May 2, 1996

J. ATTACHMENTS:

1. Letter from PAG Member James King: A University of Alaska Endowment Plan

(for those not present):

2. Letter from Marilyn Talmage: Valdez Duck Flats Parcel
3. Memorandum from Molly McCammon: Small Parcel Habitat Protection Program
4. Memorandum from Molly McCammon: EVOS Amendment to CSHB 468 (FIN)
5. Memorandum from Molly McCammon: Update on EVOS Information/Communication
6. Calendar: FY 1997 Work Plan
7. Sound Waste Management Plan
8. 1996 Restoration Workshop Agenda
9. Graph of Marine Species Abundance
10. Memorandum from Chris Beck: Setting Priorities for Public Information
11. Scenarios for PAG Field Trip
12. EVOS PAG Member Names/Addresses/Telephones

K. CERTIFICATION:

_____ _____

PAG Chairperson **Date**

14.2.21m

Meeting Summary

A. GROUP: *Exxon Valdez* Oil Spill Public Advisory Group (PAG)

B. DATE/TIME: June 5, 1996

C. LOCATION: Anchorage, Alaska

D. MEMBERS IN ATTENDANCE:

Name	Principal Interest
Rupert Andrews	Sport Hunting and Fishing
Chris Beck	Public-at-Large
Kim Benton	Forest Products
Pam Brodie	Environmental
Sheri Burretta	Public-at-Large
Chip Dennerlein	Conservation
James King	Public-at-Large
Eleanor Huffines (for Lethcoe)	Commercial Tourism
Mary McBurney	Aquaculture
Vern McCorkle	Public-at-Large
Brenda Schwantes	Subsistence

E. NOT REPRESENTED:

Name	Principal Interest
Jim Diehl	Recreation Users
Dave Cobb	Local Government
John French	Science/Academic
Thea Thomas	Commercial Fishing
Chuck Totemoff	Native Landowners
Gordon Zerbetz	Public-at-Large
Georgianna Lincoln (*ex officio*)	Alaska State Senate
Alan Austerman (*ex officio*)	Alaska State House

F. OTHER PARTICIPANTS:

Name	Organization
Catherine Berg	Fish and Wildlife Service
Ann Brunner	Observer
Veronica Christman	Trustee Council Staff
Traci Cramer (telecon)	Trustee Council Staff
Dave Gibbons	U.S. Forest Service

Ken Holbrook	U.S. Forest Service
Molly McCammon	Trustee Council Executive Director
Max Mertz (telecon)	Elgee, Rehfield & Funk
Doug Mutter	Designated Federal Officer, Dept. of Interior
Eric Myers	Trustee Council Staff
Allison Nieholm	Chugachmiut
Ernie Piper	AK Dept. of Envir. Conservation
Bud Rice	National Park Service
Monica Riedel (telecon)	AK Native Harbor Seal Commission
Sandra Schubert	Trustee Council Staff
Stan Senner	Trustee Council Staff
Bob Spies	Chief Scientist
Joe Sullivan	AK Dept. Fish and Game
Ray Thompson	U.S. Forest Service
Martha Vlasoff	EVOS Community Coordinator
Cherri Womac	Trustee Council Staff

G. SUMMARY:

The meeting was opened June 5 at 9:15 a.m. by Vern McCorkle, Chairperson. Roll call was taken, a quorum was not present. Adoption of the minutes of the March 13, 1996, meeting was postponed due to lack of a quorum.

Molly McCammon provided the Executive Director's report. She reviewed the status of habitat protection actions, including the small parcel project (attachment #1), and the large parcel effort (attachment #2). The Trustee Council hopes to conclude the major land protection agreements under the large parcel protection program this fall/winter. How long the small parcel program will continue is under active consideration. Sheri Burretta read a letter from Chugachmiut (attachment #3) supporting the Chenega Bay IRA Council's opposition to purchase of Native lands.

McCammon reported that a revision of the Trustee Council Financial Procedures is being reviewed by agencies. Village meetings were held on Kodiak Island in March 1996. The Trustee Council will hold a public meeting in Kodiak on June 15. The PAG field trip is planned for a tour of the southern Kenai Peninsula in September—a decision is yet to be made on flying straight back from Homer or touring habitat of interest in the Kenai Fjords National Park on the way to Anchorage.

Martha Vlasoff is preparing draft Traditional Ecological Knowledge protocols for possible adoption by the Trustee Council and spill area communities. She discussed current community involvement efforts (attachment #4).

Chip Dennerlein asked if there was any link to lifting the oil export ban and providing people with information and equipment for response to future spills. McCammon said other funds would be used for response equipment, but that EVOS-generated information may be relevant to spill response planning. Dennerlein also asked about PSP in shellfish, injury to crab populations at Kodiak, and management of sea otters as mitigation. Bob Spies said that PSP

was not related to the spill and that the APEX project was examining potential factors affecting crabs and shrimp as well as predation by sea otters.

Stan Senner discussed a request (copy mailed to PAG in the pre-meeting packet) for the collection of seabird chicks in support of studies for the APEX project. About 20 Tufted Puffins and 20 Blacklegged Kittiwakes from the Barren Islands would be collected, with negligible impact to the population. PAG members spoke in support of the study.

McCammon outlined plans for the 10th anniversary of EVOS in March 1999. A book will be published and a symposium held in Anchorage with a 1-day general overview and 3-4 days of technical presentations. This will be a project in the 1998 and 1999 work plans. The focus will be on: 1) what happened regarding injury and recovery over 10 years; 2) what we have learned about the ecosystem; and 3) the benefit of the restoration efforts. PAG members are welcome to participate on the planning committee. Pam Brodie encouraged John French and Jim King to participate in the scientific effort. Martha Vlasoff encouraged Brenda Schwantes, Sheri Burretta, and Chuck Totemoff to participate in the social impacts portion. This is also an opportunity for public education, and McCammon suggested a small PAG subgroup may want to examine this.

Traci Cramer and Max Mertz reported (via teleconference) on the results of the audit. The reports were previously mailed to PAG members. The audit covered use and management of the trust funds from the start of the civil settlement, financial procedures and expenditures for restoration projects in FY 1995. One key recommendation being followed up on is the reduction of fees the federal court charges for managing EVOS accounts.

McCammon introduced the preliminary draft of the Executive Director's recommendations for restoration projects in FY 1997. Continuing project requests total about $17 million, which is more than the total desired, including new projects. McCammon indicated the need to take a hard look at budgets across the board. Spies discussed the 4-day project planning workshop held this spring. He said they took a hard look at what was normal agency management, even when dealing with injured resources. McCorkle and French participated for the PAG. Dennerlein suggested looking at more ways to partnership and share costs with other organizations.

McCammon asked the PAG for a general sense of whether the work plan and projects are on track. The schedule is: June 17 draft out for public review; August 6 a public comment meeting will be held; August 7 PAG meets to take action on work plan; August 9 public comments due; and August 29 the Trustee Council will take action.

At 1:00 public comment was taken. Allison Nieholm commented in support of the Youth Area Watch project and its expansion to include other communities. Two comments were submitted via teleconference. Monica Riedel (attachment #7), stated that Native organizations should provide oversight of traditional ecological knowledge data. Bob Hendrichs (attachments #8 and #9) felt the Department of the Interior has a conflict of interest in serving Native needs through the Bureau of Indian Affairs versus habitat acquisition via EVOS (to which he objected).

Spies and Senner outlined the pink salmon project cluster, particularly identifying proposed approved projects. Eleanor Huffines stated there was controversy over the location of remote salmon release sites in PWS.

Sandra Schubert and Veronica Christman reviewed the subsistence cluster.

Burretta stated that rural communities were at a disadvantage for submitting technical proposals and competing with other agencies and institutions. McCammon said that even ideas in paragraph form were considered, with Trustee Council staff assistance available to assist in refining into a project proposal and that there was plenty of opportunity for public review and input. Schwantes supported community-oriented projects. Chris Beck said that there was not much lead time for review of the project lists before this meeting.

Dividing the work plan review into PAG subgroups based on project clusters was discussed as a way to get a more thorough understanding of projects without being overwhelmed. Pam Brodie said that the PAG already does this on an informal basis by focussing on projects of interest.

PAG members questioned the end result of project 97281—Habitat Improvement Through Redesigned Forest Workshops, since similar meetings are already held in Cordova. Mary McBurney said they should include an implementation plan. McCammon agreed, stating that is why they are requiring shared funding and a clear statement of what the product will be.

Christman discussed the archaeology cluster. Rupe Andrews asked about the connection of 97277 to injured resources—archaeological repositories preserve artifacts recovered during spill cleanup, damage assessment, and restoration efforts. Schwantes asked if the stewardship program used local people—Christman responded yes. Schwantes said most project money should be used for local stewardship efforts, not agencies. There was discussion about how sites were chosen and how many artifacts were involved.

Christman outlined the marine pollution cluster and discussed the implementation of the Sound Waste Management Plan for Kodiak. Andrews said the waste management projects were useful for preventing further injury. McCammon said the same effort may be done for Cook Inlet communities.

Senner presented the habitat improvement cluster. Brodie asked about the success of boardwalks for control of riverbank fishing. Dennerlein said that education, engineering and enforcement were all required for the success of fishing and recreation use controls.

McCammon outlined the public information and education cluster and the research facilities cluster. She also discussed the administration budget (attachments #5 and #6). She noted that the budget was being reduced each year, but that additional Trustee Council attention was required to further streamline agency costs. Plans are for OSPIC to transition to a regional library consortium with reduced EVOS funds. McCammon also noted that the 2-year term for PAG members was up this fall, so a new round of appointments for the 17 members would be undertaken.

Spies and Senner discussed the nearshore ecosystem cluster. Harlequin ducks are still a concern in the spill area. They also outlined the seabird and forage fish cluster. Senner discussed funding to supplement the National Science Foundation effort to process 1,500 dead birds from EVOS and place them in a permanent repository for future research use. McCorkle said it was a good deal.

Benton asked how close to the $16 million target for FY 97 projects we were. Senner said we were now at $16.5 million for new and continuing projects.

PAG members offered closing comments:

--Benton said it was good to have the budget close to the goal, as that made decisions easier.

--Dennerlein said the process improves each time and is more responsive to local concerns.

--King praised Molly and the staff for their good work.

--McBurney thought the work plan process was working well.

The meeting adjourned at 4:00 p.m.

H. FOLLOW-UP:

1. PAG members are to send comments to McCammon on the return itinerary for the September field trip.

2. Chris Beck, Mary McBurney, and Vern McCorkle will form a PAG subgroup to review projects 97250, 97100, and 97126.

I. NEXT MEETINGS:

--PAG meeting: August 7, 1996

--PAG field trip to Homer, Port Graham, Nanwalek, Seldovia: September 18-19, 1996

J. ATTACHMENTS:

(for those not present):

1. Habitat Protection Program: Small Parcels Status Report, June 4, 1996
2. Habitat Protection Program: Large Parcels Status Report, June 4, 1996
3. Letter of June 3, 1996 from Chugachmiut
4. Report for the PAG on the Community Involvement Project, June 5, 1996
5. Administration, Science Management and Public Information Project Description
6. Administration, Science Management and Public Information Project Budget
7. Alaska Native Harbor Seal Commission Letter
8. Copper River/PWS Native Fishermen's Association Letter
9. The Native Village of Eyak Tribal Council Letter

K. CERTIFICATION:

PAG Chairperson	**Date**

14.2.21 L

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178

TRUSTEE COUNCIL MEETING ACTIONS

June 28, 1996 @ 8:30 a.m.

DRAFT

By Molly McCammon
Executive Director

Trustee Council Members Present:

Phil Janik, USFS
•Deborah Williams, USDOI
*Steve Pennoyer, NMFS
Frank Rue, ADF&G
Michele Brown, ADEC
•Craig Tillery, ADOL

* Chair
• Alternates:
Deborah Williams served as an alternate for George T. Frampton, Jr. for the entire meeting.
Craig Tillery served as an alternate for Bruce Botelho for the entire meeting.

1. Approval of the Agenda

APPROVED MOTION: Approved the Agenda. Motion by Williams, second by Tillery. (Attachment A)

APPROVED MOTION: Approved May 2, 17 and 31, 1996, Trustee Council meeting notes. Motion by Williams, second by Tillery. (Attachment B)

2. Prince William Sound Residual Oil and Cleanup Proposal

APPROVED MOTION: Authorized funds not to exceed $1.9 million for Phases 1 and 2 of the shoreline cleanup project. Phase 1 is the development of the remediation plan and Phase 2 is the cleanup itself with the actual funding contingent on what plan gets developed in Phase 1. Motion by Janik, second by Rue. (Attachment C)

3. Technical Budget Amendments

APPROVED MOTION: Authorize additional funds to the U.S. Department of the Interior as follows: $11,400 for personnel costs on new Project 96326, $5,300 in contractual costs for Project 96025, and $6,300 in equipment costs for Project 96161. Motion by Williams, second by Brown. (Attachment D)

DRAFT

4. Executive Session

APPROVED MOTION: Adjourn into Executive Session for the purpose of discussion on Habitat Protection of Large and Small Parcels. Motion by Williams, second by Rue.

Off Record at 9:00 a.m.
On Record at 9:52 a.m.

5. Small Parcel

APPROVED MOTION: Authorized negotiators to offer approved appraisal price for KAP 99, KAP 115, KAP 135, and KEN 1034. Motion by Williams, second by Brown.

6. Amend November 20, 1995 Tulin Resolution

APPROVED MOTION: Authorized amendment on the November 20, 1995 Tulin Parcel (KEN 29) Resolution to include on the last sentence on page three: "As one of the conditions for acquisition of a number of small parcels that a satisfactory title search is completed by the acquiring government and the seller is willing and able to convey fee simple title by warranty deed except that with respect to Parcel KEN 29, the sellers may reserve certain oil and gas rights that will not affect the restoration rights of the property and provided that sellers will make their best efforts to insure that in no event may the surface of the property be used or altered in any way for purpose of oil and gas exploration or production." Motion by Tillery, second by Rue.

Meeting adjourned at 10:10 a.m.

raw

14.2.21 k

Exxon Valdez Oil Spill Trustee Council

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

MEMORANDUM

TO: Trustee Council

THROUGH: Molly McCammon
Executive Director

FROM: Traci Cramer
Administrative Officer

DATE: July 19, 1996

RE: Financial Report as of June 30, 1996

Attached is the Statement of Revenue, Disbursements and Fees, and accompanying notes for the *Exxon Valdez* Joint Trust Fund for the period ending June 30, 1996.

The following is a summary of the information incorporated in the notes and contained on the statement.

Joint Trust Fund Account Balance	$52,830,224	
Less: Current Year Commitments (Note 5)	$26,379,000	
Plus: Adjustments (Note 6)	$4,411,185	
Uncommitted Fund Balance		$30,862,409
Plus: Future Exxon Payments (Note 1)	$420,000,000	
Less: Remaining Reimbursements (Note 3)	23,300,000	
Less: Remaining Commitments (Note 7)	$70,091,667	
Total Estimated Funds Available		$357,470,742
Restoration Reserve		$35,996,170

If you have any questions regarding the information provided please give me a call at 586-7238.

attachments

cc: Agency Liaisons
Bob Baldauf

NOTES TO THE STATEMENT OF REVENUE, DISBURSEMENTS AND FEES
FOR THE *EXXON VALDEZ* JOINT TRUST FUND
As of June 30, 1996

1. Contributions - Pursuant to the agreement Exxon is to pay a total of $900,000,000.

Received to Date	$480,000,000
Future Payments	$420,000,000

2. Interest Income - In accordance with the MOA, the funds are deposited in the United States District Court, Court Registry Investment System (CRIS). All deposits with CRIS are maintained in United States government treasury securities with maturities of 100 days or less. Total earned since the last report is $186,270.

3. Reimbursement of Past Costs - Under the terms of the agreement, the United States and the State are reimbursed for expenses associated with the spill. The remaining reimbursements represents that amount due the State of Alaska.

4. Fees - CRIS charges a fee of 10% for cash management services. Total paid since the last report is $18,627.

5. Current Year Commitments - Includes $12,456,000 for the Alaska SeaLife Center, an increase of $23,000 for the 1996 Work Plan, $1,900,000 for the Chenega Clean-up Project, and the following land payments.

Seller	Amount	Due
Koniag, Incorporated	$4,500,000	September 1996
Akhiok-Kaguyak	$7,500,000	September 1996

6. Adjustments - Under terms of the Agreement, both interest earned on previous disbursements and prior years unobligated funding or lapse are deducted from future court requests. Unreported interest and lapse is summarized below.

	Interest	Lapse
United States	$62,999	$772,775
State of Alaska	$1,095,637	$2,479,774

7. Remaining Commitments - Includes the following land payments.

Seller	Amount	Due
Shuyak	$2,194,266	October 1996
Shuyak	$20,000,000	October 1997 through 2001
Shuyak	$11,805,734	October 2002
Seal Bay	$3,091,667	November 1996
Akhiok-Kaguyak	$7,500,000	September 1997
Koniag, Incorporated	$9,000,000	September 1997 and 1998
Koniag, Incorporated	$16,500,000	September 2002

C:\WPWIN60\WPDOCS\FR696.WPD

STATEMENT OF REVENUE, DISBURSEME[illegible]AND FEES
EXXON VALDEZ OIL SPILL JOINT TRUST FUND
As of June 30, 1996

	1993	1994	1995	To Date 1996	Cumulative Total
REVENUE:					
Contributions: (Note 1)					
Contributions from Exxon Corporation	250,000,000	70,000,000	70,000,000	0	480,000,0
Less: Credit to Exxon Corporation for clean-up costs incurred	(39,913,688)				(39,913,6
Total Contributions	210,086,312	70,000,000	70,000,000	0	440,086,3
Interest Income: (Note 2)					
Exxon Corporation escrow account					831,2
Joint Trust Fund Account	1,378,000	3,736,000	5,706,666	3,080,245	14,496,9
Total Interest	1,378,000	3,736,000	5,706,666	3,080,245	15,328,1
Total Revenue	**211,464,312**	**73,736,000**	**75,706,666**	**3,080,245**	**455,414,4**
DISBURSEMENTS:					
Reimbursement of Past Costs: (Note 3)					
State of Alaska	29,000,000	25,000,000			83,267,8
United States	36,117,165	6,271,600	2,697,000	0	69,812,0
Total Reimbursements	65,117,165	31,271,600	2,697,000	0	153,079,8
Disbursements from Joint Trust Account:					
State of Alaska	18,529,113	44,546,266	41,969,669	18,784,065	130,388,31
United States	9,105,881	6,008,387	48,019,928	12,229,224	81,683,9
Transfer to the Restoration Reserve				35,996,231	35,996,2
Total Disbursements	27,634,994	50,554,653	89,989,597	67,009,519	248,068,4
FEES:					
U.S. Court Fees (Note 4)	154,000	364,000	586,857	308,025	1,435,8
Total Disbursements and Fees	**92,906,159**	**82,190,253**	**93,273,454**	**67,317,544**	**402,584,2**
Increase (decrease) in Joint Trust	**118,558,153**	**(8,454,253)**	**(17,566,788)**	**(64,237,299)**	**52,830,2**
Joint Trust Account Balance, beginning balance	24,530,411	143,088,564	134,634,311	117,067,523	
Joint Trust Account Balance, end of period	143,088,564	134,634,311	117,067,523	52,830,224	
Current Year Commitments: (Note 5)					(26,379,0
Adjustments: (Note 6)					4,411,1
Uncommitted Fund Balance					30,862,4
Remaining Reimbursements (Note 3)					(23,300,0
Remaining Commitments: (Note 7)					(70,091,6
Total Estimated Funds Available					357,470,7
Restoration Reserve					35,996,1

14.2.21 g

OIL SPILL PUBLIC INFORMATION CENTER
645 G Street
Anchorage, AK 99501
(907) 278-8008
(907) 265-9359 fax
1-800-478-7745 Alaska
1-800-283-7745 outside Alaska

Final Reports
June 1996

Attached is a list of published final reports for Natural Resource Damage Assessment Studies and Restoration Projects. Copies of these reports may be checked out from the Oil Spill Public Information Center. Copies are also available for viewing at the following libraries:

A. Holmes Johnson Library - Kodiak
Alaska Historical Library - Juneau
Alaska Resources Library - Anchorage
Alaska State Library - Juneau
Alaska Department of Environmental Conservation Library - Juneau
Alaska Department of Fish and Game Habitat Library - Anchorage
Auke Bay Fisheries Lab Library - Juneau
Cordova Public Library - Cordova
E.E. Rasmusson Library - University of Alaska, Fairbanks
Fairbanks North Star Borough Library - Fairbanks
Kenai Community Library - Kenai
Ketchikan Public Library - Ketchikan
Kuskokwim Consortium Library - Bethel
Library of Congress - Washington, D.C.
National Library of Canada - Ottawa
Northwest Community College Learning Resource Center - Nome
Tuzzy Consortium Library - Barrow
University of Alaska, Anchorage Consortium Library - Anchorage
University of Alaska, Southeast Library - Juneau
University of Washington Library - Seattle
U.S. Fish and Wildlife Service Library - Anchorage
Valdez Consortium Library - Valdez
Z.J. Loussac Library - Anchorage

Copies of the final reports may be purchased from the following:

Anchorage Copy Centers:
Clay's Printing - (907) 561-6270
TimeFrame - (907) 562-3822
National Technical Information Service (NTIS) - (703) 487-4650

FINAL REPORTS

June 1996

Natural Resource Damage Assessment Studies

* = new additions to this list.

Air/Water 3

Short, J.W. and P.M. Harris. 1996. Petroleum hydrocarbons in near-surface seawater of Prince William Sound, Alaska, following the *Exxon Valdez* oil spill I: Chemical sampling and analysis, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Air/Water Study Number 3), National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Auke Bay, Alaska.

Air/Water 3 (Subtidal 3A)

Short, J.W. and P. Rounds. 1995. Petroleum hydrocarbons in near-surface seawater of Prince William Sound, Alaska, following the *Exxon Valdez* oil spill II: analysis of caged mussels, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Air/Water Study Number 3, Subtidal Study Number 3A), National Oceanic and Atmospheric Administration, Juneau, Alaska.

Archaeology 1

Reger, D.R., J.D. McMahan, and C.E. Holmes. 1992. Effect of crude oil contamination on some archaeological sites in the Gulf of Alaska, 1991 investigations, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Archaeology Study Number 1), Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation, Office of History and Archaeology, Anchorage, Alaska.

*Coastal Habitat 1B

Babcock, M.B. and J.W. Short. 1996. Prespill and postspill concentrations of hydrocarbons in sediments and mussels in intertidal sites within Prince William sound and the Guld of Alaska, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Coastal Habitat Study Number 1B), National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Auke Bay Laboratory, Juneau, Alaska.

Fish/Shellfish 2

Sharr, S., B.G. Bue, S.D. Moffitt, A. Craig, and D.G. Evans. 1994. Injury to salmon eggs and preemergent fry in Prince William Sound, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Fish/Shellfish Study Number 2), Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Cordova, Alaska.

Fish/Shellfish 3

Sharr, S., C.J. Peckham, D.G. Sharp, L. Peltz, J.L. Smith, M.T. Willette, D.G. Evans, and B.G. Bue. 1996. Coded wire tag studies on Prince William Sound salmon, 1989-1991, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Fish/Shellfish Study Number 3), Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Anchorage, Alaska.

Fish/Shellfish 4

Wertheimer, A.C., A.G. Celewycz, M.G. Carls, and M.V. Sturdevant. 1994. Impact of the oil spill on juvenile pink and chum salmon and their prey in critical nearshore habitats, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Fish/Shellfish Study Number 4, NMFS Component), National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Auke Bay Laboratory, Juneau, Alaska.

Fish/Shellfish 4A

Willette, T.M., G. Carpenter, P. Shields, and S.R. Carlson. 1994. Early marine salmon injury assessment in Prince William Sound, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Fish/Shellfish Study Number 4A), Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Cordova, Alaska.

*Fish/Shellfish 5 (Restoration 90)

Hepler, K.R., P.A. Hansen and D.R. Bernard. 1994. Impact of oil spilled from the *Exxon Valdez* on survival and growth of Dolly Varden and cutthroat trout in Prince William Sound, Alaska, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Fish/Shellfish Study Number 5; Restoration Study Number 90), Alaska Department of Fish and Game, Division of Sport Fish, Anchorage, Alaska.

Fish/Shellfish 7B and 8B

Swanton, C.O., T.J. Dalton, B.M. Barrett, D. Pengilly, K.R. Brennan, and P.A. Nelson. 1993. Effects of pink salmon (Oncorhynchus gorbuscha) escapement level of egg retention, preemergent fry, and adult returns to the Kodiak and Chignik management areas caused by the *Exxon Valdez* oil spill, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Fish/Shellfish Study Number 7B and 8B), Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Kodiak, Alaska.

Fish/Shellfish 18

Haynes, E., T. Rutecki, M. Murphy, and D. Urban. 1995. Impacts of the *Exxon Valdez* oil spill on bottomfish and shellfish in Prince William Sound, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Fish/Shellfish Study Number 18), U.S. National Marine Fisheries Service, Auke Bay Laboratory, Juneau, Alaska.

Fish/shellfish 22

Freese, J.L. and C.E. O'Clair. 1995. Injury to crabs outside Prince William Sound, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Fish/Shellfish Study Number 22), National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Auke Bay Laboratory, Juneau, Alaska.

Fish/Shellfish 27

Schmidt, D.C., K.E. Tarbox, B.M. Barrett, L.K. Brannian, S.R. Carlson, J.A. Edmundson, J.M. Edmundson, S.G. Honnold, B.E. Kind, G.B. Kyle, P.A. Roche, P. Shields, and C.O. Swanton. 1993. Sockeye salmon overescapement, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Fish/Shellfish Study Number 27), Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Soldotna, Alaska.

Fish/Shellfish 30

DiCostanzo, C. and B.P. Simonson. 1993. Database management, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Fish/Shellfish Study Number 30), Alaska Department of Fish and Game, Division of Commercial Fisheries, Juneau, Alaska.

Marine Mammal 1

Dahlheim, M.E. and O. von Ziegesar. 1993. Effects of the *Exxon Valdez* oil spill on the abundance and distribution of humpback whales (Megaptera novaeangliae) in Prince William Sound, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 1), U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Seattle, Washington.

Marine Mammal 2

Dahlheim, M.E. and C.O. Matkin. 1993. Assessment of injuries to killer whales in Prince William Sound, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 2), U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Seattle, Washington.

Marine Mammal 5 (Restoration Study 73)

Frost, K.J. and L.F. Lowry. 1994. Assessment of injury to harbor seals in Prince William Sound, Alaska, and adjacent areas following the *Exxon Valdez* oil spill, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 5, Restoration Study Number 73), Alaska Department of Fish and Game, Wildlife Conservation Division, Fairbanks, Alaska.

Marine Mammal 6-1

Ballachey, Brenda. 1995. Biomarkers of damage to sea otters in Prince William Sound, Alaska following potential exposure to oil spilled from the *Exxon Valdez* oil spill, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 6-1), U.S Fish and Wildlife Service, Anchorage, Alaska.

Marine Mammal 6-5

Bodkin, J.L. and M.S. Udevitz. 1995. An intersection model for estimating sea otter mortality from the *Exxon Valdez* oil spill along the Kenai Peninsula, Alaska, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 6-5), U.S Fish and Wildlife Service, Anchorage, Alaska.

Marine Mammal 6-7

DeGange, A.R., D.C. Douglas, D.H. Monson, and C.M. Robbins. 1995. Surveys of sea otters in the Gulf of Alaska in response to the *Exxon Valdez* oil spill, *Exxon Valdez* Oil Spill

State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 6-7), U.S Fish and Wildlife Service, Anchorage, Alaska.

Marine Mammal 6-9

Doroff, A.M., and A.R. DeGange. 1995. Experiments to determine drift patterns and rates of recovery of sea otter carcasses following the *Exxon Valdez* oil spill, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 6-9), U.S Fish and Wildlife Service, Anchorage, Alaska.

Marine Mammal 6-12

Monnett, C. and L.M. Rotterman. 1992. Movements of weanling and adult female sea otters in Prince William Sound, Alaska after the T/V *Exxon Valdez* oil spill, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 6-12), U.S Fish and Wildlife Service, Anchorage, Alaska.

Marine Mammal 6-13

Monnett, C. and L.M. Rotterman. 1992. Mortality and reproduction of female sea otters in Prince William Sound, Alaska, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 6-13), U.S Fish and Wildlife Service, Anchorage, Alaska.

Marine Mammal 6-14

Monnett, C. and L.M. Rotterman. 1992. Mortality and reproduction of sea otters oiled and treated as a result of the *Exxon Valdez* oil spill, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 6-14), U.S Fish and Wildlife Service, Anchorage, Alaska.

Marine Mammal 6-15

Monson, D.H. and B. Ballachey. 1995. Age distributions of sea otters found dead in Prince William Sound, Alaska following the *Exxon Valdez* oil spill, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 6-15), U.S Fish and Wildlife Service, Anchorage, Alaska.

Marine Mammal 6-18

Rotterman, L.M. and C. Monnett. 1991. Mortality of sea otter weanlings in eastern and western Prince William Sound, Alaska, during the winter of 1990-91, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study

Number 6-18), U.S Fish and Wildlife Service, Anchorage, Alaska.

Marine Mammal 6-19

Udevitz, M.S., J.L. Bodkin, and D.P. Costa. 1995. Detection of sea otters in boat-based surveys of Prince William Sound, Alaska, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 6-19), U.S Fish and Wildlife Service, Anchorage, Alaska.

Restoration Study 47

Kuwada, M.N., and K. Sundet. 1993. Stream Habitat assessment project: Afognak Island, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Restoration Study 47), Alaska Department of Fish and Game, Habitat and Restoration Division, Anchorage, Alaska.

Restoration Study 60A

Sharr, S., C.J. Peckham, D.G. Sharp, J.L. Smith, D.G. Evans, and B.G. Bue. 1995. Coded wire tag studies on Prince William Sound salmon, 1992, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Restoration Study 60A), Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Anchorage, Alaska.

Restoration Study 60C

Sharr, S., J.E. Seeb, B.G. Bue, A. Craig, and G.D. Miller. 1994. Injury to salmon eggs and preemergent fry in Prince William Sound, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Restoration Study 60C), Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Anchorage, Alaska.

Restoration Study 102

Highsmith, R.C., M.S. Stekoll, P.G. van Tamelen, A.J. Hooten, L. Deysher, L. McDonald, D. Strickland, and W.P. Erickson. 1993. Herring Bay experimental and monitoring studies, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Restoration Study 102), Alaska Department of Fish and Game, Habitat and Restoration Division, Anchorage, Alaska.

State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 6-7), U.S Fish and Wildlife Service, Anchorage, Alaska.

Marine Mammal 6-9

Doroff, A.M., and A.R. DeGange. 1995. Experiments to determine drift patterns and rates of recovery of sea otter carcasses following the *Exxon Valdez* oil spill, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 6-9), U.S Fish and Wildlife Service, Anchorage, Alaska.

Marine Mammal 6-12

Monnett, C. and L.M. Rotterman. 1992. Movements of weanling and adult female sea otters in Prince William Sound, Alaska after the T/V *Exxon Valdez* oil spill, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 6-12), U.S Fish and Wildlife Service, Anchorage, Alaska.

Marine Mammal 6-13

Monnett, C. and L.M. Rotterman. 1992. Mortality and reproduction of female sea otters in Prince William Sound, Alaska, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 6-13), U.S Fish and Wildlife Service, Anchorage, Alaska.

Marine Mammal 6-14

Monnett, C. and L.M. Rotterman. 1992. Mortality and reproduction of sea otters oiled and treated as a result of the *Exxon Valdez* oil spill, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 6-14), U.S Fish and Wildlife Service, Anchorage, Alaska.

Marine Mammal 6-15

Monson, D.H. and B. Ballachey. 1995. Age distributions of sea otters found dead in Prince William Sound, Alaska following the *Exxon Valdez* oil spill, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study Number 6-15), U.S Fish and Wildlife Service, Anchorage, Alaska.

Marine Mammal 6-18

Rotterman, L.M. and C. Monnett. 1991. Mortality of sea otter weanlings in eastern and western Prince William Sound, Alaska, during the winter of 1990-91, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Marine Mammal Study

Resource Damage Assessment Final Report, (Subtidal Study 2B/Air Water 2), Alaska Department of Fish and Game, Habitat and Restoration Division, Anchorage, Alaska.

Subtidal 3B

Sale, D.M., J.C. Gibeaut and J.W. Short. 1995. Nearshore transport of hydrocarbons and sediments following the *Exxon Valdez* oil spill, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Subtidal Study Number 3B), Alaska Department of Environmental Conservation, Juneau, Alaska.

Subtidal 4

Wolf, D.A. 1994. Fate and toxicity of spilled oil from the *Exxon Valdez*, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Subtidal Study Number 4), National Oceanic and Atmospheric Administration, Silver Spring, Maryland.

Subtidal 5

Trowbridge, Charles. 1992. Injury to Prince William Sound spot shrimp, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Subtidal Study Number 5), Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Anchorage, Alaska.

Subtidal 6 (Fish/Shellfish 17)

Hoffmann, A. and P. Hansen. 1994. Injury to demersal rockfish and shallow reef habitats in Prince William Sound, 1989-1991, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Subtidal Study Number 6, Fish/Shellfish 17), Alaska Department of Fish and Game, Division of Sport Fish, Anchorage, Alaska.

Subtidal 7

Varanasi, U., T.K. Collier, C.A. Krone, M.M. Krahn, L.L. Johnson, M.S. Myers, and S.-L. Chan. 1995. Assessment of oil spill impacts on fishery resources: measurement of hydrocarbons and their metabolites, and their effects, in important species, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Subtidal Study Number 7), National Marine Fisheries Service, NOAA, Seattle, Washington.

*Terrestrial Mammal 3

Faro, J.B., R.T. Bowyer, J.W. Testa, and L.K. Duffy. 1994. Assessment of injury to river otters in Prince William Sound, Alaska, following the *Exxon Valdez* oil spill, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Final Report (Terrestrial

Mammal Study Number 3), Alaska Department of Fish and Game, Wildlife Conservation Division, Soldotna, Alaska.

Restoration Projects

* = new additions to this list.

93003

Sharr, S., J.E. Seeb, G.B. Bue, A. Craig, G.D. Miller. 1994. Injury to salmon eggs and preemergent fry in Prince William Sound, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 93003), Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Cordova, Alaska.

93017

Miraglia, R.A. 1995. Subsistence Restoration Project, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 93017), Alaska Department of Fish and Game, Division of Subsistence, Anchorage, Alaska.

93034

Sanger, G.A. and M.B. Cody. 1994. Survey of pigeon guillemot colonies in Prince William Sound, Alaska, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 93034), U.S Fish and Wildlife Service, Anchorage, Alaska.

93042/94092

Dahlheim, M.E. and C.O. Matkin. 1994. Assessment of injuries and recovery monitoring of Prince William Sound killer whales using photo-identification techniques, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 93042/94092), U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Seattle, Washington.

*93043-2

Bodkin, J.L. and M.S. Udevitz. 1996. 1993 Trial aerial survey of sea otters in Prince William Sound, Alaska, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 93043-2), National Biological Service, Anchorage, Alaska.

93045

Agler, B.A., P.E. Seiser, S.J. Kendall, and D.B. Irons. 1994. Marine bird and sea otter population abundance of Prince William Sound, Alaska: trends following the *T/V Exxon Valdez* oil spill, 1989-93, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 93045), U.S Fish and Wildlife Service, Anchorage, Alaska.

93047 (Subtidal Study 2A)

Jewett, S.C., and T.A. Dean, R.O. Smith, M. Stekoll, L.J. Haldorson, D.R. Laur, and L. McDonald. 1995. The Effects of the *Exxon Valdez* oil spill on shallow subtidal communities in Prince William Sound, Alaska 1989-93, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 93047, Subtidal Study Number 2A), Alaska Department of Fish and Game, Habitat and Restoration Division, Anchorage, Alaska.

*93047-1

O'Clair, C.E., J.W. Short, and S.D. Rice. 1996. Recovery of sediments in the lower intertidal nd subtidal environment, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 93047-1), National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Auke Bay Laboratory, Juneau, Alaska.

93047-2

Braddock, J.F. and Z. Richter. 1995. Microbiology of subtidal sediments: monitoring microbial populations, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 93047-2), University of Alaska Fairbanks, Fairbanks, Alaska.

93051

Sundet, K., M.N. Kuwada, and J. Barnhart. 1994. Stream habitat assessment project: Prince William Sound and Lower Kenai Peninsula, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 93051), Alaska Department of Fish and Game, Habitat and Restoration Division, Anchorage, Alaska.

93051B

Kuletz, K.J., D.K. Marks, N.L. Naslund, N.G. Goodson, and M.B. Cody. 1994. Information needs for habitat protection: marbled murrelet habitat identification, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 93051B), U.S. Fish and Wildlife Service, Anchorage, Alaska.

93051B - Forest Service Component

DeVelice, R.L., C. Hubbard, M. Potkin, T. Boucher, and D. Davidson. 1995. Characterization of upland habitat of the marbled murrelet in the *Exxon Valdez* oil spill area, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 93051B, Forest Service Component), USDA Forest Service, Chugach National Forest, Anchorage, Alaska.

93067

Sharr, S., C.J. Peckham, D.G. Sharp, D.G. Evans, and B.G. Bue. 1995. Coded wire tage recoveries from pink salmon in Prince William Sound salmon fisheries, 1993, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 93067), Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Anchorage, Alaska.

94007-1

Bittner, J.E. and D.R. Reger. 1995. The 1994 EVOS report, spill area site and collection plan, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 94007-1), Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation, Office of History and Archaeology, Anchorage, Alaska.

94139-B1

Wedemeyer, K. and D. Gillikin. 1995. In stream habitat and stock restoration for salmon, Otter Creek barrier bypass subproject, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 93139-B1), USDA Forest Service, Anchorage, Alaska.

94139-B2

Wedemeyer, K. and D. Gillikin. 1995. In stream habitat and stock restoration for salmon, Shrode Creek barrier bypass subproject, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 93139-B2), USDA Forest Service, Anchorage, Alaska.

94159

Agler, B.A., S.J. Kendall, P.E. Seiser, and D.B. Irons. 1995. Marine bird and sea otter abundance of Prince William Sound, Alaska: trends following the *T/V Exxon Valdez* oil spill, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 94159), U.S Fish and Wildlife Service, Anchorage, Alaska.

94173

Hayes, D.L. 1995. Recovery monitoring of pigeon guillemot populations in Prince William Sound, Alaska, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 94173), U.S Fish and Wildlife Service, Anchorage, Alaska.

95505B

Olson, R.A. 1995. Use of aerial photograph, channel-type interpretations to predict habitat availability in small streams, *Exxon Valdez* Oil Spill Restoration Project Final Report (Restoration Project 95505B), USDA Forest Service, Chugach National Forest, Anchorage, Alaska.

ANNUAL REPORTS

June 1996

Annual reports are available for viewing at the Oil Spill Public Information Center.

* = new additions to this list.

Natural Resource Damage Assessment Annual Reports

Restoration Study 53

Tarbox, K.E., D.L. Waltmyer, L.K. Brannian, R.Z. Davis, B.E. King, J.R. Fox, and S.M. Fried. 1994. Kenai River sockeye salmon restoration, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Annual Report (Restoration Study Number 53), Alaska Department of Fish and Game, Commercial Fisheries Division, Soldotna, Alaska.

Restoration Study 59

Seeb, L., J. Seeb, R. Gates, and C. Habicht. 1993. Assessment of genetic stock structure of salmonids, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Annual Report (Restoration Study Number 59), Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Anchorage, Alaska.

Restoration Study 103-1

Babcock, M.M., S.D. Rice, P.M. Harris, and C.C. Brodersen. 1996. Recovery monitoring and restoration of intertidal oiled mussel beds in Prince William Sound impacted by the *Exxon Valdez* oil spill: 1991 and 1992, *Exxon Valdez* Oil Spill State/Federal Natural Resource Damage Assessment Annual Report (Restoration Study Number 103-1), National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Auke Bay Laboratory, Juneau, Alaska.

Restoration Project Annual Reports

93015

Tarbox, K.E., R.Z. Davis, L.K. Brannian, B.E. King, J.R. Fox, and S.M. Fried. 1994. Kenai River sockeye salmon restoration, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 93015), Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Soldotna, Alaska.

93036

Babcock, M.M., S.D. Rice, and P.M. Harris. 1995. Recovery monitoring and restoration of oiled mussel beds in Prince William Sound, Alaska, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 93036), National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Auke Bay Laboratory, Juneau, Alaska.

93046

Frost, K.F., and L.F. Lowry. 1994. Habitat use, behavior, and monitoring of harbor seals in Prince William Sound, Alaska, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 93046), Alaska Department of Fish and Game, Wildlife Conservation Division, Fairbanks, Alaska.

94007-2

Reger, D., L. Yarborough, J. Schaaf, P. McClenahan, and R. Bland. 1996. Archaeological site monitoring and restoration, 1994, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 94007-2), Alaska Department of Natural Resources, Anchorage, Alaska.

94064/94320F

Frost, K.J., L.F. Lowry, and J. Ver Hoef. 1995. Habitat use, behavior, and monitoring of harbor seals in Prince William Sound, Alaska, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 94064 and 94320F), Alaska Department of Fish and Game, Wildlife Conservation Division, Anchorage, Alaska.

94090

Babcock, M.M., P.M. Harris, S.D. Rice, R.J. Bruyere, and D.R. Munson. 1995. Recovery monitoring and restoration of oiled mussel beds in Prince William Sound, Alaska, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 94090), National

Oceanic and Atmospheric Administration, National Marine Fisheries Service, Auke Bay Laboratory, Juneau, Alaska.

94163

Forage fish study in Prince William Sound, Alaska, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 94163), University of Alaska Fairbanks, School of Fisheries and Ocean Sciences, Fairbanks, Alaska.

94166

Carls, M.G., S.D. Rice, and R.E. Thomas. 1995. The impact of exposure of adult pre-spawn herring (Clupea harengus pallasi) on subsequent progeny, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 94166), National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Auke Bay Laboratory, Juneau, Alaska.

94191-2

Heintz, R.A., S.D. Rice, and J.W. Short. 1995. Injury to pink salmon eggs and preemergent fry incubated in oiled gravel (laboratory study), *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 94191-2), National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Auke Bay Laboratory, Juneau, Alaska.

94255

Tarbox, K.E., R.Z. Davis, L.K. Brannian, and S.M. Fried. 1995. Kenai River sockeye salmon restoration, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 94255), Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Soldotna, Alaska.

94259

Edmundson, J.A., G.B. Kyle, and S.R. Carlson. 1995. Restoration of Coghill Lakes sockeye salmon: 1994 annual report on nutrient enrichment restoration, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 94259), Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Soldotna, Alaska.

94285

O'Clair, C.E., J.W. Short, and S.D. Rice. 1995. Subtidal monitoring: recovery of

sediments in the Northwestern Gulf of Alaska, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 94285), National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Auke Bay Laboratory, Juneau, Alaska.

94427

Rosenberg, D.H. 1995. Experimental harlequin duck breeding survey in Prince William Sound, Alaska, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 94427), Alaska Department of Fish and Game, Wildlife Conservation Division, Anchorage, Alaska.

*95007A

Reger, D., D. Corbett, M. Luttrell, and L. Yarborough. 1996. Archaeological site restoration, index site monitoring, 1995, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 95007A), Alaska Department of Natural Resources, Anchorage, Alaska.

*95012

Matkin, C.O., D. Scheel, G. Ellis, L. Barrett-Lennard, and E. Saulitis. 1996. Comprehensive killer whale investigation, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 95012), North Gulf Oceanic Society, Homer, Alaska.

*95076/95191B

Wertheimer, A.C., S.D. Rice, A.G. Celewycz, J.F. Thedinga, R.A. Heintz, R.F. Bradshaw,and J.M. Maselko. 1996. Effects of oiled incubation substrate on straying and survival of wild pink salmon, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 95076 and 95191B), Auke Bay Fisheries Laboratory, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Juneau, Alaska.

95272

Ferren, H. and J. Milton. 1995. Chenega chinook release program, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 95272), Prince William Sound Aquaculture Corporation, Cordova, Alaska.

95320K

Ferren, H. and J. Milton. 1995. PWSAC-PWS system investigation: experimental fry release, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 95320K), Prince William Sound Aquaculture Corporation, Cordova, Alaska.

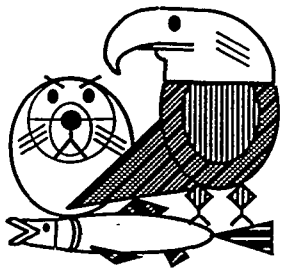
*96145

Reeves, G.H., K. Griswold, and K.P. Currens. 1996. Cutthroat trout and dolly varden in Prince William Sound, Alaska: the relation among and within populations of anadromous and resident forms, *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Project 96145), U.S. Department of Agriculture, Pacific North West Research Laboratory, Corvallis, Oregon.

14.2.21

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



Habitat Protection Program: Large Parcels Status Report

June 4, 1996

The *Exxon Valdez* Trustee Council funds the acquisition of land to protect the habitat of injured resources and services. The goals of habitat protection are to prevent additional injury to resources and services while recovery is taking place and to provide a long-term safety net for these resources.

In 1992, the Restoration Office evaluated 16 large parcels (over 1,000 acres) that were imminently threatened by development. In March 1993, the Restoration Office contacted 90 owners of large parcels in the spill area. Thirty-two landowners expressed interest in having their land considered and 850,000 acres of land were subsequently evaluated.

As of June 1996, the Council has committed $195.3 million to protect 422,000 acres of land, with parcels ranging in size from 2,000 to 120,000 acres. Seven large parcels have been purchased, including inholdings in Kachemak Bay State Park, land adjacent to Seal Bay/Tonki Cape on Afognak Island, commercial timber rights on land along Orca Narrows, lands owned by the Akhiok-Kaguyak, Inc., Old Harbor Native Corporation, and Koniag, Inc., and a 27,000-acre parcel on Shuyak Island. In May 1996, the Council offered to acquire interests in 61,000 acres of land from the Chenega Corporation. Acceptance of the offer depends on a vote of shareholders in the corporation.

In February 1996, the Council offered the Eyak Corporation $7 million for 11,200 acres near Cordova. The Corporation rejected the offer and subsequently began logging operations. By logging these lands, the Corporation terminated the offer.

Negotiations continue with six landowners to protect an additional 307,000 acres of land. The landowners are Tatitlek Corporation, Eyak Corporation, Port Graham Corporation, English Bay Corporation, Afognak Joint Venture, and Koniag, Inc. Table 1 summarizes the status of land acquisitions as of June 1996 — whether acquisitions are complete, offers have been made, negotiations continue, or offers have been rejected. Table 1 also indicates the acreage of each parcel and, if known, its purchase price, contributions from the joint trust fund, and contributions from other sources. So far, $35 million from other sources have been contributed to these acquisitions and an additional $10 million have been offered for future acquisitions.

Table 1. Status of Large Parcel Acquisitions

June 4, 1996

Parcel Description	Acreage	Total Price (Incl. Interest)	Trust Fund	Other Sources
Acquisitions Complete				
Imminently Threatened Parcels				
Kachemak Bay State Park Inholdings	23,800	$22,000,000	$7,500,000	$14,500,000
Seal Bay / Tonki Cape	41,549	$39,447,600	$39,447,600	$0
Orca Narrows (Timber Rights)	2,052	$3,650,000	$3,650,000	$0
Other Large Parcels				
Akhiok - Kaguyak, Inc.	119,885	$46,000,000	$36,000,000	$10,000,000
Old Harbor *	32,100	$14,500,000	$11,250,000	$3,250,000
Koniag (Fee Title)	59,691	$26,500,000	$19,500,000	$7,000,000
Koniag (Limited Term Easement)	56,048	$2,000,000	$2,000,000	$0
Shuyak Island	26,665	$42,000,000	$42,000,000	$0
Subtotal:	**361,790**	**$196,097,600**	**$161,347,600**	**$34,750,000**
Offers Pending				
Chenega	60,635	$34,000,000	$34,000,000	$0
Negotiations Continuing				
Afognak Joint Venture	48,728	≤$70,000,000	≤$70,000,000	$0
English Bay	49,300			
Eyak - Orca Revised and Other Lands	49,800			
Koniag (Fee Title)	56,048			
Port Graham	46,170			
Tatitlek	56,785	≤$22,000,000	≤$12,000,000	≤$10,000,000
Subtotal:	**306,831**			
Offers Rejected				
Eyak - Core Parcels	11,200	$7,000,000	$7,000,000	$0
Subtotal:	**11,200**	**$7,000,000**	**$7,000,000**	**$0**

* As part of the protection package, the Old Harbor Native Corporation agreed to protect an additional 65,000 acres of land on Sitkalidak Island as a private wildlife refuge.

Acquisitions Complete. Seven large parcels have been acquired.

Kachemak Bay. In August 1993, the state acquired surface title to 23,800 acres of private inholdings within Kachemak Bay State Park on the Kenai Peninsula. This acquisition protects a highly productive estuary, several miles of anadromous fish streams, and intertidal shoreline and upland habitat for bald eagles, marbled murrelets, river otters, and harlequin ducks. The Council contributed $7.5 million to this purchase and $14.5 million were contributed from other sources.

Seal Bay and Tonki Cape (Afognak Island). In November 1993, the state purchased surface title to 41,549 acres on northern Afognak Island. This mature spruce forest land is adjacent to highly productive marine waters, includes anadromous fish streams, and provides excellent habitat for bald eagles and marbled murrelet nesting. The Council authorized $39.4 million (including interest) for this purchase. In 1994, the Alaska State Legislature designated these lands as the Afognak Island State Park.

Orca Narrows Subparcel. In January 1995, the federal government purchased from the Eyak Corporation commercial timber rights on 2,052 acres of land in Orca Narrows. This parcel is near Cordova in Prince William Sound and contains anadromous fish streams, active bald eagle nests and favorable habitat for marbled murrelet nesting. The Council authorized $3.65 million for this acquisition.

Akhiok-Kaguyak. In May 1995, the federal government purchased from Akhiok-Kaguyak, Inc., surface title to 76,646 acres of land and conservation easements on 43,239 acres. These lands are within the Kodiak National Wildlife Refuge. The Council contributed $36 million toward this acquisition and the federal government contributed $10 million from the federal restitution fund.

Old Harbor. Also in May 1995, the federal government purchased from the Old Harbor Native Corporation surface title to 29,100 acres and conservation easements on 3,000 acres. These lands are also within the Kodiak National Wildlife Refuge. In addition, the Old Harbor Native Corporation agreed to preserve 65,000 acres of land on nearby Sitkalidak Island as a private wildlife refuge. The Council contributed $11.25 million toward this acquisition and the federal government contributed $3.25 million from the federal restitution fund.

Koniag. In November 1995, the federal government purchased from Koniag, Inc., surface title to 59,691 acres of prime habitat for bear, salmon, bald eagles, and other species in the Kodiak National Wildlife Refuge. This agreement protected an

additional 56,048 acres under a nondevelopment easement through the year 2001. The nondevelopment easement includes land along the Karluk and Sturgeon Rivers. The Council contributed $21.5 million toward this acquisition and the federal government contributed $7 million from the federal restitution fund.

Shuyak Island. In December 1995, the Council approved $42 million (including interest) to purchase from the Kodiak Island Borough surface title to 26,665 acres of prime habitat on Shuyak Island, at the northern tip of the Kodiak archipelago. The Kodiak Island Borough agreed to commit $6 million from the land sale to expansion of Kodiak's Fishery Industrial Technology Center.

As part of the purchase agreement for lands on Shuyak Island, the Council authorized up to an additional $1 million to purchase small parcels within the Kodiak Refuge that have been acquired by the Kodiak Island Borough as a result of the property owners' failure to pay borough taxes. These parcels are about 10-acres in size and occupy key waterfront locations along Uyak Bay on Kodiak Island. They are embedded in two high-ranked large parcels approved as part of the Koniag purchase agreement.

Offers Pending. An offer is pending on one large parcel.

Chenega. In May 1996, the Council authorized $34 million (or $36 million over three annual payments) for an offer to purchase 60,635 acres from Chenega Corporation. The offer includes acquisition of surface title to 37,868 acres together with a conservation easement on 22,767 acres with public access withheld on a portion of these lands (3,330 acres on the southern portion of Chenega Island in the vicinity of the original Chenega village site). Two parcels to be acquired in fee simple, the Eshamy Bay and Jackpot Bay parcels, are among the highest ranked parcels in the oil spill area.

Negotiations Continuing. Negotiations continue on six additional large parcels.

Tatitlek. In December 1994, the Council authorized up to $12 million for an offer to purchase 56,785 acres from Tatitlek Corporation. An additional $10 million would come from other sources. At the request of the Tatitlek Village Council, the Trustee Council is also negotiating to acquire timber interests from Citifor Corporation and land interests in 2,100 acres from Tatitlek Corporation at Bidarka Point and within Two Moon Bay.

Afognak Joint Venture. In December 1994, the Council authorized up to $70 million for an offer to purchase from Afognak Joint Ventures surface title to 48,728 acres on northern Afognak Island. The property consists of four dispersed parcels, three of

which are adjacent to the previously acquired Seal Bay parcel. The fourth parcel is adjacent to Shuyak Strait. A final appraisal is expected in late Fall 1996.

English Bay and Port Graham. The U.S. Department of the Interior, on behalf of the Council, is holding discussions with English Bay Corporation and Port Graham Corporation about the purchase of 95,470 acres, much of which is within Kenai Fjords National Park.

Eyak - Orca Revised and Other Lands. Parcels known as Orca Narrows, East Simpson, and Rude River, together called "Orca Revised," consist of approximately 14,800 acres. Parts of these lands have been logged since 1995. Negotiations continue with Eyak Corporation on how to protect habitat in Orca Revised that has not been logged and about 35,000 acres of other corporation lands, particularly Port Gravina, Sheep Bay, and Windy Bay.

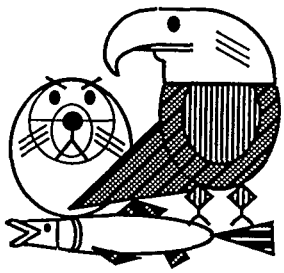
Koniag. The Council is interested in acquiring fee interest in the 56,048 acres covered by the limited term nondevelopment easement acquired in November 1995, and has agreed to maintain unobligated funds totaling $16,500,000 for this purpose. The nondevelopment easement includes land along the Karluk and Sturgeon Rivers and expires on December 2, 2001.

Offers Rejected. In February 1996, the Council authorized $7 million for an offer to purchase from Eyak Corporation fee interest in 11,200 acres adjacent to Power Creek, Eyak River, and Eyak Lake. Acquisition of these "Core Parcels" would have protected a highly productive ecosystem east of Cordova. The Eyak Corporation rejected the offer and subsequently began logging operations. By logging these lands, the Corporation terminated the offer. In addition, negotiations to protect Orca Narrows fell through in June 1995 and logging operations have commenced there.

14.2.2.1 H

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



Habitat Protection Program: Small Parcels Status Report

July 26, 1996

One of the ways the Trustee Council protects habitat for resources and services injured by the *Exxon Valdez* oil spill is by buying land that has habitat value. The Council has already protected habitat on 422,000 acres of land in large tracts. In recognition of the unique habitat qualities and strategic value of smaller tracts of land (less than 1,000 acres), the Council initiated the Small Parcel Program in 1994.

In response to a public solicitation, 285 small parcels have been nominated. Council staff evaluate, score, and rank nearly all the parcels, taking into account the resource value of the parcel, adverse impacts from human activity, and potential benefits to management of public lands. The nomination period is open-ended. The Restoration Office continues to receive and evaluate nominations.

The Council has expressed interest in acquiring 47 of the parcels that have been nominated, along with a package of lands owned by the Kenai Natives Association and key waterfront parcels that were forfeited to Kodiak Island Borough for tax delinquency. The Council has authorized offers to purchase several small parcels at appraised fair market value, and contributions of $4 million to the Kenai Natives Association Package and up to $1 million for the Kodiak Island Borough Tax Parcels.

Table 1 summarizes the status of each of the offers. Acquisitions of seven parcels have been completed. Owners of 12 additional parcels have accepted the offers. Landowners are considering offers on six parcels, negotiations continue on the Kenai Natives Association Package, and the Kodiak Island Borough Tax Parcels are being appraised. The owners of four parcels have rejected the offers.

The Council is also considering acquisition of the 19 parcels listed in **Table 2**. In most cases, the appraisal of the parcel has not yet been completed or approved. **Table 3** is a list of 17 additional parcels that have been nominated in the past year.

Table 1. Status of Small Parcel Acquisitions

July 26, 1996

Parcel ID	Description	Acres	Value	Status
Acquisitions Completed				
PWS 17	Ellamar Subdivision	22.0	$310,000	
KEN 29	Tulin Parcel	220.0	$1,200,000	
KEN 34	Cone Parcel	100.0	$600,000	
KEN 1006	Girves Parcel	110.0	$1,835,000	
KEN 1014	Grouse Lake	64.0	$211,000	
KAP 105/142	Three Saints Bay	88.0	$168,000	
	Subtotal:	**604.0**	**$4,324,000**	
Offers Accepted				
PWS 17A-D	Ellamar Subdivision	11.4	$345,500	
PWS 52	Hayward Parcel	9.5	$150,000	
KEN 10	Kobylarz Subdivision	20.0	$320,000	
KEN 54	Salamatof Parcel	1,377.0	$2,540,000	
KEN 19	Coal Creek Moorage	53.0	$260,000	
KEN 1034	Patson Parcel	76.3	$375,000	
KAP 99	Kiliuda Bay	160.0	$155,200	
KAP 115	Uyak Bay	65.0	$110,500	
KAP 135	Kiliuda Bay	70.0	$73,500	
	Subtotal:	**1,842.2**	**$4,329,700**	
Offers Under Review				
KEN 55	Overlook Park	97.0	$244,000	Seller's response is under review
KEN 148	River Ranch	146.0	$1,650,000	Earlier acceptance of offer withdrawn
KEN 1009	Cooper Parcel	30.0	$48,000	No response has been received
KEN 1015	Lowell Point	19.4	$531,000	Seller is reviewing appraisal
KAP 220	Mouth of Ayakulik R.	56.0	$213,000	Willing to sell a larger package
KAP 226	Karluk River Lagoon	21.5	$146,000	Willing to sell a larger package
Kenai Natives Association Package		15,091.0	$4,000,000	Negotiations continue
Kodiak Island Borough Tax Parcels			$1,000,000	Authorized in Shuyak Is. resolution; appraisals will begin soon.
	Subtotal:	**15,460.9**	**$7,832,000**	
Offers Rejected				
KEN 12	Baycrest	90.0	$450,000	Counteroffer of $720,000
KEN 1001	Deep Creek	91.0	$672,000	Not ready to sell at this time
KEN 1005	Ninilchik	16.0	$50,000	Counteroffer of $60,000
KAP 22	The Triplets	60.0	$6,500	Seller is not interested in selling at appraised value.
	Subtotal:	**257.0**	**$1,178,500**	

Table 2. Parcels Under Consideration

July 26, 1996

Parcel ID	Description	Acres	Status
PWS 06	Valdez Duck Flats (USS 447)	24.7	Parcel reevaluated; ranked moderate.
PWS 11	Horseshoe Bay	315.0	Second appraisal rejected; third appraisal under review.
PWS 1010	Jack Bay	942.0	Second appraisal rejected; third appraisal under review.
PWS 1027	Fleming Spit	5.4	Restoration benefits under review.
KEN 1038	Schilling Parcel	5.9	Appraisal approved; appraised fair market value is $1,304,000.
KEN 1039	Oberts Parcel (Big Eddy)	31.7	Appraisal under review.
KEN 1040	Oberts Parcel (Honeymoon Cove)	4.2	Appraisal under review.
KEN 1041	Oberts Parcel (Peterkin Hmstd.)	30.0	Appraisal under review.
KAP 91	Sitkalidak Strait	137.0	Appraisal underway
KAP 98	Sitkalidak Strait	80.0	Appraisal underway
KAP 101	Sitkalidak Strait	80.0	Appraisal underway
KAP 103	Sitkalidak Strait	40.0	Appraisal underway
KAP 118	Sturgeon Lagoon	160.0	Appraisal underway
KAP 131	Kiliuda Bay	40.0	Appraisal underway
KAP 132	Sitkalidak Strait	160.0	Appraisal underway
KAP 145	Termination Point	1,028.0	The State will appraise this parcel
KAP 150	Karluk	5.0	Appraisal not complete
KAP 263	Kiavak Bay	60.0	Appraisal underway
	Total:	**3,148.9**	

* Perl Island (KEN 149), a 156-acre parcel south of the Kenai Peninsula, is no longer under consideration because sponsorship has been withdrawn.

Table 3. Small Parcel Nominations

July 1995 to July 1996

Parcel ID	Description	Acres	Sponsor
PWS 1045	Dennis Parcel (Valdez Duck Flats)	4.3	Withdrawn
KEN 1030	Anchor River	127.8	Not identified
KEN 1032	Matson Parcel (Ninilchik River)	7.4	ADFG
KEN 1035	Mullen Parcel (Soldotna Creek, Kenai River)	8.5	ADNR/ADFG
KEN 1036	Weilbacher Parcel (Kenai River)	28.7	ADNR/ADFG
KEN 1037	Coyle Parcel (Kenai City Boat Dock)	26.0	Not identified
KEN 1042	College Estates (Kenai River-Mile 16.5)	56.0	ADNR/ADFG
KEN 1043	College Estates (Kenai River-Mile 16.5)	77.9	ADNR/ADFG
KEN 1044	Breeden Parcel (Kenai River Flats)	25.0	ADNR/ADFG
KEN 1046	Pollard Parcel (Kasilof River)	155.0	ADFG
KEN 1047	Calvin Parcel (Kasilof River)	76.8	Not identified
KEN 1048	Lahndt Parcel (Kasilof River)	360.0	Not identified
KEN 1049	Mansholt Parcel (Kenai River–Big Eddy)	1.6	ADFG
KEN 1051	Salamatof Native Association (Kenai NWR)	10.3	USFWS
KEN 1052	Salamatof Native Association (Kenai NWR)	5.3	USFWS
KAP 1050	Christiansen Parcel (Sitkalidak Strait)	159.0	USFWS
KAP 1053	Knauf Parcel (Becharof NWR)	25.0	USFWS
	Total:	**1,154.6**	

14.2.21c

Exxon Valdez Oil Spill Trustee Council
Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178

MEMORANDUM

TO: Public Advisory Group

FROM: Molly McCammon, Executive Director

DATE: July 24, 1996

SUBJ: Policy Discussion — Expenditures for Food

The purpose of this memorandum is to solicit the Public Advisory Group's input on the matter of Trustee Council expenditures for food.

Background

As you know, the Trustee Council sponsors various kinds of meetings, conferences and workshops. This includes meetings of the Trustee Council, the 17-member Public Advisory Group (PAG), peer review workshops, other work sessions, and the annual restoration program conference. These meetings involve principal investigators, agency managers, researchers, spill-area residents, and members of the general public. Many of these meetings, are lengthy events that require sustained participation by attendees.

Under both federal and state regulations, food purchases are only allowed under certain circumstances. This includes groceries for remote field camps and expenses incurred by employees on travel status (through per diem). State procurement rules are more flexible than federal rules. Under state guidelines, expenditures on "foodstuffs and utensils" such as coffee/tea, doughnuts are generally not permitted "... unless reviewed by the appropriate agency head and deemed necessary for such state functions as training, conferences, board meetings etc., and not to exceed a reasonable amount." (ADFG, AAM 35.150) The state does, however, allow the purchase of coffee, tea and soft drinks for meetings hosted by the state at which the public is present and coffee/tea/soft drinks may be purchased for state employee meetings held away from their normal business location (e.g., a training conference held at a hotel meeting room). Under ADFG guidelines, purchases "must be reasonable for the circumstances" and requests for

purchase of food must be authorized by the Director of the Division of Administrative Services or to the Commissioner.

Consistent with this guidance, the Restoration Office has submitted purchase requests for certain Trustee Council sponsored meetings. In presenting these requests, it has been recognized that Trustee Council meetings are often lengthy and that the provision of refreshments greatly benefits the public process. These requests have been properly approved through ADFG. Generally, they have involved minor expenses with the exception of food at the Trustee Council's annual Restoration Workshop.

Discussion of Food Policy Issues

In order to simplify overall administration, the ADFG Division of Administrative Services has suggested delegation of authority for further food purchases to the Executive Director of the Trustee Council. I would like the PAG's input to help guide further decisions in this area. I will also review this issue with the Trustees and would like to relate the PAG perspective.

- Should the Trustee Council provide liquid or other refreshments at public meetings (e.g., coffee/tea/cookies). If so, when?

- Should the Trustee Council provide food for the PAG and/or the Council or working lunches during meetings (with appropriate adjustment to per diem)?

- Should the Trustee Council host lunches and/or receptions at the annual restoration workshop?

- Should costs for such lunches be paid for by conference participants? Since the Trustee Council is paying for most participants to attend, would this create needless administrative costs (i.e., lunch and/or registration fees can be reimbursed when they are mandatory)?

- Would fees for registration and/or lunch discourage public participation in public events and undermine a basic purpose of the annual restoration conference (i.e., to share information with the public)?

I would appreciate your assistance in considering this issue.

14.2.21F

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
POLICIES AND PROCEDURES
TABLE OF CONTENTS

INTRODUCTION

1. *Purpose.* Define the Policies and Procedures of the *Exxon Valdez* Oil Spill Trustee Council (Trustee Council) and provide guidance regarding the authorities and responsibilities of agencies that receive Joint Trust Funds approved by the Trustee Council.

2. *Supersession.* These procedures supersede the Operating Procedures adopted by the Trustee Council January 10, 1992, and the Financial Operating Procedures adopted by the Trustee Council September 21, 1992.

3. *Relationship.* The financial operating procedures of the Trustee Council augment state and federal procedures. Agencies receiving funding approved by the Trustee Council are responsible for ensuring that the procedures described in this document and the appropriate state or federal procedures are followed.

4. *Amendments.* These procedures may be modified by unanimous agreement of the Trustee Council.

5. *Authority.* The principles and processes stated herein are based on the authorities conveyed by the Memorandum of Agreement and Consent Decree entered as settlement of United States of America v. State of Alaska, No. A91-081 Civil, U.S. District Court of Alaska. The Joint Trust Fund is comprised of all payments received in settlement of State of Alaska v. Exxon Corporation , el al., No. A91-082 CIV, and United State of America v. Exxon Corporation , el al., No. A91-082.

6. *Restoration Plan.* The *Exxon Valdez* Restoration Plan provides long-term guidance for restoring the resources and services injured by the oil spill. It contains policies for making restoration decisions and describes how restoration activities will be implemented. The Restoration Plan was adopted by the Trustees in November 1994 after completion of the Final Environmental Impact Statement. By unanimous consent, the Trustee Council may change the plan if the Council determines that the plan is no longer responsive to restoration needs.

OPERATIONAL POLICIES AND PROCEDURES

TRUSTEE COUNCIL

1. *Basic Governing Procedures.* The current edition of *Roberts Rules of Order* will govern the Trustee Council. All provisions of these rules of order will apply to Trustee Council deliberations unless the Council unanimously decides to proceed differently.

2. *Trustee Council Membership.* The following officials act on behalf of the public as trustees: the Attorney General of the State of Alaska; the Commissioner of the Alaska Department of Environmental Conservation; the Commissioner of the Alaska Department of Fish and Game; the Secretary of the United States Department of Agriculture; the Secretary of the United States Department of the Interior; and the Administrator of the National Oceanic and Atmospheric Administration, United States Department of Commerce. The State Trustees serve directly on the Trustee Council. The Federal Trustees have each appointed a representative to serve on the Council. These appointments include the Alaska Regional Forester, United States Department of Agriculture; the Assistant Secretary for Fish, Wildlife and Parks, United States Department of the Interior; and the Alaska Region Director, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, United States Department of Commerce. In the event a Council member is precluded from attending a meeting or must be excused during a meeting, an alternate may exercise voting privileges on behalf of the Council member. Each Council member shall designate in writing an alternate member and the designation shall be maintained in the official record or an alternate may be identified at the meeting and so stated for the record.

3. *Quorum.* A quorum of two-thirds (2/3) of the total Council membership including at least two state members and two federal members shall be required to convene a meeting. All decisions shall be made by unanimous agreement of the six Council members or their designated alternates.

4. *Chair.* The Trustee Council shall designate a chair to preside at each meeting. The chair may participate in discussion and debate at the meetings and shall vote on all questions before the Trustee Council.

5. *Council Action.* All matters before the Trustee Council which require a vote, make a recommendation, approve or disapprove an item, or otherwise render a decision shall require the unanimous approval of the six Council members or their designated alternates. All actions by the Trustee Council shall be taken at duly convened meetings except as provided in Section 10.

6. *Abstention.* Abstaining from voting by a Council member shall not be permitted unless there is an affirmative vote of all members of the Trustee Council and any apparent, or declared, conflict of interest is stated for the record. In the event a Council member believes he or she must abstain from participating in a decision, the Council member may request the decision be deferred

until a designated alternate is available to vote.

7. *Meetings.* Meetings shall be held at times and locations determined by the Council. The Executive Director shall provide a proposed agenda and appropriate briefing materials to the Council members in advance of the meeting. The final agenda for the meeting will be determined by the Council and shall include a reasonable opportunity for public comment.

8. *Executive Sessions.* Executive sessions shall be kept to a minimum and shall be used only for discussion of matters concerning confidential personnel issues, litigation or legal advice, habitat acquisition negotiations, confidential archaeological information, confidential fisheries information or other matters included under AS 44.62.310(c) or other applicable State or Federal laws.

9. *Minutes of Council Meetings.* All meetings shall be recorded electronically or by a court reporter, and said records shall, along with the written, approved meeting notes, constitute the official record of the Council's actions.

10. *Emergency Action.* In the event of an emergency requiring Council action before a meeting can be held in accordance with the procedures described herein, the Executive Director will poll the Trustee Council and take action by unanimous agreement. Any decisions of the Trustee Council shall be reflected in the official record of the Trustee Council along with justification regarding the need to take emergency action.

STRUCTURE

1. *General.* Pursuant to the agreement between the State of Alaska and the federal government, signed December 1993, the Trustee Council has created the position of Executive Director and the Restoration Office to manage the day-to-day administrative functions of the Trustee Council and the overall restoration program. These activities are complemented by the agencies which are responsible for agency management activities and the management of projects approved by the Trustee Council.

2. *Restoration Office.* Under supervision of the Executive Director, the Restoration Office is responsible for: (1) facilitating communication between the federal and state governments, the six Council members and the Public Advisory Group; (2) maintaining the official record of the Council's action; (3) coordinating the annual project proposal solicitation and annual restoration work plans; (4) preparing and analyzing financial and project status information; (5) developing and implementing procedures to achieve the goals and objectives of the Trustee Council; (6) performing and/or overseeing special and on-going projects; and (7) public outreach and public participation.

3. *Agencies.* Under supervision of the agency's Council member, the agency is responsible for: (1) ensuring that the procedures described herein, and the appropriate state or

federal procedures are followed, including compliance with the National Environmental Policy Act; (2) ensuring that projects funded meet their stated goals, objectives and schedules, and are accomplished consistent with the funds authorized; (3) implementing, evaluating and monitoring approved project; (4) obtaining information from or facilitating the exchange of information among the Restoration Office, the public, cooperating agencies, and principal investigators; (5) developing agency goals and objectives for the restoration program; (6) assisting in the preparation and review of project proposals and detailed budgets; (7) assisting in the development of the annual restoration work plan; and (8) representing their Council member in matters related to the restoration program.

RESTORATION WORK PLAN

1. *Invitation.* Annually the public, private sector, non-profit groups, and government agencies will be invited to submit proposals for funding based on identified restoration priorities and needs.

2. *Internal Review.* Proposals received will be subject to independent scientific review, as well as, policy, budget, agency and legal review.

3. *Public Review and Comment.* Prior to Trustee Council action, the Work Plan and the project proposals shall be made available to the public for review and comment.

4. *Adoption.* After expiration of the period for public review and comment, the Trustee Council, in open session and with additional opportunity for public comment, will review the proposed Work Plan. The Trustee Council may make such changes to the Work Plan or include terms and conditions of funding as the Council deems appropriate. Upon unanimous approval, the Work Plan shall be adopted by the Trustee Council.

HABITAT PROTECTION AND ACQUISITION

1. *General.* Habitat Protection and Acquisition is an important means of restoring injured resources and the services that are dependent upon those resources. Habitat Protection and Acquisition may include the purchase of lands or interests in land such as conservation easements, mineral rights, or timber rights.

2. *Parcel Nomination and Sponsorship.* Only those parcels nominated by a willing seller will be considered for purchase. In addition, a federal or state land management agency must sponsor the parcel prior to evaluation and ranking.

3. *Parcel Evaluation and Ranking.* Parcels that have been nominated and sponsored will be evaluated and ranked according to the potential benefits that purchase and protection would provide to injured resources and services. The criteria and procedures for evaluating and ranking parcels shall be developed by the Executive Director and approved by the Trustee Council.

4. *Terms and Conditions.* By unanimous agreement of the six Trustees or their designated alternates, a resolution shall be adopted authorizing the purchase of land or ownership rights. The resolution shall set forth the terms and conditions appropriate for the identified parcel(s).

5. *Title and Management.* The title of any lands, or ownership rights will be specified in the resolution adopted by the Trustee Council. All land acquired shall be managed in accordance with the terms and conditions of the Trustee Council.

6. *Public Review and Comment.* Prior to final Trustee Council action, reasonable public notice shall be given and the public shall be provided an opportunity to comment.

7. *Application for Disbursement of Joint Funds.* Upon certification from the Executive Director that the terms and conditions set forth in the resolution have been satisfied, the Alaska Department of Law and the United States Department of Justice shall be requested to petition the District Court for the withdrawal of funds.

RESTORATION RESERVE

1. *General.* The Trustee Council has established the Restoration Reserve. Pursuant to Court Order, the Restoration Reserve is a separate account within the Court Registry Investment System (CRIS) administered through the United States District Court for the Southern District of Texas.

2. *Payments.* The amount to be deposited on an annual basis will be determined by the unanimous agreement of the six Trustees or their designated alternates. Upon approval, the Alaska Department of Law and the United States Department of Justice shall petition the District Court to transfer the funds.

3. *Investments and Interest.* The Restoration Reserve shall be invested with the intent of maximizing interest earnings and all such earnings shall be retained in the Restoration Reserve.

4. *Use.* While the Trustee Council intends that the principle and interest from the Restoration Reserve be available following Exxon's last payment, the Trustee Council may, at any time by unanimous vote of the six members, use the principle or interest before that time.

PUBLIC PARTICIPATION

1. *General.* The Trustee Council recognizes that public participation in the restoration program is an integral part of the process. To that end, the public is invited to review, comment and participate in the development and implementation of the restoration program.

2. *Exxon Valdez Oil Spill Public Advisory Group.* By order of the District Court for the District of Alaska, the Public Advisory Group is to advise the Trustees, appointed to administer the fund established in settlement of United States v. Exxon Corporation, Civil Action No. A91-082, and State of Alaska v. Exxon Corporation, Civil Action No. 091-083, both in the United States District Court for the District of Alaska, in all matters described in Paragraph V.A.1 of the MOA referenced above. The overall procedures for the Public Advisory Group are contained in the Charter unanimously approved by the Trustee Council and signed by the Secretary of the United States Department of the Interior. The Public Advisory Group consists of members recommended by the Trustee Council and appointed by the Secretary of the United States Department of the Interior.

3. *Public Notice.* Reasonable public notice shall be given for all meetings of the Trustee Council. The notice shall include, when possible, publication in one or more newspapers of general circulation in the following communities: Anchorage, Chenega, Cordova, Homer, Juneau, Kenai, Kodiak, Seward, Tatitlek, Valdez and Whittier and by distribution of the public notice to radio stations broadcasting to these communities. The public notice shall identify the proposed agenda and include a reasonable opportunity for public comment.

4. *Access to Information.* The public shall have access to the official record of the Council's action and information regarding proposed or completed studies or other activities funded by Joint Trust Funds.

FINANCIAL POLICIES AND PROCEDURES

SETTLEMENT FUNDS

1. *Joint Trust Fund.* Pursuant to Court Order and in accordance with the Terms of the Memorandum of Agreement and Consent Decree, all payments are placed in an interest-bearing account in the Court Registry Investment System (CRIS) administered through the United States District Court for the Southern District of Texas.

2. *Disbursement.* Upon joint application of counsel for the United States and the State of Alaska, the United States District Court for the District of Alaska orders the disbursement of funds for purposes consistent with the Memorandum of Agreement and Consent Decree. The joint application shall consist of legal documents required by the Court and documentation demonstrating the unanimous approval of the Trustee Council. When appropriate, interest earned on the federal and state accounts and/or unobligated balances from prior years Work Plans shall be subtracted from the disbursement.

3. *Authority to Spend.* No obligations shall be incurred until such time as a Court Order is entered by the United States District Court for the District of Alaska and any terms and conditions placed on the funding by the Trustee Council have been met.

4. *Federal Account.* In accordance with federal law, funds required for federal project implementation are deposited in the Natural Resource Damage Assessment and Restoration (NRDA&R) Fund.

5. *State Account.* In accordance with state law, funds required for state project implementation are deposited in the *Exxon Valdez* Oil Spill Settlement (EVOS) Fund.

AUTHORIZATION

1. *General.* Initial authorization shall be recorded consistent with the budgets approved by the Trustee Council.

2. *Fiscal Year.* Unless otherwise approved by the Trustee Council, the fiscal year begins on October 1 and ends on September 30. In the event the Trustee Council approves a project with a different fiscal year, the fiscal year must be clearly stated in the approval motion.

3. *Adjustments.* As long as an adjustment does not alter the underlying scope or objectives of the affected projects, agencies have the authority to move funds into or out of projects up to the cumulative amount of $25,000 or up to 10% of the authorized level for each affected project, whichever is less. In addition, as long as an adjustment does not alter the underlying scope or objectives of the project, agencies are authorized to move, within a single project, budgeted funds between line items and may change detailed items of expenditure to accommodate circumstances

encountered during budget implementation. Justification and supporting documentation as to the reason for any such adjustments (both between projects and line-items) shall be maintained by the agencies. Any adjustments between projects shall be reported to the Executive Director in the Quarterly Financial Report. For further information regarding the Quarterly Report, refer to the Reporting section of these policies and procedures.

4. *Revisions.* Trustee Council action is required to move amounts greater than that authorized in section 3 above. Trustee Council action is also required if the revision changes the scope or objectives of a project, establishes a new project, or terminates an approved project during the fiscal year. In the event the proposed revision changes the scope or objectives of a project, establishes a new project, or terminates an approved project during the fiscal year, the public must be notified of the proposed change prior to action of the Trustee Council and given the opportunity to comment.

PROJECT COSTS

1. *Direct Project Costs.* Direct costs are those costs that can be identified with or linked to a specific project.

2. *Indirect Project Costs.* Indirect costs are those that are incurred for common or joint projects and therefore cannot be identified readily and specifically with a project. In the case of governmental agencies, indirect costs are covered through a general administration formula. The appropriate indirect rate for contractors will be approved on a case-by-case basis.

3. *General Administration Formula.* The general administration formula is used to reimburse governmental agencies for indirect project costs incurred in implementing the restoration program. Actual recovery shall be in proportion to actual direct costs and is limited to:

a. Fifteen percent of each projects actual personnel cost; and
b. Seven percent of the first $250,000 of each projects actual contractual costs, plus two percent of each projects actual contractual costs in excess of $250,000.

4. *Unallowable Costs.* Restoration funds shall not be used to support normal agency functions and activities. As such, costs that would have been incurred, absent the oil spill, are not eligible for reimbursement. This includes costs considered necessary for the management, supervision and administrative control of an agency.

ACCOUNTING

1. *General.* It is the responsibility of agency personnel and certifying officers to make certain that all actions are based on sound accounting and budgetary practices.

2. *Source Documentation.* Adequate justification and supporting documentation must be

maintained for each project.

3. *Appropriateness.* Expenditures charged to a project must be directly attributable to or allocated to the project benefiting from the activity. Salaries and benefits may be charged for the time an individual is working directly on a project, when supported by time sheets and when work performed by such individuals is necessary to the project.

4. *Reasonableness.* Costs attributable to a project must be necessary and reasonable to achieve the objectives of the project and be consistent with the policies and procedures governing other activities of the agency.

5. *Segregation.* Accounts must be properly designed and maintained to ensure that funds are expended in accordance with Trustee Council approval. In addition, direct project costs must be segregated from indirect costs to ensure that restoration projects are assessed the general administration formula in proportion to direct costs.

6. Expended (Outlays). The term expended shall be defined as the actual outlay of funds through the issuance of checks or warrants, the disbursement of cash, or the electronic transfer of funds. The term expenditure shall be defined as the act of expending.

7. Obligations (Encumbrances). The term obligations shall be defined as a commitment to acquire goods or services during the fiscal year, or to accommodate contracts where the length of time for completion of the service extends into the following fiscal year. An obligation is a commitment to pay and should not be considered an expenditure until the goods or services have been received and the invoice paid. Funds approved for contracts in which the length of time for completion of the service extends into the following fiscal year, may be obligated at year end. To be valid, the length of time to complete the service should be identified in the Detailed Project Description and the budget approved by the Trustee Council. As a general rule, agencies shall have one year from the end of a projects approved fiscal year to satisfy all obligations.

LAPSE

1. *General.* The unexpended and unobligated balance of a project shall lapse on September 30 of the fiscal year for which the project was approved. However, an undisclosed obligation may be established and/or paid during the Close-Out Period.

2. *Close-Out Period.* During the months of October, November and December agencies may pay from prior year funds an expense which was undisclosed during the fiscal year just ended. In addition, agencies may establish obligations to accommodate an expense which was undisclosed during the fiscal year just ended. Thirty days following the end of the Close-Out Period, agencies shall report to the Executive Director the total expended for each project, plus any obligations relating to the fiscal year just ended. For further information regarding the Annual Financial report, refer to the Reporting section of these policies and procedures.

3. *Reimbursement for Prior Year Expenses.* Expenses discovered after the Close-Out Period may be charged to the subsequent year's project budget. In the event the agency determines that insufficient funds are available to charge the expense to the subsequent year's budget, or the expense relates to a completed project Trustee Council approval is required.

EQUIPMENT

1. *Title.* Subject to the conditions set forth in this section, title to equipment acquired with Joint Trust Funds will be retained by the respective governmental agency. In the event equipment is transferred between governments, title to the equipment shall also be transferred.

2. *Use.* Equipment shall be used for the project for which it was acquired. When no longer needed for the original project, the equipment may be used in other activities for which funding was approved by the Trustee Council. The equipment may also be used for other agency purposes, providing that first preference be given to the restoration projects for which funding was approved by the Trustee Council, even when the project is being accomplished by another agency.

3. *Inventory.* Property records shall be maintained in accordance with agency procedures.

4. *Repair, Maintenance and Safeguarding.* The repair, maintenance and safeguarding of equipment purchased with joint funds shall be accomplished in accordance with agency procedures.

5. *Disposal.* Equipment which has ceased to function or have value shall be disposed of in accordance with agency procedures.

PROFESSIONAL SERVICES CONTRACTS

1. *General.* Agencies shall ensure that professional services are accomplished in accordance with the terms, conditions, and specifications of the project approved by the Trustee Council. In the event the approved motion of the Trustee Council specifically identifies the entity to carry-out the project and the contracting agency determines that an award to an entity, different than that specified by the Trustee Council, would better serve the restoration program, the basis of that determination shall be stated in writing to the Executive Director and forwarded to the Trustee Council for approval.

2. *Definition.* Professional services means contracts for professional, technical, or consultant services which result in the production of a report or the completion of a task, and include analysis, evaluation, prediction, planning, or a recommendation.

3. *Indirect Rates.* The appropriate indirect rate for contractors will be determined on a project by project basis or through a memorandum of understanding with a contractor that

provides for a consistent rate and methodology.

4. *Equipment.* Equipment purchased by the contractor will remain the property of the contracting agency.

5. *Special Considerations.* All notes and other data developed by the contractor shall remain the sole property of the contracting agency.

REPORTING

1. *Joint Account.* Revenues, disbursements and fees associated with the Court Registry Investment System shall be reported to the Trustee Council on a monthly basis. This report shall include an analysis of the Joint Trust Fund Balance and the total estimated funds available.

2. *Quarterly Financial Reports.* Within thirty days following the end of each quarter, agencies shall report expenditures and obligations recorded at the end of the quarter to the Executive Director. The report shall include the total amount authorized for each project, any revisions approved by the Trustee Council, any adjustments between projects, the total expended by project, and the total of any outstanding obligations by project.

3. *Quarterly Status Reports.* Within thirty days following the end of each quarter, agencies shall submit a project status report to the Executive Director. The report submitted by the agencies shall communicate the project status in relationship to the project tasks that were identified in the proposal approved by the Trustee Council, any problems which are being encountered, and noteworthy accomplishments.

4. *Annual Financial Reports.* Thirty days following the end of the Close-Out Period, agencies shall report to the Executive Director the total expended for each project, plus any valid obligations relating to the fiscal year just ended. The report shall reflect the total amount authorized by line-item, any revisions approved by the Trustee Council, any adjustments between projects, and any adjustments between line-items.

5. *Annual Project Reports.* Annually, agencies shall submit a report to the Executive Director for all continuing projects approved by the Trustee Council. To be considered continuing, a project must have been initiated with the expectation that it was multi-year. The report deadline and format shall be determined by the Executive Director.

6. *Final Project Reports.* Upon completion of a project or the determination by the Trustee Council to no longer fund a project, agencies shall submit a report to the Executive Director. The report deadline and format shall be determined by the Executive Director.

7. *Equipment Reports.* By December 31 of each year, agencies shall report equipment valued at a cost of $1,000 or more, and other sensitive items to the Executive Director. Sensitive

items shall include firearms, audio/visual equipment, computers and cameras. The report shall include a listing of equipment purchased during the fiscal year just ended, the reassignment of equipment to other activities funded by the Trustee Council and any equipment currently being used for other agency purposes. Agencies shall also report all equipment which has ceased to function or have value and identify any equipment which was disposed of during the previous fiscal year.

AUDITS

1. *General.* The purpose of an audit is to ensure public trust and accountability regarding the use of settlement funds. An audit provides credibility to the information reported by or obtained from management by independently acquiring and evaluating the evidence.

2. *Definition.* The term audit includes both financial and performance audits.

3. *Readiness.* When an agency receives funding from the Trustee Council, the agency assumes certain responsibilities along with those funds. These include ensuring that source documentation is organized and available for review, internal controls are documented and that individuals knowledgeable about the projects are available to answer questions.

4. *Professional Services Contracts.* Contractors who receive funding for professional, technical, or consultant's services are not automatically subject to an annual audit. However, this does not preclude the Trustee Council or the agency from making a determination that an audit is required over and above an agency's review of expenditure documentation and work produced by a contractor.

5. *State and Federal Audits.* Each Federal agency and the State of Alaska have audit functions. In the event an audit is performed, a copy of the audit shall be provided to the Executive Director.

6. *External Audits.* All external audits shall be conducted in accordance with Governmental Auditing Standards. In addition, the firm and the staff assigned to conduct the audit shall be independent of the Trustee Council, the funding agencies, the Court Registry Investment System, Exxon Corporation, Exxon Shipping Company and Exxon Pipeline Company.

APPENDIX A: FEDERAL INTERNAL PROCEDURES

NATURAL RESOURCES DAMAGE ASSESSMENT AND RESTORATION FUND

1. *Segregation.* All principal and interest shall be accounted for separately by the Department of the Interior, Fish and Wildlife Service, Division of Finance. Each disbursement shall be assigned an appropriate account, sub-activity and/or project number when deposited to the aggregate Fish and Wildlife Service account within the Federal Reserve Bank. Confirmation of the deposit shall be provided to the Treasury Department which reconciles the deposit with the Federal Reserve Bank.

2. *Investments.* By law, the funds may only be invested in Treasury Securities and all ownership is maintained in the name of the Natural Resource Damage Assessment and Restoration Fund. Based on an estimate of cash flow requirements, the Department of the Interior, Office of the Secretary generates instructions for investment and forwards the instructions to the Division of Finance. The Division of Finance develops and submits an Investment Confirmation Letter which indicates which account investments are being purchased, the scheduled maturity dates and the investment type(s) to the Department of Treasury which purchases the securities. At maturity, interest income is paid directly to the account.

3. *Reports.* At maturity, the Department of the Interior shall report interest income to the Executive Director. In addition, all disbursements to the federal agencies shall be reported to the Executive Director.

AUTHORIZATION

1. *General.* Congress permanently appropriated funding approved by the Trustee Council in Section 207 of Public Law 102-227. However, all authorization is subject to compliance with any terms and conditions imposed by the Trustee Council.

2. *Budget and Reports.* Under Section 207, agencies are required to comply with directions published by the Federal Office of Management and Budget. This includes submitting a budget for the upcoming fiscal year and documentation associated with the current and prior fiscal year.

3. *Obligation Authority.* Prior to the obligation of any funds, agencies must first complete the allocation process required by their respective budget offices to establish codes for each project. The allocation process provides the authority, amount of funding and the guidance with which to obligate funds.

4. *Quarterly Instructions for Transfer.* On a quarterly basis, federal agencies are required to submit to the United States Department of the Interior, Office of the Secretary, Budget Office instructions regarding the transfer of settlement funds. The instructions shall specify the purpose of the transfer, which account the funds are to be transferred, and an estimate of cash flow

requirements. Unless the transfer represents a one-time payment, the cash flow estimate shall be structured on a quarterly basis. Any change in cash flow requirements during the fiscal year shall be reflected on subsequent quarterly instruction for transfer. A change is defined as a decrease in the cash flow requirement due to an unanticipated delay in a project or an increase in the cash flow requirement due to an unanticipated change in the schedule.

5. *Fund Transfers.* There are two types of fund transfers. The first type of transfer is internal to Department of the Interior, Fish and Wildlife Service. The form used is the Allotment Advice, Form FWS 3-1951. The Allotment Advice is initiated and prepared by the Division of Budget, Fish and Wildlife Service and then sent to the Division of Finance, Fish and Wildlife Service where the funds are made available through the Control Schedule Process. The second type of transfer is to agencies/bureaus outside of the Fish and Wildlife Service. The form used is a SF1151, a non-expenditure transfer. The SF1151 is initiated, prepared, and approved by the Division of Budget, Fish and Wildlife Service and then sent to Treasury where the funds are transferred within the Treasury system.

6. *Recovery of Prior Year Funds.* On January 31 of each year, Federal Trustee Agencies shall return to the Natural Resource Damage Assessment and Restoration Fund the unexpended and unobligated balance for the fiscal year just ended. Concurrently, the agencies shall return any Recovery of Prior Year Obligations. The Department of the Interior shall report the recovery of prior funds to the Executive Director by February 15 of each year.

APPENDIX B: STATE INTERNAL PROCEDURES

EXXON VALDEZ OIL SPILL SETTLEMENT FUND

1. *Segregation.* All principal and interest shall be accounted for separately by the Alaska Department of Revenue, Division of Treasury. Each disbursement shall be deposited in a Department of Law sub-account. Confirmation of the deposit shall be provided by the bank to the Department of Revenue, at which time the funds are moved from the sub-account to the general investment pool within the Alaska State Accounting System. The Department of Law, Division of Administrative Services is notified of the deposit and allocates the funds to the *Exxon Valdez* Oil Settlement Fund.

2. *Investments.* The Alaska Department of Revenue, Division of Treasury will calculate the daily income amount and provide for daily compounding (including weekends and holidays) as follows: (a) using the weekly 180 day Treasury Bill Rates for the month based on the weekly auctions occurring during the month; and (b) the daily cash balance of the *Exxon Valdez* Oil Settlement Fund within the Alaska State Accounting System. The income shall be credited to the fund and posted in the Alaska State Accounting System on a monthly basis.

3. *Reports.* The Department of Revenue, Division of Treasury shall report income earned to the Executive Director on a monthly basis.

AUTHORIZATION

1. *General.* Pursuant to Alaska Statute 37.14.405(a), a state agency may not expend money received from the trust unless the expenditure is in accordance with an appropriation made by law. However, prior to the expenditure of funds, Trustee Council approval must be obtained, the Court Order signed, and any terms and conditions placed on the funding by the Trustee Council have been met.

2. *Budget and Reports.* To meet the requirements of Alaska Statute 37.14.415, agencies are required to comply with directions published by the State Office of Management and Budget, Division of Budget Review. Alaska Statute 37.14.415 states: The state trustees shall

(1) submit to the governor and the legislature by December 15 of each year a report setting out, for each object or purpose of expenditure, the amounts approved for expenditure from the trust during the preceding fiscal year and the amounts actually expended during the preceding fiscal year.

(2) prepare and submit, under AS 37.07, a budget for the next fiscal year setting out, for each object or purpose of expenditure, the trustees' estimate of the amounts that are, during the next fiscal year, to be funded by the trust and expended by state agencies; and

(3) prepare and submit to the legislature, at the same time the budget for state agency expenditures is submitted under (2) of this section, a proposal setting out, for each object or purpose of expenditure, the trustees' estimate of the amounts that are to be funded by the trust in

the next fiscal year and that are not included in the budget submitted under (2) of this section.

3. *Legislative Budget and Audit Committee.* Alaska Statute 37.14.405(b), allows agencies to meet the requirements of an appropriation conditioned on compliance with the program review provisions of AS 37.07.080(h). In accordance with the procedures of the Alaska Office of Management and Budget (OMB), agencies are required to submit a request to OMB for transmittal to the Legislative Budget and Audit Committee.

4. *Expenditure Authority.* Authorization to receive and expend shall be recorded in the Alaska State Accounting System within the *Exxon Valdez* Oil Spill Settlement Fund. Following legislative action, OMB will record the authorization by approving an Authorized Budget Transaction (AB).

14.2.21 E

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178

MEMORANDUM

To: Brenda Baxter, Mike Castellini, Bill Hauser, Joe Hunt, Ernie Piper, Jeep Rice, Bob Spies, Joe Sullivan, Lisa Thomas, Ray Thompson, and Bruce Wright

From: Stan Senner
Science Coordinator

Date: July 3, 1996

Subject: Summary of June 27 Anniversary Planning Meeting

Thank you for a very successful 10th-anniversary planning meeting. I have enclosed a summary of the meeting, which was reviewed by Brenda and Bruce. If I have misrepresented our discussion in any significant way, please let me know.

There was a Restoration Work Force meeting on Tuesday, and I briefly described the results of the anniversary planning meeting. I am circulating this meeting summary to the Work Force and to the Liaisons for their review. My plan is to discuss the symposium at the next Work Force meeting. Once we have feedback from the Executive Director and the Work Force, and they are comfortable with the basic plan, we should be able to build a timeline and milestones and otherwise proceed as discussed.

Among the questions yet to be resolved are whether there will be a Restoration Workshop in January 1999 and whether and what is required in the way of reports and DPDs that spring. These do not require immediate resolution, but we need to keep on them our list for more discussion. If you have other issues that we have not identified, please let me know.

enclosure (1)

cc: Restoration Liaisons and Work Force
Jim King and John French, PAG
Patty Ginsburg and Lisa Ka'aihue, PWS RC

10th Anniversary Science Symposium
Planning Meeting
June 27 1996

Meeting Summary[1]

Location, length, dates, and times

For reasons of logistics and access, the symposium will be held in Anchorage, starting with a one-day summary session on Tuesday, March 23, 1999. This would be followed by a four-day meeting, starting Wednesday, March 24 and running to noon on Saturday, March 27. Easter is not until April 4, so there is no conflict with the events of that week.

Brenda Baxter (Alaska Sea Grant Program Office) is exploring different venues now, but it would appear that the Egan Center is both most cost effective and best able to handle the 1,000+ participants that we anticipate. The Egan Center will need a commitment quite soon.

Target audience

Audiences include general public, scientific community, and news media. The one-day summary session on the 23rd would be especially geared to general audiences and the news media. The balance of the symposium would be more technical, but all speakers would be encouraged to make their presentations understandable to general audiences.

Themes, topics, and title

The symposium needs to look back at the spill and forward to the long-term benefits of the restoration program. In an attempt to capture this sense of past and present, for better or for worse, we propose the following as a working title: "Legacy of an Oil Spill--10th Years After the *Exxon Valdez*."

Three overarching themes would be addressed: (1) injury, recovery, and long-term effects; (2) what we have learned about the ecosystem; and (3) long-term benefits of the restoration program. The one-day general session would include such topics as how restoration funds have been allocated, overviews of injury and recovery, status of habitat protection efforts, socio-economic impacts of the spill, and lessons learned that may help respond to and prevent future oil spills. The balance of the symposium will be more technical in character, and might be organized in several ways: e.g., in taxonomic or functional/ecological groups (like the 1996 Restoration Workshop). Scholarly papers on socio-economic impacts will be appropriate.

---

[1]Persons present were: Brenda Baxter, Mike Castellini, Patty Ginsburg (RCAC), Bill Hauser, Joe Hunt, Lisa Ka'aihue (RCAC), Ernie Piper, Jeep Rice (by telephone), Stan Senner, Bob Spies (by telephone), Lisa Thomas, Ray Thompson, and Bruce Wright.

Summary of June 27 Planning Meeting

Basic organization

As much of the entire agenda as possible should be held in plenary sessions. If necessary, however, we can resort to limited (e.g., one afternoon) concurrent sessions. A cookies-and-juice reception should follow the one-day summary symposium. Another reception and poster session should follow the first day of the technical symposium, which is the anniversary day (March 24, 1999). Lunches would be provided during the technical symposium.

Participants

All of the speakers at the one-day symposium would be invited. Most of the technical symposium would be open to all researchers (i.e., Trustee-sponsored, Exxon contractors, and others) who have original results to present. Abstracts will be screened by a committee, who will decide which presentations to accept. Researchers also will be invited to organize special panels or mini-symposia. There may be need to invite some speakers to ensure that key topics are covered. In addition, there may be special guests invited to give summary talks on such topics as international perspectives on oil spills in northern marine waters. These summary talks and perhaps panel discussions could be sprinkled through the symposium to vary the agenda.

Invitations would be extended to the Governor, Vice President, and the congressional delegation (?). Participation by the Governor and Vice President would be accommodated as needed to suit their schedules.

Publications

Standard 300-word abstracts would be due in April or May 1998 as the means of screening prospective participants. Abstracts would be published in a booklet available at the symposium.

The Trustee Council should sponsor publication of a technical proceedings in cooperation with the Alaska Sea Grant Program and, possibly, a professional society, such as the American Fisheries Society or The Wildlife Society. Whether a professional society would get involved in such a three-way partnership, with the Sea Grant program managing the editorial process, must be explored.

All things considered, it is not realistic to have the proceedings ready for distribution at the time of the anniversary, but a goal of one year later, March 2000, is possible. In order to achieve this goal, it is strongly recommended that a person (probably the Sea Grant scientific editor) be paid starting in October 1998 to identify reviewers and manage the review/editorial process. Manuscripts would be due in the fall of 1998 and would be circulated immediately to independent scientists for peer review. The initial reviews would be completed in advance of the symposium so that following the meeting the revision of the manuscripts and production of the proceedings would be the sole agenda item.

Summary of June 27 Planning Meeting

Field Trips

We are not eager nor set up to get extensively into the field trip business. However, there undoubtedly will be requests from the news media and others for access to oiled (or formerly oiled) beaches and perhaps to restoration project sites. These requests may be accommodated by providing private operators (e.g., charter services) the chance to put together special outings to such areas. For those persons who want such outings, the Restoration Office can forward information from the operators without getting involved in the arrangements per se. There is the problem, however, of where to steer folks and how to provide interpretation of what is there. This still needs thought.

Beyond providing information about charter services and where to go to see what, we do envision offering a field trip, via train, to the Alaska SeaLife Center in Seward. This excursion could depart on Saturday, after the close of the symposium, and either come back Saturday night or Sunday morning.

Cosponsors and support

The Alaska Sea Grant Program will cosponsor the symposium with the Trustee Council. The Regional Citizens' Advisory Groups for Prince William Sound and Cook Inlet might also be appropriate. A professional society might be sought as a cosponsor of the proceedings (see above under Publications). Otherwise, we do not envision the need for cosponsors.

Registration Fees

The one-day summary symposium should be entirely free, although all guests would be asked to either preregister or to register at the entrance (for security and planning purposes). Abstract booklets could be provided free to all registrants, but anyone desiring a copy of the proceedings should be able to order an advance copy at a prepublication cost at the time of the symposium. For the technical symposium, preregistration would be encouraged. There was a strong sense that there should be a small charge (e.g., $35/person). This fee would partially recover costs, but, more importantly, participants will take the event and their registration more seriously (again, this will help with security and planning). This needs more discussion.

Advertising

Our discussion focused on advertising with respect to possible presenters as opposed to the general public. A call for papers will be circulated twice in FY 1997. Announcements will go to professional societies for inclusion in newsletters and calendars. Some paid display advertisements might be appropriate in key scientific journals. There is need for a symposium logo and standard design before any materials go out.

Summary of June 27 Planning Meeting

News media coordination

For the general news media, there will be need for information packets to be circulated a few weeks prior to the symposium. Science writers should get the call for papers, so that the symposium gets on their calendars early. It may be possible to arrange for key PIs and others to be available for interviews in advance of the technical meeting (e.g., on March 21 or 22). This should facilitate quality, in-depth interviews, though there will be plenty of hurried "sound bites" in the hallways too.

Working groups

These persons will lead or at least organize working groups as follow:

-Steering (Senner, Baxter, and Wright)
-Field trips (Thompson)
-News media (Hunt)
-Editorial/proceedings (Wright)
-Scientific program (Castellini and Rice)
-Day one summary symposium (Thomas)

Planning schedule and next meeting

An overall schedule with milestones will be developed. A second planning meeting will be held in the fall.

14.2.21 D

APPLIED
marine
SCIENCES

April 20, 1996

Molly McCammon
Executive Director
Exxon Valdez Oil Spill Trustee Council
645 G Street Ste.402
Anchorage, AK 99501

Dear Molly,

I have received a copy of the February 22, 1996 letter from Dr. Alex Wertheimer and Mr. Mark Carls of the NMFS Auke Bay Laboratory to you nominating chum salmon (*Oncorhynchus keta*) to the list of injured resources. The Restoration Plan for the *Exxon Valdez* Oil Spill allows amendment of the injured species list if new information is presented that a species of particular concern suffered damage. Only a portion of all the species affected by the spill have been included on the formal injured resources list.

Addition of the chum salmon to the injured resources list is based on an argument by analogy: that is, the chum salmon occupies a habitat that is very similar to that of the pink salmon, and since pink salmon eggs sustained injury from exposure to oil in intertidal gravels and in growing juveniles by exposure in the open waters of PWS (apparently from ingestion of oil particles), so too must have the chum salmon. Since the pink salmon is on the list of injured species, it is argued that the chum salmon should also be on the list.

Unfortunately the only evidence of a relationship between the chum salmon and the 1989 oil spill is from analysis of P450IA enzyme induction in juvenile chum salmon. These data show that chum salmon juveniles were exposed, but the data do not necessarily mean that this exposure caused significant harm. We have no direct evidence of adverse consequences of this exposure on chum salmon, neither were directed studies carried out to make such an assessment. While it is likely that chum salmon were exposed to oil similarly to that of pink salmon, due to the greatly variable sensitivity from species to species and without direct evidence of harm, it is difficult to argue persuasively that chum salmon were as sensitive to oil exposure as were pink salmon. Also, the monoclonal antibody used to measure the degree of induction of P450IA can vary in the strength of its binding from species to species, so we cannot even be sure that the stronger reaction seen in chum salmon juveniles necessarily means that exposure was greater than in pink salmon juveniles.

While I think it is more likely than not that chum salmon suffered some degree of injury from the spill, without direct evidence there remains a great deal of uncertainty. Even in the case of birds recently nominated to the

list, some species were not recommended in spite of irrefutable evidence of some harm--i.e., recovery of oiled carcasses. In the case of the chum salmon there is not even irrefutable evidence of harm to a small portion of the population, let alone evidence of a substantial impact to the population which has been the general standard in the past for amending the list. I therefore recommend against adding chum salmon to the list of injured resources.

Sincerely yours,

Robert B. Spies
Chief Scientist

CC: S. Senner
A. Wertheimer
M. Carls

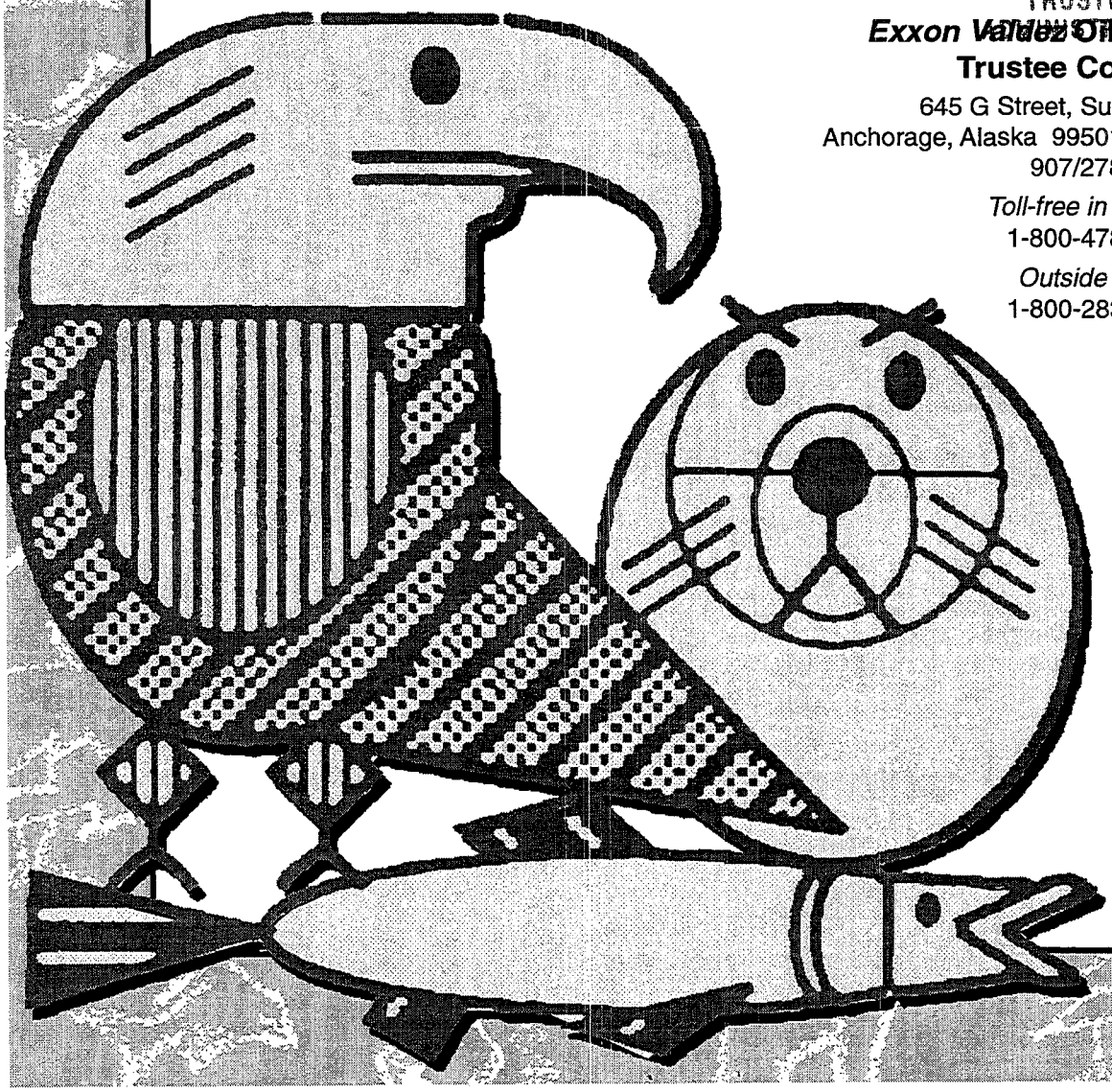
14.2.2.1 C

Exxon Valdez Oil Spill Restoration Plan

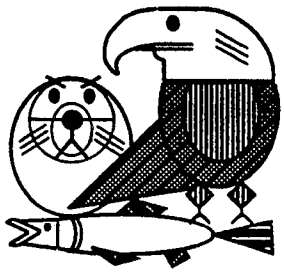
Draft Update on Injured Resources & Services

April 1996

Prepared by:
***Exxon Valdez* Oil Spill**
Trustee Council
645 G Street, Suite 401
Anchorage, Alaska 99501-3451
907/278-8012
Toll-free in Alaska
1-800-478-7745
Outside Alaska
1-800-283-7745



Exxon Valdez Oil Spill Trustee Council
Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



April 1996

Dear Reader:

The Trustee Council adopted the *Exxon Valdez Oil Spill Restoration Plan* in November 1994 with the intent that the plan would be updated as needed to incorporate new scientific information.

The enclosed documents provide information to update two parts of the *Restoration Plan*: the List of Injured Resources and Services in Chapter 4 and the summaries of Injury and Recovery and the Recovery Objectives in Chapter 5. The Council invites public comment on the changes to the List of Injured Resources and Services and to the updated Recovery Objectives. To be most helpful, **please submit written comments on these drafts to: _Exxon Valdez_ Oil Spill Trustee Council, 645 G Street, Suite 401, Anchorage, Alaska 99501 by June 15, 1996.**

List of Injured Resources and Services
Chapter 4 of the *Restoration Plan* indicates that the list of injured resources and services (p. 32, Table 2) will be reviewed as new information is obtained. The proposed revisions include changes to the recovery status of some resources (for example, moving Bald Eagles from the "recovering" category to "recovered") and additions to the list itself. In August 1995, the Council added Kittlitz's murrelets and common loons to the injured species list. In addition, the Council now proposes to add three species of cormorants (red-faced, pelagic, and double-crested). Requests to add scoters (three species) and black-legged kittiwakes to the list were recommended against by the Council's Chief Scientist. If you would like a copy of the Chief Scientist's recommendations, please call the Trustee Council office (see telephone numbers on second page).

Chapter 5: Goals, Objectives & Strategies
Chapter 5 of the *Restoration Plan* (pp. 33-56) discusses general goals and strategies for restoring injured resources and services and also provides specific information on the status, recovery objectives, and restoration strategies for individual resources and services. In the attached document, the Council now provides updated information on the status of injured resources and services. Based on these updated status reports, the Council also proposes and invites comments on revisions to the Recovery

Objectives for injured resources and services. Readers are referred to annual work plans and invitations to submit proposals (e.g., *Invitation to Submit Restoration Proposals for Federal Fiscal Year 1997*) for the most current information on the restoration strategies chosen by the Council to achieve its recovery objectives.

Your comments on the proposed changes to the List of Injured Resources and Services and the Recovery Objectives are invited. If you have questions about the proposed changes, or wish to request any of the documents mentioned above, please call 1-800-478-7745 (inside Alaska) or 1-800-283-7745 (outside Alaska). Thank you.

Sincerely,

Molly McCammon
Executive Director

enclosure

[Note to Readers: This draft updates information on Injury and Recovery status and Recovery Objectives in Chapter 5 (pp. 33-56) and the List of Injured Resources and Services (p. 32) in the *Restoration Plan*.]

RESOURCES

ARCHAEOLOGICAL RESOURCES

Injury and Recovery

The oil-spill area is believed to contain more than 3,000 sites of archaeological and historical significance. Twenty-four archaeological sites on public lands are known to have been adversely affected by cleanup activities or looting and vandalism linked to the oil spill. Additional sites on both public and private lands were probably injured, but damage assessment studies were limited to public land and not designed to identify all such sites.

Documented injuries include theft of surface artifacts, masking of subtle clues used to identify and classify sites, violation of ancient burial sites, and destruction of evidence in layered sediments. In addition, vegetation has been disturbed, which has exposed sites to accelerated erosion. The effect of oil on soil chemistry and organic remains may reduce or eliminate the utility of radiocarbon dating in some sites.

Assessments of 14 sites in 1993 suggest that most of the archaeological vandalism that can be linked to the spill occurred early in 1989, before adequate constraints were put into place over the activities of oil spill clean-up personnel. Most vandalism took the form of "prospecting" for high yield sites. Once these problems were recognized, protective measures were implemented that successfully limited additional injury. In 1993, only two of the 14 sites visited showed signs of continued vandalism, but it is difficult to prove that this recent vandalism was related to the spill. Oil was visible in the intertidal zones of two of the 14 sites monitored in 1993, and hydrocarbon analysis has shown that the oil at one of the sites was from the *Exxon Valdez* spill. Hydrocarbon levels at the second site were not sufficient to permit identification of the source or sources of the oil.

Monitoring of archaeological sites in 1994 and 1995 found no evidence of new damage from vandalism. The presence of oil is being determined in sediment samples taken from four sites in 1995.

None of the archaeological artifacts collected during the spill response, damage assessment, or restoration programs is stored within the spill area. These artifacts are stored in the University of Alaska Museum in Fairbanks and in the Federal Building in Juneau. Native communities in the spill area have expressed a strong interest in having them returned to the spill area for storage and display.

The Alutiiq Archaeological Repository in Kodiak, whose construction costs were partly funded by the Trustee Council, is the only physically appropriate artifact storage facility in the spill area. In 1995 the Trustee Council approved funds for development of a comprehensive community plan for restoring archaeological resources in Prince William Sound and lower Cook Inlet, including strategies for storing and displaying artifacts at appropriate facilities within the spill area.

Recovery Objective

Archaeological resources are nonrenewable: they cannot recover in the same sense as biological

resources. Archaeological resources will be considered to have recovered when spill-related injury ends, looting and vandalism are at or below prespill levels, and the artifacts and scientific data remaining in vandalized sites are preserved (e.g., through excavation, site stabilization, or other forms of documentation).

BALD EAGLES

Injury and Recovery

The bald eagle is an abundant resident of coast lines throughout the oil-spill area. Following the spill a total of 151 eagle carcasses was recovered from the oil-spill area. Prince William Sound provides year-round and seasonal habitat for about 5,000 bald eagles, and within the Sound it is estimated that about 250 bald eagles died as a result of the spill. There were no estimates of mortality outside the Sound, but there were deaths throughout the oil-spill area.

In addition to direct mortalities, productivity was reduced in oiled areas of Prince William Sound in 1989. Productivity was back to normal in 1990 and 1991, and an aerial survey of adults in 1995 indicated that the population has returned to or exceeded its prespill level in Prince William Sound.

Recovery Objective

Bald eagles will have recovered when their population and productivity have returned to prespill levels. Based on the results of studies in Prince William Sound, this objective has been met.

BLACK OYSTERCATCHERS

Injury and Recovery

Black oystercatchers spend their entire lives in or near intertidal habitats and are highly vulnerable to oil pollution. Currently, it is estimated that 1,500-2,000 oystercatchers breed in south-central Alaska. Only nine carcasses of adult oystercatchers were recovered following the spill, but the actual number of mortalities may have been considerably higher.

In addition to direct mortalities, breeding activities were disrupted by the oil and clean-up activities. In comparison with black oystercatchers on the largely unoiled Montague Island, oystercatchers at heavily oiled Green Island had reduced hatching success in 1989 and their chicks gained weight more slowly during 1991-93. Interpretation of these data on reproductive performance, however, are confounded by lack of prespill data. Productivity and survival of black oystercatchers in Prince William Sound have not been monitored since 1993, and the recovery status of this species is not known.

Recovery Objective

Black oystercatchers will have recovered when the population returns to prespill levels and reproduction is within normal bounds. An increasing population trend and comparable hatching success and growth rates of chicks in oiled and unoiled areas, after taking into account geographic differences, will indicate that recovery is underway.

CLAMS

Injury and Recovery

The magnitude of impacts on clam populations varies with the species of clam, degree of oiling, and location. However, data from the lower intertidal zone on sheltered beaches suggest that little-neck clams and, to a lesser extent, butter clams were killed and suffered slower growth rates as a result of the oil spill and clean-up activities. In communities on the Kenai Peninsula, Kodiak, and the Alaska Peninsula and in Prince William Sound concern about the effects of the oil spill on clams and subsistence uses of clams remains high.

Recovery Objective

Clams will have recovered when populations and productivity have returned to levels that would have prevailed in the absence of the oil spill, based on prespill data or comparisons of oiled and unoiled sites.

COMMON LOONS

Injury and Recovery

Carcasses of 395 loons of four species were recovered following the spill, including at least 216 common loons. Current population sizes are not known for any of these species, but, in general, loons are long-lived, slow-reproducing, and have small populations. Common loons in the oil-spill area may number only a few thousand, including only hundreds in Prince William Sound. Common loons injured by the spill probably included a mixture of resident and migrant birds, and their recovery status is not known.

Recovery Objective

No realistic recovery objective can be identified without more information on injury to and the recovery status of common loons.

COMMON MURRES

Injury and Recovery

About 30,000 carcasses of oiled birds were picked up following the oil spill, and 74 percent of them were common and thick-billed murres (mostly common murres). Many more murres probably died than actually were recovered. Based on surveys of index colonies at such locations as Resurrection Bay, the Chiswell, Barren, and Triplet islands, and Puale Bay, the spill-area population may have declined by about 40 percent following the spill. In addition to direct losses of murres, there is evidence that the timing of reproduction was disrupted and productivity reduced. Interpretation of the effects of the spill, however, is complicated by incomplete prespill data and by indications that populations at some colonies were in decline before the oil spill.

Postspill monitoring of productivity at the colonies in the Barren Islands indicates that reproductive timing and success were again within normal bounds by 1993. Numbers of adult murres were last surveyed at those same colonies in 1994. At that time, the local population had not returned to prespill levels.

The Alaska Predator Ecosystem Experiment (APEX project), funded by the Trustee Council, is investigating the linkages among murre populations and changes in the abundance of forage fish, such as Pacific herring, sand lance, and capelin.

Recovery Objective
Common murres will have recovered when populations at index colonies have returned to prespill levels and when productivity is sustained within normal bounds. Increasing population trends at index colonies will be a further indication that recovery is underway.

CORMORANTS

Injury and Recovery
Cormorants are large fish-eating birds that spend much of their time on the water or perched on rocks near the water. Three species typically are found within the oil-spill area.

Carcasses of 838 cormorants were recovered following the oil spill, including 418 pelagic, 161 red-faced, 38 double-crested, and 221 unidentified cormorants. Many more cormorants probably died as a result of the spill, but their carcasses were not found.

No regional population estimates are available for any of the cormorant species found in the oil-spill area. The U.S. Fish and Wildlife Service Alaska Seabird Colony Catalog, however, currently lists counts of 7,161 pelagic cormorants, 8,967 red-faced cormorants, and 1,558 double-crested cormorants in the oil-spill area. These are direct counts, not overall population estimates, but they suggest that population sizes are small. In this context, it appears that injury to all three cormorant species may have been significant.

In addition, there were statistically-significant declines in the estimated numbers of cormorants (all three species combined) in Prince William Sound based on pre- and postspill July boat surveys (1972-73 v 1989-91). There were fewer cormorants in oiled than in unoiled parts of the Sound. More recent surveys (1993-94) did not show an increasing population trend since the oil spill. With support from the Trustee Council, these boat surveys will be repeated in 1996.

Recovery Objective
Pelagic, red-faced, and double-crested cormorants will have recovered when their populations return to prespill levels in the oil-spill area. An increasing population trend in Prince William Sound will indicate that recovery is underway.

CUTTHROAT TROUT

Injury and Recovery

Prince William Sound is at the northwestern limit of the range of cutthroat trout, and few stocks are known to exist within the Sound. Local cutthroat trout populations rarely number more than 1,000 each, and the fish have small home ranges and are geographically isolated. Cutthroat trout, therefore, are highly vulnerable to exploitation, habitat alteration, or pollution.

Following the oil spill, cutthroat trout in a small number of oiled index streams grew more slowly than in unoiled streams, possibly as a result of reduced food supplies or exposure to oil, and there is concern that reduced growth rates may have led to reduced survival. The difference in growth rates persisted through 1991. No studies have been conducted since then, and the recovery status of this species is not known.

Recovery Objective

Cutthroat trout will have recovered when growth rates within oiled areas are similar to those for unoiled areas, after taking into account geographic differences.

DESIGNATED WILDERNESS AREAS

Injury and Recovery

The oil spill delivered oil in varying quantities to the waters adjoining the seven areas within the spill area designated as wilderness areas and wilderness study areas by Congress. Oil also was deposited above the mean high-tide line in these areas. During the intense clean-up seasons of 1989 and 1990, thousands of workers and hundreds of pieces of equipment were at work in the spill area. This activity was an unprecedented imposition of people, noise, and activity on the area's undeveloped and normally sparsely occupied landscape. Although activity levels on these wilderness shores have probably returned to normal, at some locations there is still residual oil.

Recovery Objective

Designated wilderness areas will have recovered when oil is no longer encountered in these areas and the public perceives them to be recovered from the spill.

DOLLY VARDEN

Injury and Recovery

Like the cutthroat trout, there is evidence that Dolly Varden grew more slowly in oiled streams than in unoiled streams, and there is concern that reduced growth rates may have led to reduced survival. However, no data have been gathered since 1991. The recovery status of this species is not known.

Recovery Objective
Dolly Varden will have recovered when growth rates within oiled streams are comparable to those in unoiled streams, after taking into account geographic differences.

HARBOR SEALS

Injury and Recovery
Harbor seal numbers were declining in the Gulf of Alaska, including in Prince William Sound, before the oil spill. *Exxon Valdez* oil affected harbor seal habitats, including key haul-out areas and adjacent waters, in Prince William Sound and as far away as Tugidak Island, near Kodiak. Estimated mortality as a direct result of the oil spill was about 300 seals in oiled parts of Prince William Sound. Based on surveys conducted before (1988) and after (1989) the oil spill, seals in oiled areas had declined by 43 percent, compared to 11 percent in unoiled areas.

In a declining population deaths exceed births, and harbor seals in both oiled and unoiled parts of Prince William Sound have continued to decline since the spill. For the period 1989-1994, the average estimated annual rate of decline is about 6 percent. Changes in the amount or quality of food may have been an initial cause of this long-term decline. Although there is no evidence that such factors as predation by killer whales, subsistence hunting, and interactions with commerical fisheries caused the decline in the harbor seal population, these are among the on-going sources of mortality.

Harbor seals have long been a key subsistence resource in the oil-spill area. Subsistence hunting is affected by the declining seal population, and lack of opportunities to hunt seals has changed the diets of subsistence users who traditionally had relied heavily on these marine mammals.

Recovery Objective
Harbor seals will have recovered from the effects of the oil spill when their population is stable or increasing.

HARLEQUIN DUCKS

Injury and Recovery
Harlequin ducks feed in intertidal and shallow subtidal habitats where most of the spilled oil was initially stranded. More than 200 harlequin ducks were found dead in 1989, mostly in Prince William Sound. Many more than that number probably died throughout the spill area. Since the oil spill occurred in early spring, before wintering harlequins had left the oil-spill area, the impacts of the oil spill may have extended beyond the immediate spill area. The geographic extent of these impacts is not known.

Bile samples from harlequin ducks (combined with samples from Barrow's and common goldeneye) collected in eastern and western Prince William Sound and in the western Kodiak Archipelago in 1989-90 had higher concentrations of hydrocarbon metabolites than a small number of samples from harlequins and goldeneye collected at Juneau. Prespill data on harlequin populations and productivity are poor and complicated by possible geographic

differences in habitat quality. However, the summer population in Prince William Sound is small, only a few thousand birds. There continues to be concern about poor reproduction and a possible decline in numbers of molting birds in western versus eastern parts of the Sound.

Recovery Objective

Harlequin ducks will have recovered when breeding and postbreeding season densities and production of young return to prespill levels. A normal population age- and sex-structure and reproductive success, taking into account geographic differences, will indicate that recovery is underway.

INTERTIDAL COMMUNITIES

Injury and Recovery

Portions of 1,500 miles of coastline were oiled by the spill in Prince William Sound, on the Kenai and Alaska peninsulas, and in the Kodiak Archipelago. Both the oil and intensive clean-up activities had significant impacts on the flora and fauna of the intertidal zone, the area of beach between low and high tides. Intertidal resources are important to subsistence users, sea and river otters, and to a variety of birds, including black oystercatchers, harlequin ducks, surf scoters, and pigeon guillemots.

Impacts to intertidal organisms occurred at all tidal levels in all types of habitats throughout the oil-spill area. Many species of algae and invertebrates were less abundant at oiled sites compared to unoiled reference sites. Other opportunistic species, including a small species of barnacle, oligochaete worms, and filamentous brown algae, colonized shores where dominant species were removed by the oil spill and clean-up activities. The abundance and reproductive potential of the common seaweed, *Fucus gardneri* (known as rockweed or popweed), was also reduced following the spill.

On the sheltered, bedrock shores that are common in Prince William Sound, full recovery of *Fucus* is crucial for the recovery of intertidal communities at these sites, since many invertebrate organisms depend on the cover provided by this seaweed. *Fucus* has not yet fully recovered in the upper intertidal zone on shores subjected to direct sunlight, but in many locations, recovery of intertidal communities has made substantial progress. In other habitat types, such as estuaries and cobble beaches, many species did not show signs of recovery when they were last surveyed in 1991.

Recovery Objective

Intertidal communities will have recovered when community composition on oiled shorelines is similar to that which would have prevailed in the absence of the spill. Indications of recovery are the reestablishment of important species, such as *Fucus* at sheltered rocky sites, the convergence in community composition on oiled and unoiled shorelines, and the provision of adequate, uncontaminated food supplies for top predators in intertidal and nearshore habitats.

KILLER WHALES

Injury and Recovery

More than 80 killer whales in six "resident" pods regularly use Prince William Sound within their ranges. Other whales in "transient" groups are observed in the Sound less frequently. There has been particular concern in Prince William Sound about the resident AB pod, which numbered 36 animals prior to the spill. Fourteen whales disappeared from this pod in 1989 and 1990, during which time no young were recruited into the population. Although four calves were added to the AB pod during 1992-94, surveys in 1994 and 1995 indicate the loss of five more adult whales. The link between these losses and the oil spill is only circumstantial, but the likely mortality of killer whales in the AB pod in Prince William Sound following the spill far exceeds rates observed for other pods in British Columbia and Puget Sound over the last 20 years. In addition to the effects of the oil spill, there has been concern about the possible shooting of killer whales, pehaps due to conflicts with long-line fisheries.

The AB pod may never regain its former size, but overall numbers within the major resident killer whale pods in Prince William Sound are at or exceed prespill levels. There is concern, however, that a decline in resightings of individuals within the AT group of transient killer whales has accelerated following the oil spill.

Recovery Objective

Killer whales in the AB pod will have recovered when the number of individuals in the pod is stable or increasing relative to the trends of other major resident pods in Prince William Sound.

KITTLITZ'S MURRELET

Injury and Recovery

The Kittlitz's murrelet is found only in Alaska and portions of the Russian Far East, and a large fraction of the world population, which may number only a few tens of thousands, breeds in Prince William Sound. The Kenai Peninsula coast and Kachemak Bay are also important concentration areas for this species. Very little is known about Kittlitz's murrelets. However, they associate closely with tidewater glaciers and nest on scree slopes and similar sites on the ground.

Seventy-two Kittlitz's murrelets were positively identified among the bird carcasses recovered after the oil spill. Nearly 450 more *Brachyramphus* murrelets were not identified to the species level, and it is reasonable to assume that some of these were Kittlitz's. In addition, many more murrelets probably were killed by the oil than were actually recovered. One published estimate places direct mortality of Kittlitz's murrelets from the oil spill at 1,000-2,000 individuals, which would represent a substantial fraction of the world population.

Because of the highly patchy distribution of Kittlitz's murrelet, the difficulty of identifying them in the field, and the fact that so little is known about this species, the recovery status of the Kittlitz's murrelet is not known. The Trustee Council has funded an exploratory study on the ecology and distribution of this murrelet starting in 1996.

Recovery Objective

No recovery objective can be identified for Kittlitz's murrelet at this time.

MARBLED MURRELET

Injury and Recovery

The northern Gulf of Alaska, including Prince William Sound, is a key area of concentration in the distribution of marbled murrelets. The marbled murrelet is federally listed as a threatened species in Washington, Oregon, and California; it is also listed as threatened in British Columbia.

The marbled murrelet population in Prince William Sound had declined before the oil spill. The causes of the prespill decline are unknown, but may be related to changing food supplies. It is not known whether the murrelet population was still declining at the time of the oil spill, but the spill caused additional losses of murrelets. Carcasses of nearly 1,100 *Brachyramphus* murrelets were found after the spill, and about 90 percent of the murrelets that could be identified to the species level were marbled murrelets. Many more murrelets probably were killed by the oil than were found, and it is estimated that as much as 7 percent of the marbled murrelet population in the oil-spill area was killed by the spill.

Population estimates for murrelets are highly variable. Postspill boat surveys do not yet indicate any statistically significant increase in numbers of marbled murrelets in Prince William Sound, nor is there evidence of any further decline.

Recovery Objective

Marbled murrelets will have recovered when its population is stable or increasing. Stable or increasing productivity will be an indication that recovery is underway.

MUSSELS

Injury and Recovery

Mussels are an important prey species in the nearshore ecosystem throughout the oil-spill area, and beds of mussels provide physical stability and habitat for other organisms in the intertidal zone. For these reasons, mussel beds were purposely left alone during *Exxon Valdez* clean-up operations.

In 1991, high concentrations of relatively unweathered oil were found in the mussels and underlying byssal mats and sediments in certain dense mussel beds. The biological significance of oiled mussel beds is not known, but they are potential pathways of oil contamination for local populations of harlequin ducks, black oystercatchers, river otters, and juvenile sea otters, all of which feed to some extent on mussels and show some signs of continuing injury.

About 30 mussel beds in Prince William Sound are known still to have oil residue, and 12 of them were cleaned on an experimental basis in 1994. By August 1995, these beds showed a 98 percent reduction in oil in the replacement sediments, compared to what had been there before. Mussel beds along the outer Kenai Peninsula coast, the Alaska Peninsula, and Kodiak

Archipelago were surveyed for the presence of oil in 1992, 1993, and 1995. Hydrocarbon concentrations in mussels and sediments at these Gulf of Alaska sites is generally lower than for sites in the Sound, but at some sites substantial concentrations persist.

Subsistence users continue to be concerned about contamination from oiled mussel beds. The Nearshore Vertebrate Predator project is focusing on mussels as a key prey species and component of the nearshore ecosystem.

Recovery Objective
Mussels will have recovered when concentrations of oil in the mussels and in the sediments below mussel beds reach background levels, do not contaminate their predators, and do not affect subsistence uses.

PACIFIC HERRING

Injury and Recovery
Pacific herring spawned in intertidal and subtidal habitats in Prince William Sound shortly after the oil spill. A significant portion of these spawning habitats as well as herring staging areas in the Sound were contaminated by oil. Field studies conducted in 1989 and 1990 documented increased rates of egg mortality and larval deformities in oiled versus unoiled areas. Subsequent laboratory studies confirm that these effects can be caused by exposure to *Exxon Valdez* oil, but the significance of these injuries at a population level is not known.

The 1988 prespill year-class of Pacific herring was very strong in Prince William Sound, and, as a result, the estimated peak biomass of spawning adults in 1992 was at a record level. In 1993, however, there was an unprecedented crash of the adult herring population. A viral disease and fungus were the probable agents of mortality, and the connection between the oil spill and the disease outbreak is under investigation. Numbers of spawning herring in Prince William Sound remained depressed through the 1995 season. Preliminary results from the Sound Ecosystem Assessment (SEA) Project indicate the possible significance of walleye pollock as both competitors with and predators on herring, which may indicate that there is a connection between the lack of recruitment of strong year classes of herring and the presence of large numbers of pollock in Prince William Sound.

Pacific herring are extremely important ecologically and commercially and for subsistence users. Reduced herring populations could have significant implications for both their predators and their prey, and the closure of the herring fishery from 1993 through 1995 has had serious economic impact on people and communities in Prince William Sound.

Recovery Objective
Pacific herring will have recovered when the next highly successful year class is recruited into the fishery and when other indicators of population health are sustained within normal bounds in Prince William Sound.

PIGEON GUILLEMOT

Injury and Recovery

Although the pigeon guillemot is widely distributed in the north Pacific region, nowhere does it occur in large numbers or concentrations. Because guillemots feed in shallow, nearshore waters, the guillemots and the fish on which they prey are vulnerable to oil pollution.

Like the marbled murrelet, there is evidence that the pigeon guillemot population in Prince William Sound had declined before the spill. The causes of the prespill decline are unknown. It is estimated that 10-15 percent of the spill-area population may have died following the spill. Guillemot nesting on the Naked Islands was well-studied in 1978-81. Postspill surveys using the same methods indicated a decline of about 40 percent in guillemots in the Naked Islands. Based on boat surveys, the overall guillemot population in the Sound declined as well.

Numbers of guillemots recorded on boat surveys are highly variable, and there is not yet any statistically significant evidence of a postspill population increase. The factors responsible for the guillemot's prespill decline may negate or mask recovery from the effects of the oil spill.

The Alaska Predator Ecosystem Experiment (the APEX project), supported by the Trustee Council, is investigating the possible link between pigeon guillemot declines to the availability and abundance of forage fish, such as Pacific herring, sand lance, and capelin.

Recovery Objective

Pigeon guillemots will have recovered when their population is stable or increasing. Sustained productivity within normal bounds will be an indication that recovery is underway.

PINK SALMON

Injury and Recovery

About 75 percent of wild pink salmon in Prince William Sound spawn in the intertidal portions of streams and were highly vulnerable to the effects of the oil spill. Hatchery salmon and wild salmon from both intertidal and upstream spawning habitats swam through oiled waters and ingested oil particles and oiled prey as they foraged in the Sound and emigrated to the sea. As a result, three types of early life-stage injuries were identified: First, growth rates in juvenile pink salmon from oiled parts of Prince William Sound were reduced. Second, there was increased egg mortality in oiled versus unoiled streams. A possible third effect, genetic damage, is under investigation.

In the years preceding the spill, returns of wild pink salmon in Prince William Sound varied from a maximum of 21.0 million fish in 1984 to a minimum of 1.8 million in 1988. Since the spill, returns of wild pinks have varied from a high of about 14.4 million fish in 1990 to a low of about 2.2 million in 1992. There is a particular concern about the Sound's southwest management district, where returns of both hatchery and wild stocks have been generally weak since the oil spill. Because of the tremendous natural variation in adult returns, however, it is difficult to attribute poor returns in a given year to injuries caused by *Exxon Valdez* oil. For pink salmon, mortalities of eggs and juveniles remain the best indicators of injury and recovery.

Evidence of reduced juvenile growth rates was limited to the 1989 season, but increased egg mortality persisted in oiled compared to unoiled streams through 1993. The 1994 and 1995 seasons were the first since 1989 in which there were no statistically significant differences in egg mortalities in oiled and unoiled streams. These data indicate that recovery from oil-spill effects is underway.

The Sound Ecosystem Assessment (SEA) Project is exploring oceanographic and ecological factors that influence production of pink salmon and Pacific herring. These natural factors are likely to have the greatest influence over year-to-year returns in both wild and hatchery stocks of pink salmon.

Recovery Objective
Pink salmon will have recovered when population indicators, such as growth and survival, are within normal bounds and there are no statistically significant differences in egg mortalities in oiled and unoiled streams for two years each of odd- and even-year runs in Prince William Sound.

RIVER OTTERS

Injury and Recovery
River otters have a low population density and an unknown population size in Prince William Sound, and, therefore, it is hard to assess oil-spill effects. Twelve river otter carcasses were found following the spill, but the actual mortality is not known. Studies conducted during 1989-91 identified several differences between river otters in oiled and unoiled areas in Prince William Sound, including biochemical evidence of exposure to hydrocarbons or other sources of stress, reduced diversity in prey species, reduced body size (length-weight), and increased territory size. Since there were no prespill data and sample sizes were small, it is not clear that these differences are the result of the oil spill.

The Nearshore Vertebrate Predator project, now underway, will shed new light on the status of the river otter. In 1995 the Alaska Board of Game used its emergency authority to restrict trapping of river otters in western Prince William Sound to ensure that the results of this study are not compromised by the removal of animals from study areas on Jackpot and Knight islands.

Recovery Objective
The river otter will have recovered when biochemical indices of hydrocarbon exposure or other stresses and indices of habitat use are similar between oiled and unoiled areas of Prince William Sound, after taking into account any geographic differences.

ROCKFISH

Injury and Recovery

Very little is known about rockfish populations in the northern Gulf of Alaska. A small number of dead adult rockfish was recovered following the oil spill, and autopsies of five specimens indicated that oil ingestion was the cause of death. Analysis of other rockfish showed exposure to hydrocarbons and probable sublethal effects. In addition, closures to salmon fisheries apparently increased fishing pressures on rockfish, which may have adversely affected the rockfish population. However, the original extent of injury and the current recovery status of this species are unknown.

Recovery Objective

No recovery objective can be identified.

SEA OTTERS

Injury and Recovery

By the late 1800s, sea otters had been eliminated from most of their historical range in Alaska due to excessive fur harvesting by Russian and American fleets. Surveys of sea otters in the 1970s and 1980s, however, indicated a healthy and expanding population, including in Prince William Sound, prior to the oil spill. Sea otters are today an important subsistence resource for their furs.

About 1,000 sea otter carcasses were recovered following the spill, although additional animals probably died but were not recovered. In 1990 and 1991, higher-than-expected proportions of prime-age adult sea otters were found dead in western Prince William Sound, and there was evidence of higher mortality of recently weaned juveniles in oiled areas. By 1992-93, overwintering mortality rates for juveniles had decreased, but were still higher in oiled than in unoiled parts of the Sound.

Based on boat surveys conducted in Prince William Sound, there is not yet statistically significant evidence of an overall population increase following the oil spill (1990-94). This lack of a significant positive trend, however, may result from low statistical power in the survey, which will be repeated in 1996.

Based on observations by local residents, it is evident that the sea otter is abundant in much of Prince William Sound. There is no evidence that recovery has occurred, however, in heavily oiled parts of western Prince William Sound, such as around northern Knight Island. The Nearshore Vertebrate Predator project, which was started in 1995, should help clarify the recovery status of the sea otter in the western Sound.

Recovery Objective
Sea otters will have recovered when the population in oiled areas returns to its prespill abundance and distribution. An increasing population trend and normal reproduction and age structure in western Prince William Sound will indicate that recovery is underway.

SEDIMENTS

Injury and Recovery
Exxon Valdez oil penetrated deeply into cobble and boulder beaches that are common on shorelines throughout the spill area, especially in sheltered habitats. Cleaning and natural degradation removed much of the oil from the intertidal zone, but visually identifiable surface and subsurface oil persists at many locations.

The last comprehensive survey of shorelines in Prince William Sound, conducted in 1993, included 45 areas of shoreline known to have had the most significant oiling. Based on that survey, it was estimated that heavy subsurface oil had decreased by 65 percent since 1991 and that surface oil had decreased by 50 percent over the same time period. Surveys also have indicated that remaining shoreline oil in the Sound is relatively stable and, by this time, is likely to decrease only slowly. Oil also persists under armored rock settings on the Kenai and Alaska peninsulas, and this oil has undergone little chemical change since 1989.

In 1995, a shoreline survey team visited 30 sites in the Kodiak Archipelago that had measurable or reported oiling in 1990 and 1991. The survey team found no oil or only trace amounts at these sites. The oiling in the Kodiak area is not persisting as it is at sites in Prince William Sound due to the higher energy settings in the Kodiak area, the state of the oil when it came ashore, and the smaller concentrations of initial oiling relative to the Sound.

Following the oil spill, chemical analyses of oil in subtidal sediments were conducted at a small number of index sites in Prince William Sound. At these sites, oil in subtidal sediments reached its greatest concentrations at water depths of 20 meters below mean low tide, although elevated levels of hydrocarbon-degrading bacteria (associated with elevated hydrocarbons) were detected at depths of 40 and 100 meters in 1990 in Prince William Sound. By 1993, however, there was little evidence of *Exxon Valdez* oil and related microbial activity at most index sites in Prince William Sound, except at those associated with sheltered beaches that were heavily oiled in 1989. These index sites--at Herring, Northwest, and Sleepy bays--are among the few sites at which subtidal oiling is still known to occur.

Recovery Objective
Sediments will have recovered when there are no longer residues of *Exxon Valdez* oil on shorelines (both tidal and subtidal) in the oil-spill area. Declining oil residues and diminishing toxicity are indications that recovery is underway.

SOCKEYE SALMON

Injury and Recovery

Commercial salmon fishing was closed in Prince William Sound and in portions of Cook Inlet and near Kodiak in 1989 to avoid any possibility of contaminated salmon being sent to market. As a result, there were higher-than-desirable numbers (i.e., overescapement) of spawning sockeye salmon entering the Kenai River, Red and Akalura lakes on Kodiak Island, and other lakes on Afognak Island and the Alaska Peninsula. Initially these high escapements may have produced an overabundance of juvenile sockeye that overgrazed the zooplankton, thus altering planktonic food webs in the nursery lakes. Although the exact mechanism is unclear, the result was lost sockeye production as shown by declines in the returns of adults per spawning sockeye.

The effects of the 1989 overescapement of sockeye salmon have persisted in the Kenai River system through 1995. Although the overall escapement goal for that system was met in 1995, there is concern that the initial overescapement will continue to affect post-spill year-classes.

Production of zooplankton in both Red and Akalura lakes on Kodiak Island has rebounded from the effects of the overescapement at the time of the oil spill. There continues to be some problem in the rate of production of sockeye fry in Red and Akalura lakes. This problem may or may not be linked to the overescapement, and possible additional factors include low egg-to-fry survival, competition from other freshwater fishes, and the interception of adults in the mixed-stock fishery harvest offshore.

Recovery Objective

Sockeye salmon in the Kenai River system and Red and Akalura lakes will have recovered when adult returns-per-spawner are within normal bounds.

SUBTIDAL COMMUNITIES

Injury and Recovery

Oil that was transported down to subtidal habitats apparently caused changes in the abundance and species composition of plant and animal populations below lower tides. Different habitats, including eelgrass beds, kelp beds, and adjacent nearshore waters (depths less than 20 meters), were compared at oiled and unoiled sites. The concentration of oil in sediments in 1990 was more than twice as great at oiled sites. The greatest differences were detected at oiled sites with sandy sea bottoms in the vicinity of eelgrass beds, at which there were reduced abundances of eelgrass shoots and flowers and helmet crabs. The abundance and diversity of worms, clams, snails, and oil-sensitive amphipods (sand fleas) also were reduced. Organisms living in sediment at depths of 3-20 meters were especially affected. Some opportunistic (i.e., stress-tolerant) invertebrates within the substrate, mussels and worms on the eelgrass, and juvenile cod, were greater in numbers at oiled sites.

By 1993, oil concentrations in sediments had dropped considerably, so that there was little difference between oiled and unoiled sites. The eelgrass habitat, the only habitat examined in 1993, revealed fewer differences in abundances of plants and animals. As was true in 1990, however, some opportunistic species still were more abundant at oiled sites. These included the

opportunistic worms and snails, mussels and worms on the eelgrass, and juvenile cod.

Preliminary results from eelgrass habitats visited in 1995 revealed that natural recovery had occurred. No difference was detected in abundance of eelgrass shoots and flowers, mussels on eelgrass, amphipods, helmet crabs, and dominant sea stars between oiled and unoiled sites. The abundance of small green sea urchins, however, was more than 10 times greater at oiled sites. The possibility that urchins increased due to a reduction in numbers of sea otters, which prey on urchins, is being examined in the Nearshore Vertebrate Predator Project. Analyses of the recent oil concentrations in sediments and organisms that live within the substrate are not yet complete.

Recovery Objective
Subtidal communities will have recovered when community composition in oiled areas, especially in association with eelgrass beds, is similar to that in unoiled areas. Indications of recovery are the return of oil-sensitive species, such as amphipods, and the reduction of opportunistic species at oiled sites.

SERVICES

COMMERCIAL FISHING

Injury and Recovery
Commercial fishing is a service that was reduced through injury to commercial fish species (see individual resources) and also through fishing closures. In 1989, closures affected fisheries in Prince William Sound, lower Cook Inlet, upper Cook Inlet, Kodiak, and Chignik. These fisheries opened again in 1990. Since then, there have been no spill-related district-wide closures, except for the Prince William Sound herring fishery, which was closed in 1993 and has remained closed since then due to the collapse of the herring population and poor fishery recruitment since 1989. These closures, including the on-going closure of the herring fishery in Prince William Sound, harmed the livelihoods of persons who fish for a living and the communities in which they live. To the extent that the oil spill continues to be a factor that reduces opportunities to catch fish, there is on-going injury to commercial fishing as a service.

On this basis, the Trustee Council continues to make major investments in projects to understand and restore commercially important fish species that were injured by the oil spill. These projects include: supplementation work, such as fertilizing Coghill Lake to enhance its sockeye salmon run and construction of a barrier bypass at Little Waterfall Creek; development of tools that have almost immediate benefit for fisheries management, such as otolith mass marking of pink salmon in Prince William Sound and in-season genetic stock identification for sockeye salmon in Cook Inlet; and research such as the SEA Project and genetic mapping which will enhance the ability to predict and manage fisheries over the long-term.

Recovery Objective
Commercial fishing will have recovered when the commercially important fish species have recovered and opportunities to catch these species are not lost or reduced because of the effects of the oil spill.

PASSIVE USE

Injury and Recovery

Passive use of resources includes the appreciation of the aesthetic and intrinsic values of undisturbed areas, the value derived from simply knowing that a resource exists, and other nonuse values. Injuries to passive uses are tied to public perceptions of injured resources. Contingent valuation studies conducted by the State of Alaska for the *Exxon Valdez* oil spill litigation measured substantial losses of passive use values resulting from the oil spill.

Recovery Objective

Passive uses will have recovered when people perceive that aesthetic and intrinsic values associated with the spill area are no longer diminished by the oil spill.

RECREATION AND TOURISM

Injury and Recovery

The spill disrupted use of the spill area for recreation and tourism. Resources important for wildlife viewing and which still are injured by the spill include killer whale, sea otter, harbor seal, and various seabirds. Residual oil exists on some beaches with high value for recreation, and its presence may decrease the quality of recreational experiences and discourage recreational use of these beaches.

Closures of sport hunting and fishing also affected use of the spill area for recreation and tourism. Sport fishing resources include salmon, rockfish, Dolly Varden, and cutthroat trout. Since 1992, the Alaska Board of Fisheries has imposed special restrictions on sport fishing in parts of Prince William Sound to protect cutthroat trout populations. Harlequin ducks are hunted in the spill area. The Alaska Board of Game restricted sport harvest of harlequin ducks in Prince William Sound in 1991, and those restrictions remain in place.

Recreation was also affected by changes in human use in response to the spill. For example, displacement of use from oiled areas to unoiled areas increased management problems and facility use in unoiled areas. Some facilities, such as the Green Island cabin and the Fleming Spit camp area, were injured by clean-up workers.

In the years since the oil spill, there has been a general, marked increase in visitation to the spill area. However, there are still locations within the oil-spill area which are avoided by recreational users because of the presence of residual oil.

Recovery Objective

Recreation and tourism will have recovered, in large part, when the fish and wildlife resources on which they depend have recovered, recreation use of oiled beaches is no longer impaired, and facilities and management capabilities can accommodate changes in human use.

SUBSISTENCE

Injury and Recovery

Fifteen predominantly Alaskan Native communities (numbering about 2,200 people) in the oil-spill area rely heavily on harvests of subsistence resources, such as fish, shellfish, seals, deer, ducks, and geese. Many families in other communities, both in and beyond the oil-spill area, also rely on the subsistence resources of the spill area.

Subsistence harvests of fish and wildlife in most of these villages declined substantially following the oil spill. The reasons for the declines include reduced availability of fish and wildlife to harvest, concern about possible health effects of eating contaminated or injured fish and wildlife, and disruption of lifestyles due to clean-up and other activities.

Subsistence foods were tested for evidence of hydrocarbon contamination from 1989-94. No or very low concentrations of petroleum hydrocarbons were found in most subsistence foods. The U.S. Food and Drug Administration determined that eating foods with such low levels of hydrocarbons posed no significant additional risk to human health. Because shellfish can continue to accumulate hydrocarbons, however, the Oil Spill Health Task Force advised subsistence users not to eat shellfish from beaches where oil can be seen or smelled on the surface or subsurface. Residual oil exists on some beaches near subsistence communities. In general, subsistence users remain concerned and uncertain about the safety of fish and other wildlife resources.

The estimated size of the subsistence harvest in pounds per person now appears to have returned to pre-spill levels in some communities, according to subsistence users through household interviews conducted by the Alaska Department of Fish and Game. These interviews also indicated that the total subsistence harvest began to rebound first in the communities of the Alaska Peninsula, Kodiak Island, and the lower Kenai Peninsula, but that the harvest has lagged behind a year or more in the Prince William Sound villages. The interviews also showed that the relative contributions of certain important subsistence resources remains unusually low. The scarcity of seals, for example, has caused people in Chenega Bay to harvest fewer seals and more salmon than has been customary. Herring have been very scarce throughout Prince William Sound since 1993. Different types of resources have varied cultural and nutritional importance, and the changes in diet composition remain a serious concern to subsistence users. Subsistence users also report that they have to travel farther and expend more time and effort to harvest the same amount as they did before the spill, especially in Prince William Sound.

Subsistence users also point out that the value of subsistence cannot be measured in pounds alone. This conventional measure does not include the cultural value of traditional and customary use of natural resources. Subsistence users say that maintaining their subsistence culture depends on uninterrupted use of fish and wildlife resources. The more time users spend away from subsistence activities, the less likely that they will return to these practices. Continuing injury to natural resources used for subsistence may affect ways of life of entire communities. There is particular concern that the oil spill disrupted opportunities for young people to learn subsistence culture, and that this knowledge may be lost to them in the future.

Recovery Objective

Subsistence will have recovered when injured resources used for subsistence are healthy and productive and exist at prespill levels. In addition, there is recognition that people must be confident that the resources are safe to eat and that the cultural values provided by gathering, preparing, and sharing food need to be reintegrated into community life.

[*Note: This draft table is modified from p. 32 of the* Restoration Plan.]

Table 2. Resources and Services Injured by the Spill

INJURED RESOURCES				LOST or REDUCED SERVICES
Recovered	**Recovering**	**Not Recovered**	**Recovery Unknown**	Commercial fishing
Bald eagle	Archaeological resources*	Cormorants (3 species)	Black oystercatcher	Passive uses
	Common murres	Harbor seal	Clams	Recreation and Tourism including sport fishing, sport hunting, and other recreation uses
	Intertidal communities	Harlequin duck	Common loon	
	Mussels	Killer whale (AB pod)	Cutthroat trout	
	Pink salmon	Marbled murrelet	Designated Wilderness areas	Subsistence
	Sediments	Pacific herring	Dolly Varden	
	Sockeye salmon	Pigeon guillemot	Kittlitz's murrelet	
	Subtidal communities	Sea otter (in oiled west. PWS)	River otter	
			Rockfish	

---

*Archaeological resources are not renewable in the same way that biological resources are, but there has been significant progress toward the recovery objective.

Amending the List of Injured Resources and Services. The list of injured resources and services will be reviewed as new information is obtained through research, monitoring, and other studies sponsored by the Trustee Council. In addition, information may be submitted to add to or otherwise change this list. This information can include research results, assessment of population trends, ethnographic and historical data, and supportive rationale. Information that has been through an appropriate scientific review process is preferable. If data have not been peer reviewed, they should be presented in a format that permits and facilitates peer review. Information to change the list will be reviewed through the Trustee Council's scientific review process.

Exxon Valdez Oil Spill Trustee Council
645 G Street, Suite 401
Anchorage, AK 99501-3451

14.2.21 B

United States Department of the Interior

NATIONAL BIOLOGICAL SERVICE

In reply refer to:

Alaska Science Center
1011 E. Tudor Road
Anchorage, Alaska 99503-6199
June 11, 1996

Molly McCammon
Executive Director
Exxon Valdez Oil Spill Trustee Council
645 G Street, Suite 401
Anchorage, AK 99501-3451

Dear Molly,

The 97025 "Nearshore Vertebrate Predator Project" has proposed take of various shorebirds and two species of ducks as part of our efforts to assess if food is constraining recovery of sea otters in western Prince William Sound. I have enclosed the required information as per earlier instruction from Dr. Stan Senner. These materials were developed by Dr. Mary Ann Bishop, Mr. Dan Esler, and reviewed by NVP Statistician Dr. Lyman McDonald.

Your assistance in this manner would be greatly appreciated.

Sincerely,

Leslie E. Holland-Bartels, Ph.D.

Attachment

cc: Catherine Berg, USFWS
Mary Ann Bishop, USFS
Dan Esler, NBS
Stan Senner, EVOS
Bob Spies, EVOS
Deborah Williams, DOI

FY97 PROPOSED BIRD COLLECTIONS AS PART OF PROJECT 97025 - NEARSHORE VERTEBRATE PREDATORS

Background

Collections of birds are proposed as part of an effort to estimate effects of avian predators on blue mussel size class structure and abundance. Rationale and specific methods are described in NVP Detailed Project Descriptions. In brief, estimates of avian predation on mussels are necessary because mussel population structure will be used as one measure of sea otter recovery status, i.e., whether sea otters are at carrying capacity relative to available food. If avian copredators are structuring mussel populations on our study sites, it could confound interpretation of sea otter recovery unless we account for it.

Understanding avian copredator effects on mussel populations requires estimation of total numbers and size classes of mussels consumed. This will be estimated from models that incorporate the numbers of birds, the period that they are on the study sites, their energetic and nutritional needs during that period, and the size class and abundance of mussels in their diets. The last parameter requires collection of birds to accurately assess the occurrence and size class of mussels in bird diets on the specific study sites.

How many individuals are proposed to be collected and the approximate times and locations? How do these numbers compare with the total population in the general collecting area?

We have proposed collection of a total of 50 Barrow's goldeneyes from the Montague and Knight Island study sites during two periods (November and February) in winter. Barrow's goldeneyes are abundant on the study sites during winter and previous studies have demonstrated that nearly all of their diet consists of mussels. Also, we have proposed collections of up to 20 each of glaucous-winged gulls, mew gulls, surfbirds, and surf scoters from the Montague site during spring. These species gather in large numbers on or near the study site in response to herring spawn and may consume mussels during that period.

Goldeneye collections represent 0.14% of the March 1994 marine bird survey estimate of 34,070. Glaucous-winged gull collections would take .04% of 45,000 birds estimated in spring 1994. Also in 1994, 9700 mew gulls were counted; collections would take 0.21% of that population. In May 1992, an estimated 56,000 surfbirds were on Montague Island; the number of collected birds is 0.04% of that estimate. Marine bird surveys in March 1994 estimated 7,451 surf scoters. Collections represent 0.27% of that estimate, although surf scoter numbers during the spring are surely increased by migrants.

How is the general health of the population? Is the population increasing, decreasing, or holding steady in the proposed sampling area? Is reproduction and young survival normal?

Populations of all species are large in Prince William Sound during the periods of proposed collections. Data from marine bird surveys suggest that goldeneyes are increasing in PWS, although at a slower rate in oiled areas. Population estimation and trends of spring migrants is difficult to

ascertain. None of the proposed collected species breed on the study sites - comments regarding productivity are unwarranted.

Is the proposed take likely to affect any population trends?

Given the extremely small portion of the population affected by these collections, no change in population trends would be expected.

Is the proposed method of take humane? Are there any effective, alternative means to obtain the data?

Birds will be collected by shotgun, the standard protocol used throughout the scientific and management community, and death will occur quickly. No appropriate alternative methods exist for determining diet in an unbiased manner.

What will be lost if there is no take allowed?

Mussel size class structure and occurrence in diets of avian copredators can not be distinguished without collection of these species. This is an important parameter of modeling efforts to determine effects of copredators on mussel populations. Data from other diet studies are not appropriate, as we need data that are specific to the study sites where we will be measuring mussel abundance and size class. The importance of the copredator issue was acknowledged by the Trustees in the December vote to include former 96104 in NVP. In addition, an outcome of the February 1996 review was the following statement by peer reviewer Charles H. Peterson "I have concern over whether the size class of...prey can be adequately ascertained from focal observations and feeding observations...I would urge some use of collection of predators to improve this understanding of diets."

What can we realistically hope to learn that will justify this collection?

Using these methods, we will know importance of mussels in the diets of avian copredators, the size classes of consumed mussels, and, subsequently, the effects of avian copredators on mussel population structure that must be considered to properly interpret sea otter recovery status.

Have federal and/or state permits been secured? If not, why not?

Permits for goldeneye collections in November 1996 are under consideration and should be approved soon. Collection permits for calendar year 1997 are to be applied for at the beginning of the calendar year.

THE VALDEZ VANGUARD

Valdez, Alaska · Volume 21 Number 21 · Wednesday, July 24, 1996 · 75 cents

Duck Flats for sale unless EVOS, state move quicker, says land owner

Vanguard Staff

Eight-and-a-half acres of Valdez Duck Flats off Loop Road, the only undeveloped wetlands in the area zoned commercial-residential, are up for sale to the highest bidder, despite the fact that the Exxon Valdez Oil Spill Trustees Council is under contract to buy the land under its wetlands-conservation project.

Local lot owner Philip Heyward said he put up the for sale sign Friday because he's become frustrated with the council's and state's lengthy paperwork and permit process, which he said is draining his bank account.

"I'd rather see EVOS protect the land than see a gravel pit landscape there," said Heyward, a former Alaska Fish and Game wildlife biologist. "But I have limited income now and can't sit on those lots anymore."

Molly McCammon, executive director of the EVOS Trustee Council, said Heyward's land was selected as part of the council's small parcel purchase project in February 1995. She said it's not uncommon for the closing process to last this long.

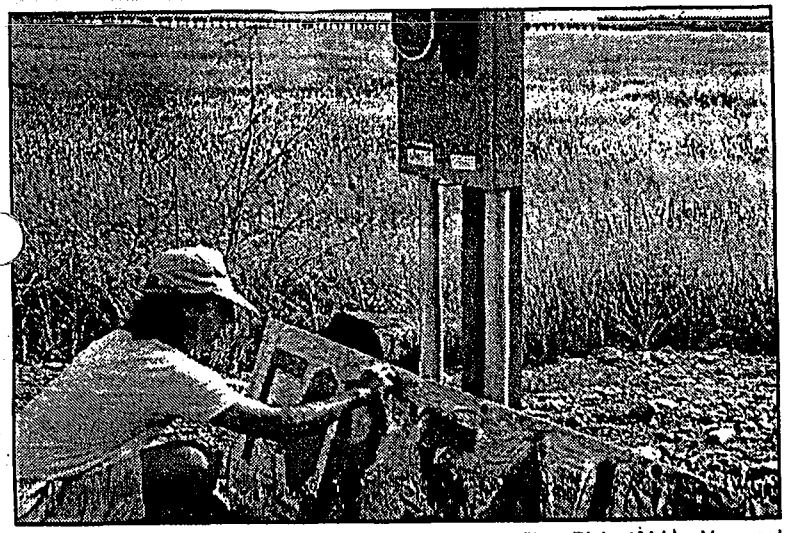
"Each parcel is unique and it takes time to go through the process," McCammon said. "We're following the process. It's going through all the paperwork."

Heyward said he assumed the process would not drag on a year-and-a-half, during which time he has removed rental trailers from the property, eliminating a main income source. He was recently told he must also remove storage garage to comply with Fish & Game's hazardous waste clearance requirement, a chore that entails more paperwork, time and money.

"I thought I was over the hump," he said. "But if it ain't one thing it's another."

The land was among 20 parcels

See Flats, page 6



Tony Bickert/Valdez Vanguard

Philip Heyward says he put his wetlands property up for potential commercial sale because he's tired of waiting for EVOS and the state to buy it.

Flats...

From page 1

selected from 200 applications in Prince William Sound in 1994 in an effort to restore ecosystems damaged by the oil spill, and to protect other ecosystems from development. The council does not actually buy the land, but authorizes state agencies, such as the Department of Natural Resources and, in this case, Fish and Game, to rate the parcels and make the purchase. EVOS authorized $150,000 for Heyward's land.

"It was ranked very highly in terms of habitat restoration value," McCammon said. "It's in that area where there isn't a lot of private land available. Fish and Game was very interested in it in order to keep that portion of the duck flats from being developed." Heyward said the five subdivided lots are for sale to the public at $25,000 to $35,000 apiece, or in full for $130,000, minus one lot he would keep for himself.

The Valdez Star
July 24, 1996

Solomon Gulch Hatchery Ends Harvest

HATCHERY—The Solomon gulch hatchery has completed its harvest of pink salmon in the Port of Valdez, taking 2.3 million pink salmon—a total of 9.1 million pounds—for its cost recovery program.

The harvest leaves the Valdez Fisheries Development Association about $500,000 short of its budget, says business manager Dave Cobb.

The shortfall will be made up, he says, by selling off roe stripped from some of the 400,000 pinks that are now swimming into the raceways at the hatchery.

In addition to the cost recovery harvest for the fisheries association, commercial fishermen have taken more than 5.6 million pink salmon for sale to local processors.

The fisheries association is selling its pink salmon catch this year to Peter Pan Seafoods at 27 cents a pound. Its operating budget is 2.7 million annually.

Commercial fishermen, by contrast, are getting between 5 and 12 cents a pound, barely enough to meet their costs and pay their crews.

As of Sunday, the pink run into the port had generated 5.6 million pink salmon for the common property fishery for commercial fishermen.

In addition, the fisheries association has taken some 2.5 million salmon for its cost recovery program and broodstock.

Harvest data and sex ratio data indicate that the pink salmon run into the port is now 95 percent complete, though stragglers will continue for several more weeks for sports fishermen, including those at the lucrative Allison Point site.

"The sports fishermen have really been banging them at Allison Point," says Cobb.

The pinks this year are slightly larger and firmer than in past years, giving them more commercial value, according to Cobb.

On Wednesday of this week, the Solomon Gulch hatchery began its "egg take" program—the long process of stripping the roe and sperm from the 400,000 pink salmon that are now entering the hatchery raceways.

The discarded carcasses will be given to the organization Earth for free distribution in Anchorage. Carcasses will also be distributed free at the hatchery for human consumption, dog food or whatever.

The laborious task of stripping the roe from the female and squirting it with male sperm will take about a month.

The salmon eggs will fertilize in incubated tanks in the hatchery over the winter before their release into salt water receiving pens in the port next March. After a 45-day pause in the pens, the hatchlings will be released into open waters for their trek into the North Pacific.

After a year at sea, the mature pinks will return to their spawning waters in the Port of Valdez.

The hatchery plans to release about 210 million fry in March with an anticipated return next year of 8 to 9 million harvestable fish.

Work starts on SeaLife Center

By Eric Fry
LOG Staff

Construction began last week at the Alaska SeaLife Center. The first big task is to erect the tower crane that will lift buckets of concrete mixed at an onsite batch plant. The white structure at the site is the crane's base.

"This summer our work will be concrete-intensive," said Beckie Pitts, assistant project manager for general contractor Strand Hunt Construction of Kirkland, Wash. "We'll be pouring the foundation and walls."

■ SeaLife Center of diversity. See st

Afognak Logging will supply raw materials for the concrete from a Resurrection River site, Pitts said. The project will use 10,000 cubic yards of concrete, said construction manager Roe Sturgulewski of Leif Selkregg Associates of Anchorage, the project manager.

Strand Hunt is doing roughly 28 percent of the construction work itself, mostly this year, Pitts said, when it expects to get the walls up and the roof on so that interior work can occur through the winter.

r will be a paragon
:ory, Page 3.

The company is a union contractor and will be hiring from the carpenters' Local 1281 and the laborers' Local 341, both based in Anchorage. It expects to have as many as 80 workers on site at the peak. "We're going to hire as many local people as we can that are in the union," Pitts said.

See Work, Page 19

Subcontractors may be union or not and will have their own hiring practices. The mechanical sub, Norcoast Mechanical of Anchorage, is union and will hire four to six workers from the plumbers and fitters' Local 367, said company president Dave Bathke. The other sub onsite now is Chilkat Electrical Construction Inc. of Anchorage, and couldn't be reached by press time.

Mike Wiley, who keeps the Seward-area list for the laborers' union, said it will give priority to Alaskans and to some extent to Sewardites.

The overall list of workers is prioritized into A, B, C, and D categories, based on hours of service. Anyone statewide on the A and B lists can move ahead of Sewardites on the C or D lists. Wiley has 10 local people on the A, B and C lists.

Alaskans from out of the area may be less likely to apply for union jobs because the project will use two shifts of 40-hour weeks. Not having overtime doesn't encourage them to transfer here, Wiley said. "It doesn't pay for them to live here."

Wages are over $20 an hour, he said.

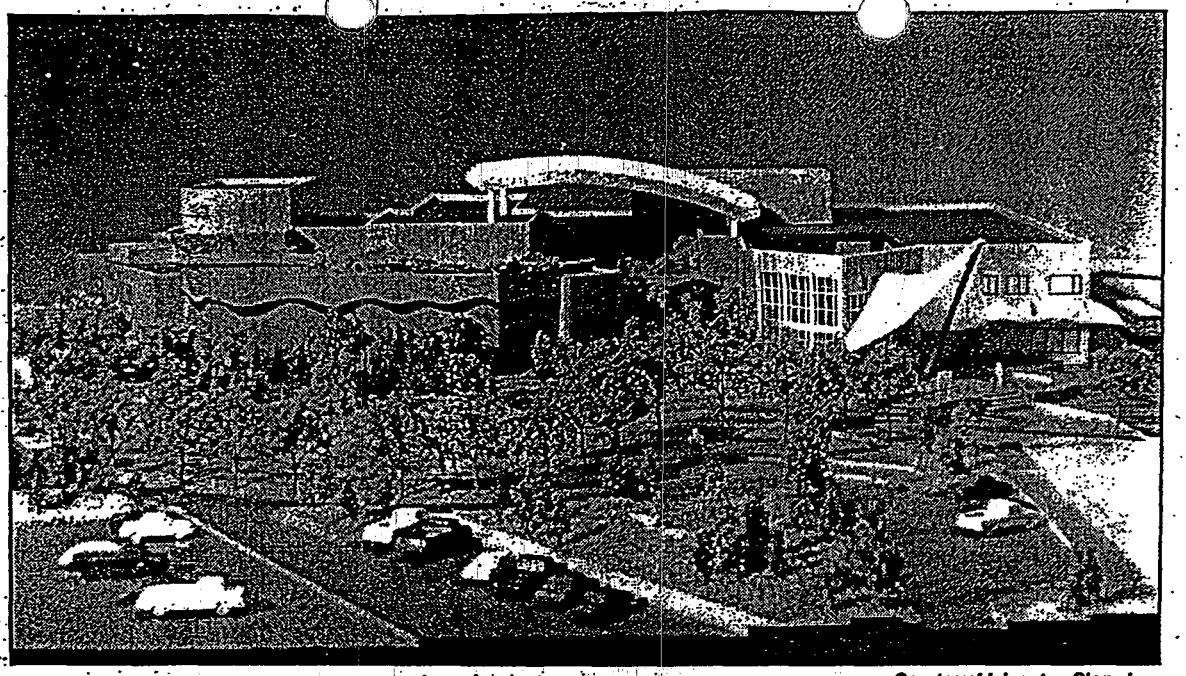
The developer, the Seward Association for the Advancement of Marine Science, has signed a partnering charter with Strand Hunt and the major subs, SAAMS administrator Darryl Schaefermeyer told the City Council on Monday.

Partnering consists of meeting with in the beginning to open up communications, figure out how to resolve problems quickly, and get bills paid on time.

The goal is to get the project built on time without claims, Schaefermeyer said.

"It really does help you get to know the people you're working with," Pitts said.

Kenai Phoenix Log
6-13-96



Courtesy Livingston Slone Inc.

The outdoor habitats are at the left in this model of the Alaska SeaLife Center. The netted and covered bird habitat is in the center.

Seward Phoenix Log 6/13/96

SeaLife Center will accommodate visitors, scientists, mammals, fish, birds

Thursday, June 13, 1996

By Eric Fry
LOG Staff

The Alaska SeaLife Center will be the first marine research facility to include a visitor component from the beginning, says Debora Hankinson, an architect with Anchorage-based Livingston Slone Inc.

For the designers — who have spent more than 65,000 hours on the project— that means the center must accommodate scientists, 5,000 gallons of seawater per minute, several hundred thousand visitors a year, and diverse mammals, fish and birds.

The $50.5 million, 115,000-square-foot facility includes research labs and tanks, visitor exhibits, and outdoor habitats.

A lot of the design challenges come together in the outdoor habitats that will house sea mammals and birds for research and rehabilitation, yet be visible to the public from underwater and ground-level windows and from overlooks. Visitors will be able to walk through the netted bird habitat.

The habitat construction work is a combination of art, science and craft, designers said.

The habitats have to work as homes for creatures, with safe materials and design, meet federal requirements, conceal practical aspects like plumbing and heating, serve research and veterinary needs, and yet bring visitors close to the animals.

"It's designed so we can get in there and work with the animals safely for them and safely for us," said Mike Castellini, the center's science director.

BIOS: Inc. of Seattle designed the habitats. "We basically sketched up a form," said company president Jim Peterson. "We decided where things went. We set the rules on how high it had to be for safety."

BIOS was responsible for sizing the habitats to match the budget and for meeting federal requirements for keeping animals.

Jolly Miller Construction of Seattle will build the habitats, mostly with sculpted and painted concrete. It's a $1.3 million contract, architect Tom Livingston said.

"It has to do with making concrete look real, like rocks and trees," company president Jolly Miller said. "It's extremely artistic on the high end of it. It's heavy construction as well."

It's a specialized field with only a few major players. Jolly Miller Construction has built repliças of natural environments for zoos and aquariums across the United States since the early 1970s.

"Zoos have done a 180 turn since the 1960s, when zoos stopped being jails and started being decent habitats where (animals) can live for life," Miller said.

"We're looking to achieve landscape immersion," said Jolly Miller Construction general manager John Fulford. That can include simulated plantings like deadfall trees and beach-logs, even down to painted mosses and lichens.

"To the degree that it succeeds is when the public thinks it's real," Miller said. "When the animals are jumping and diving, it works."

The company studies scientific literature and takes photographs of nature as part of its research. Right now, it's creating an African forest for the Bronx zoo. The SeaLife Center will be the first time Jolly Miller Construction has built directly in the habitat it's going to simulate, Fulford said.

BIOS drew the design, based partly on what Resurrection Bay really looks like and partly on all sorts of practical considerations. "We were out in the bay three different times and burned up massive amounts of film," Peterson said.

The design gets down to details like how chewable the edges of the rocks are, he said, or what openings in the rocks are small enough so that the mammals don't get their noses stuck in them.

Bird habitats are especially tricky. "With birds, everything you try to do, there are half a dozen reasons you can't do it," Peterson said.

Scientific consultants told them to make a lot of burrows because birds are choosy about where they nest. Puffins need plenty of walkways because they don't like to walk past each other, he said.

It's all in collaboration with the contractor, Jolly Miller Construction, Peterson said. "Because of the artistry involved, we really have to allow the contractor to bring his artistry to it."

Jolly Miller Construction has built a model that shows the massing of the artificial rocks, which will contain the creatures without looking like an enclosure.

"The Steller just took me by surprise," Fulford said. "They can climb sheer cliffs by shimmying with 10-foot flipper widths."

Steller males average nine feet in length and 1,500 pounds. Designers solved the enclosure challenge by building the rock wall tall and with overhanging rocks, he said.

Stellers like to play king of the hill, Castellini said, so there will be a big rock in their habitat.

Jolly Miller Construction artists toured the bay recently to photograph rookeries and cliffs. They looked at the geology carefully. They have to imitate metamorphic, sedimentary and volcanic rock, Fulford said.

Then there's the live stuff: mosses and lichens and trees. "We strive to make our work absolutely correct, both geologically and biologically," he said.

But naturalistic habitats don't just look right — they let the creatures behave as they would in nature.

"There will be a wide range of birds in the habitat," Fulford said. "We'll create nesting opportunities for them like ledges for kittiwakes, ramps for common murres, a talus slope and nest boxes."

The seabirds will dive into 16-foot-deep pool for their food. And the sea lions will have a big rock as a haul-out. "They like to heave themselves out of the water and flop up to rocks up to 15 feet," Fulford said.

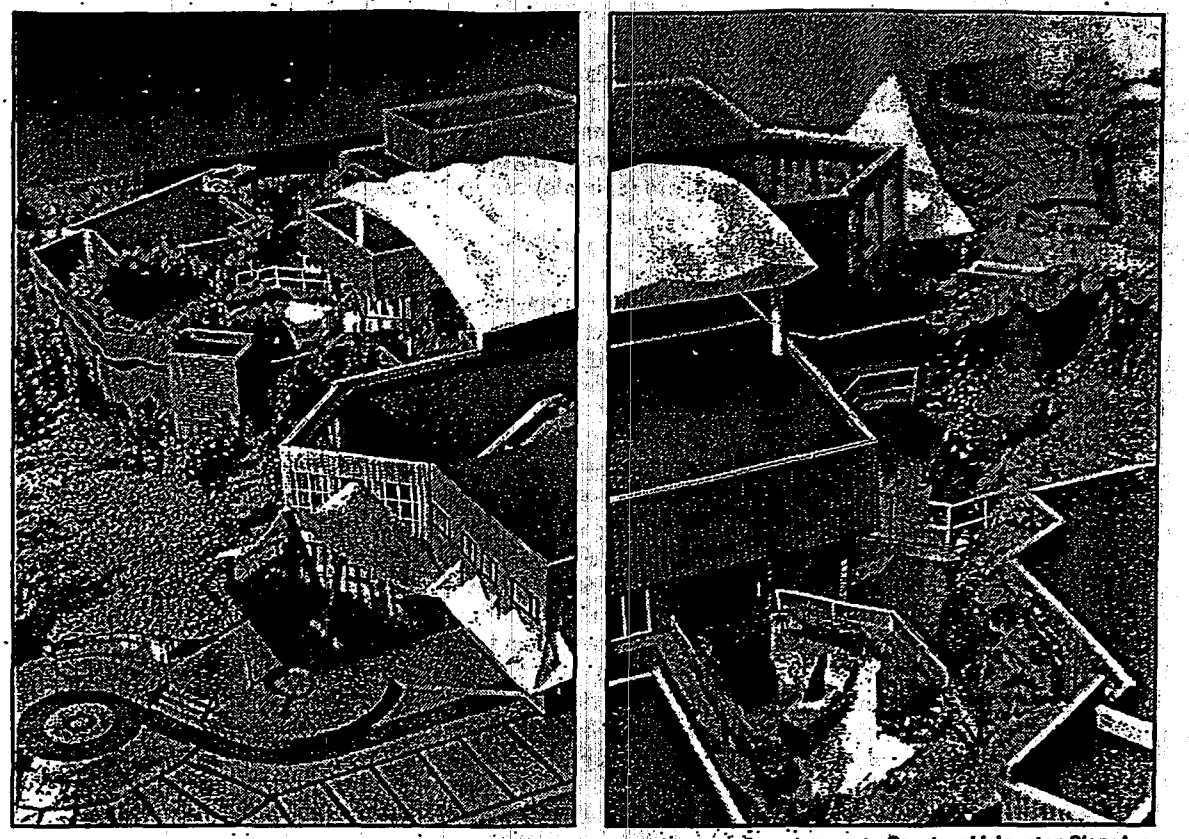
The habitats contain a story-line for people to discover as well, he said. Visitors can enter two simulated caves that were carved by the tides, with built-up sand and even animal tracks. "So that perhaps a small child will find river otter tracks leading out of the beach," Fulford said.

Eventually, Jolly Miller Construction artists will build sample panels of rockwork texture for the design team to review. Then comes the construction, expected to take eight to 10 workers seven months.

They'll craft a steel skeleton that has solid backing shaped like the rocks. They'll spray concrete against the structure to make it strong. Then comes the texture coat of concrete, which is carved, painted and stained by artists. They'll add real deadfall trees and logs, and put in some real soil and native plants, Fulford said.

In a specialized field like that,

See SeaLife, Page 4



Courtesy Livingston Slone Inc.

The outdoor habitats with their pools will be used for research and rehabilitation. Visitors can view them from several vantage points, including under water.

SeaLife ...

From page 3

companies develop their own technologies and tools. Jolly Miller Construction sometimes makes molds from real trees and presses the molds into wet concrete to give the look of bark.

The final touches are earned over time. Eventually, the animals will find their favorite resting spots and burnish the concrete, which contains iron-oxide pigments so that it doesn't whiten from use.

Real moss will grow. "One of the best things that can happen with our work is for natural biologies to grow on our work," Fulford said. "That's when this stuff comes to look exactly like it's supposed to look."

The design team has used scientific review committees of behaviorists, veterinarians and other specialists, said marine biologist Castellini.

"Basically, we searched the country for staff that have worked with fish, marine birds and mammals," he said.

"One of the calling cards of this facility is it can hold cold-water marine birds, not only in a facility that is healthy to them but conducive to breeding."

Scientists are fascinated by the large and deep bird tank, Castellini said. They want to put instrument packages on birds and observe them diving to routine depths. "We want the birds to be as home as possible and yet be observable by scientists."

Marine mammals may not breed there, he said, but scientists will have controlled conditions to test equipment and compare it with field results. "We beat ourselves senseless out in the field to try to get our hands on animals," Castellini said.

Scientists can rehabilitate injured or abandoned animals in the habitats. "In the process of rehabilitating them, we are researching the best way to rehabilitate them," he said.

Although the center won't keep healthy animals for display, finding animals for the habitats won't be a problem, Castellini said. "The problem will be how to accommodate the overwhelming number of animals that will come through there."

The center will start out with Stellers from the Vancouver Public Aquarium and stranded ones, he said. Plenty of harbor seal pups need rehabilitation, as do "lots and lots of birds always."

Finding scientists won't be a challenge either. "People should realize this is well beyond an Alaska project," Castellini said. "People around the world want to use it."

The twist is it's a "research facility with a rehabilitation component and allows the public to see what we're doing."

Kodiak Daily Mirror 6/15/96

Lt. Governor to speak at luncheon

A crowd of high ranking officials will help celebrate the Near Island Research Facility groundbreaking ceremony Saturday.

Senator Ted Stevens, originally the speaker for lunch at the high school commons, will arrive later for the groundbreaking ceremony.

Lt. Governor Fran Ulmer is now scheduled as the featured speaker for the lunch, which starts at 11:45 a.m. The Exxon Valdez Oil Spill Trustees will be represented by Fish and Game Commissioner Frank Rue for the state and Deborah Williams for the federal government.

The Alutiiq Dancers will perform.

The event is sponsored by the Kodiak Island Borough, Akhiok-Kaguyak Inc., Koniag Inc. and the Old Harbor Native Corporation.

The groundbreaking ceremony is scheduled for 2 p.m. near the Fishery Industrial Technology Center on Near Island. Stevens, Ulmer, Selby, Rue, National Marine Fisheries representative Don Collingsworth, Superintendent of Katmai National Park Bill Pierce and University of Alaska President Jerome Komisar will man the shovels.

A reception will be held at the Alutiiq Museum from 3 to 5 p.m.

An organizer for the events said 170 people had been invited to the lunch. People interested in attending the groundbreaking are encouraged to use bus transportation to Near Island because of the limited parking.

The buses will carry people from the high school parking lot.

Ground-breaking Saturday for saltwater research lal

The groundbreaking ceremony Saturday to celebrate the construction of a new building is another step in a plan to bring together state, federal and university scientists in a world-class saltwater research facility.

"We are building a resource center where it should be built," said Jerome Selby, borough mayor. "The facility will move us into world-class saltwater research."

> "We're putting together a brain trust. This facility far exceeds a building. It will have impact on our bread and butter for years to come."
>
> —Jerome Selby, borough mayor

The Near Island Research Facility will be a two-story 45,742 square-foot building. It will provide office and lab space for National Marine Fisheries Service, lab space for the Alaska Department of Fish and Game and University of Alaska as well as office space for the National Park Service. There will also be a dorm for housing graduate students and visiting researchers.

The facility is a major piece of a plan to construct a fisheries research campus on Near Island. The Fisheries Industrial Technology Center was built in the '80s as the first step. The FITC concentrates on research for industrial applications.

National Marine Fisheries Service scientists are currently working in an old barracks on the Coast Guard base.

"We've been here since 1971," said Bob Otto, director of the NMFS Science Center on the base. "This building was originally a temporary Marine barracks. The government got its money's worth out of it," he said.

With the new lab located next to the FITC, state, federal and university scientists will all be in a central location and able to share equipment and information.

"We're putting together a brain trust," Selby said. "This facility far exceeds a building. It will have impact on our bread and butter for years to come."

A major feature of the lab will be a circulating seawater system on the bottom floor. Scientists will be able to study live animals in a saltwater environment.

"We're looking forward to having lab facilities that are commensurate with what we want to do," said Otto.

On the upper deck (street level entrance) there will be a saltwater fish tank and tide pool exhibit.

"This will be a positive thing for tourists and for school children to study fish," said Selby.

Selby said the building will cost $16 to $18 million. The funds come from a combination of sources.

Three million was appropriated by the Legislature from the $50 million criminal fine paid by Exxon after the oil spill. $500,000 came from Congress for the design. The borough contributed $6 million from the sale of Shuyak Island land.

Selby said the balance, about $9 million, will be financed with a revenue bond against the National Marine Fisheries Service lease. They will lease 75 percent of the building. Their $1.8 million a year will pay the debt service and operating expenses. It will also contribute to a maintenance fund.

"The building will pay for itself," said Selby. "It's exciting to have this come together. The city made a major contribution by making the land available.

"We had lots of support from National Marine Fisheries Service, all the way up to the head, Rollie Smitten. He couldn't be here for the groundbreaking but he said he will be here for the ribbon cutting. This is the first world-class lab National Marine Fisheries Service has opened for several years."

Groundwork for the building should begin later this summer and continue through fall. The roads, water and sewer will be completed by winter. Selby expects the construction of the actual building to start next spring.

"I hope it will be ready to be inhabited by January 1998," Selby said.

Land deal gets go ahead

Peninsula Clarion
June 14-16, 1996

Swap would put valuable property into Kenai refuge

By TONY LEWIS
Peninsula Clarion

The Kenai Natives Association has struck a tentative land deal with the U.S. Department of Interior that gives the Native corporation $4.4 million in cash and development rights on land within the Kenai National Wildlife Refuge in exchange for valuable wilderness along the Moose River and Kenai River.

Congress and the corporation's shareholders still must approve the deal.

The Native corporation acquired the land in question more than 20 years ago but has not been allowed to develop the property because of refuge rules. For 14 years, the corporation has tried to get those restrictions lifted.

"I want to be optimistic but we've been here before," said KNA Executive Director Diana Zirul, who was in Washington, D.C., Thursday attending congressional hearings on the matter.

The land deal has split the Native corporation. Dissident shareholders tried to oust the corporation's leaders last winter, claiming the land to be sold has priceless cultural and historical value.

If the deal goes through, KNA will be allowed to develop roughly 15,700 acres it now owns within the refuge boundaries. Most of that land — 13,409 acres — is along the Swanson River Road north of Sterling. The other 2,300 acres is near Beaver Creek along Marathon Road.

Five acres of land in Kenai's Old Town, where the Kenai National Wildlife Refuge used to be located, will be given to the corporation.

KNA also will receive $4.4 million already approved by the Exxon Valdez Oil Spill Trustee Council.

In return, the so-called Stephanka tract — an 803-acre parcel along the Kenai River near the outlet of Skilak Lake — and 1,243 acres along the Moose River will be turned over to the Kenai National Wildlife Refuge. Both areas contain important fish and wildlife habitat.

In addition, roughly 37,000 acres of federal land near the Kanuti National Wildlife Refuge northwest of Tanana will be managed for fish and wildlife values rather than multiple use under the deal.

Kenai National Wildlife Refuge Manager Robin West said he is content with the deal.

He had hoped that the refuge would be able to purchase the land along Swanson River Road. That fell through last year, though, when it became evident that the money wasn't available to buy the land.

Moose, bears, wolves, trumpeter swans and other wildlife use the land along Swanson River Road. But with nearly 2 million acres in the refuge, West thinks the animals will have plenty of habitat left even if the corporation develops the land.

"It's not a bad deal," said West.

Zirul said the corporation has not made plans yet to develop the land. It's not clear what will happen with the $4.4 million, either.

Some of the money likely will be invested and some paid out as a dividend to shareholders, Zirul said.

After Congress approves the deal, the Native corporation has six months to agree.

"We want to take this to the shareholders and let them see what is being offered," said Zirul.

It's going to be a hard sell to some members. The Stephanka land is the site of an old Kenaitze village and graveyard. It also is traditionally used by Natives for hunting and berry picking.

On top of that, property along the Kenai River is among the most valuable land on the Kenai Peninsula.

Emil Dolchok, who has been outspoken in his opposition to the deal, said the corporation is selling the land too cheap at $4.4 million.

"I am upset about it," he said Thursday. "We don't think these land selections should be sold."

In 1976, the Kenai Native Association selected 23,000 acres on the central peninsula as part of an agreement under the Alaska Native Claims Settlement Act. The land was supposed to be used as an economic base for the Native corporation.

Nearly 19,000 of those acres, though, were within the boundaries of the Kenai National Wildlife Refuge and off-limits to development.

A few years ago, Congress mandated that the corporation and Department of Interior reach an agreement over the land.

"We could walk on the land but we couldn't do anything with it," said Zirul. "This allows us to move on."

Kodiak Daily Mirror
June 14, 1996

Sen. Stevens also to speak at banquet

The Kodiak Chamber of Commerce board of directors has set Saturday, June 15, for the annual meeting, to be held at the Buskin River Inn.

The evening will begin with no-host cocktails at 6 p.m., dinner at 7, followed by the business meeting at 8.

The focus of the Chamber the past year was on economic development.

In keeping with that theme, the keynote speaker will be U.S. Senator Ted Stevens.

Senator Stevens will address a number of issues, including reauthorization of the Magnusen Act, the Near Island Research Facility, and Kodiak Launch Compex. His message will be of interest to local businesses as Kodiak enters a time of changing opportunities.

Business will include presentation of the Chamber's annual and finance reports, as well as board of directors elections. Call 486-5557 for more information.

Public invited to ceremony at Fish Tech

The Kodiak community is cordially invited to a ground-breaking ceremony for the construction of the multi-agency Near Island Research Facility, Saturday, June 15, at 2 p.m., near FITC.

Senator Ted Stevens will be guest and speaker. Other guests include Governor Tony Knowles and the Exxon Valdez Oil Spill trustees.

A reception will follow at 3 p.m. at the Alutiiq Museum.

These events are sponsored by the Kodiak Island Borough, Akhiok-Kaguyak, Inc., Koniag, Inc., and Old Harbor Native Corporation.

Kodiak Mirror
June 17, 1996

Governor rejects tort reform

Bill would have capped damages

JUNEAU (AP) — A bill that would have rewritten court rules and set new limits on damages in civil lawsuits was vetoed Friday by Gov. Tony Knowles, who said the legislation was unfair and wrought with legal defects.

Supporters said the legislation would have set up a better system for civil damages and could have reduced insurance rates, but Knowles said it would not have guaranteed that insurance costs would go down.

The bill had heavy opposition in communities impacted by the Exxon Valdez oil spill.

"We had a lot of people calling with concerns about the affect tort reform would have had on the Exxon oil spill litigation," said Kodiak Senator Fred Zharoff.

"At first we were told there was no concern but later the attorney general's opinion began to run parallel to what we were thinking."

Both the Kodiak Island Borough and city passed resolutions opposing the legislation.

Knowles also said the version of the bill that passed was thrown together in the closing weeks of the legislative session without adequate public scrutiny. He said he would appoint a task force to come up with a better version of the bill.

"The current version was hastily rewritten in the dead of night and subject to little public review," Knowles said.

House Speaker Gail Phillips, who supported the bill, said the legislation was one of the most heavily reviewed issues, with lawmakers putting in hundreds of hours studying the provisions.

"This governor's favorite activity is putting a task force together to study everything under the sun," Phillips said. "There's only 600,000 people in Alaska. At some point, he's going to run out of people to put on task forces."

Supporters say the bill was intended to speed up and simplify court procedures, reduce legal costs and protect businesses from excessive damage awards.

Knowles said some parts of the bill would have complicated court procedures, making it harder and costlier for people to receive fair awards for damages.

The bill would have capped the amount of punitive damages a court could award and would have turned most of that money over to the state. The bill also had provisions to cut down on frivolous lawsuits and require people to file lawsuits within 10 years after an incident that causes injury or damage.

Knowles' attorney general, Bruce Botelho, had said that a retroactivity clause in the bill could have affected the $5 billion award to 30,000 plaintiffs in the Exxon Valdez oil spill.

Legislative leaders said state legal reform would have no effect on the Exxon case, which was a federal lawsuit. They did offer to remove that provision during a special session Knowles called on the state budget, but the governor did not expand the legislative agenda to let lawmakers take up the bill again.

Trial lawyers opposed the bill, saying it would protect businesses and insurance companies at the expense of people suing for economic losses or accidental injuries or deaths. Attorneys also disliked a clause in the bill that would have required arbitration for small claims before a case could go to court, saying that would drag out the legal process.

Sen. Mike Miller, R-North Pole, the main supporter of the bill in the Senate, said Knowles knuckled under to trial attorneys who contributed to the governor's 1994 election campaign.

"At what point do you say this is a governor of special interest?" Miller said. "It does seem like unless his name is on the bill, he doesn't want anything to do with it."

Kodiak Daily Mirror
ISSN-0740-2112

Published daily, Monday through Friday, except holidays by Kodiak Publishing Co., 1419 Selig, Kodiak, Alaska 99615. (907) 486-3227. Second-class postage paid at Kodiak, Alaska. Postmaster: Send address changes to Kodiak Daily Mirror, 1419 Selig, Kodiak, Alaska 99615.

Kodiak Mirror
June 17, 1996

Day of celebration for new science center

Under a sunny sky and amid a swarm of bugs seven shovels bit the earth on Near Island Saturday to start construction of a $18 million salt-water research facility.

The seven dignitaries wielding the shovels represented the agencies who cooperatively put together the project. Don Collingsworth represented the National Marine Fisheries Service which will occupy 75 percent of the building. Sen. Ted Stevens, Borough Mayor Jerome Selby, Lt. Governor Fran Ulmer, Fish and Game Commissioner Frank Rue, Katmai National Park Superintendent Bill Pierce and University of Alaska President Jerome Komisar all dug into the dirt.

A crowd assembled on the road above the depression where the ceremonial digging took place.

Sen. Stevens drew a laugh when he began his remarks with, "I should say friends, Romans, countrymen because you must feel like you are in the Coliseum watching us down here battling the Alaskan sized mosquitoes."

The ceremony began earlier in the day with a lunch sponsored by the borough and the Akhiok-Kaguyak, Koniag, and Old Harbor Native corporations.

Speaking at the lunch Selby said he hoped the celebration would help put the Exxon Valdez oil spill behind us. About half the money for the facility came from the oil company's criminal and civil fines.

Keynote speaker Lt. Governor Fran Ulmer said the facility would help make Alaska a more significant player in the North Pacific.

Referring to recent cuts to the state budget and the Department of Fish and Game, she said the challenge is to continue management of our resources.

"We often hear about our state government in terms of cost per capita," she said. "We have 365 million acres to manage. We should be talking about the cost per acre.

"When we have the resources we have the responsibility of stewardship."

Frank Rue, Fish and Game commissioner, also questioned the wisdom of cutting the fisheries management budget. He is one of the state's representatives to the Exxon Valdez Oil Spill Trustee Council.

The Near Island Research Facility will be a two story 45,742 square-foot building. It will provide office and lab space for National Marine Fisheries Service, lab space for the Alaska Department of Fish and Game and University of Alaska as well as office space for the National Park Service.

Bob Otto, director of NMFS's Alaska Fisheries Science Center, said he was looking forward to moving into the new building.

"In 1941 the Navy built a temporary building for the Marines. We moved into it in 1971," he said.

The building will cost $16 to $18 million. The funds come from a combination of sources.

Three million was appropriated by the Legislature from the $50 million criminal fine paid by Exxon after the oil spill. $500,000 came from Congress for the design. The borough contributed $6 million from the sale of Shuyak Island land.

About $9 million will be financed with a revenue bond against the National Marine Fisheries Service lease. Their $1.8 million a year will pay the debt service and operating expenses. It will also contribute to a maintenance fund.

Sen. Stevens said that the government would actually be saving money by leasing room in the new facility. In a time when the government is cutting the budget this is good news, he said.

Groundwork for the building should begin later this summer and continue through fall. The roads, water and sewer will be completed by winter. Selby expects the construction of the actual building to start next spring.

Debra Williams, assistant to Secretary of Interior Bruce Babbit, called the event a celebration of a resurrection.

"We've been able to turn this disaster into remarkable things," she said. "We've taken a death and made something alive."

Williams said the trustees have spent $170 million buying 279,000 acres of land on Kodiak, Afognak and Shuyak Islands.

"And we are not done yet," she said.

After the groundbreaking most of the crowd moved to the Alutiiq Museum for a reception.

Cecil Ranney photo

Construction of the Near Island Research Facility officially began with ceremonial shoveling by, from left, Don Collingsworth, Senator Ted Stevens, Borough Mayor Jerome Selby, Lt. Governor Fran Ulmer, University President Jerome Komisar, Fish and Game Commissioner Frank Rue and Katmai National Park Superintendent Bill Pierce.

Los Angeles Times

Sunday Final

CIRCULATION:
1,021,121 DAILY / 1,391,076 SUNDAY

SUNDAY, JUNE 23, 1996

$1.50 SUNDAY
DESIGNATED AREAS HIGHER

Valdez Spill's Sticky Legacy of Public Land

■ Cleanup: Award is being used to buy and preserve a million acres, but at what price to Native Alaskans?

By KIM MURPHY
TIMES STAFF WRITER

LATOUCHE ISLAND, Alaska—The sliver of beach looks like one of the many forlorn paradises that stretch uncataloged across the Alaskan wilderness: a small, frigid bay of sharp blue, a narrow crescent of rocks along the shore, then the hard wall of the forest.

It is pristine, except when Ernie Piper begins prying up boulders, uncovering a large chunk of black asphalt and petroleum muck. The water under the stones runs rainbow with oil sheen. Piper shrugs.

"Unfortunately, this wasn't such a success story," he says, recount-

Please see EXXON, A12

KIM MURPHY / Los Angeles Times

Cleanup official Ernie Piper uncovers asphalt and muck under rocks.

EXXON: Oil Spill Funds Shift of Lands

Continued from A1

ing the weeks of cleanup on this Prince William Sound island after the Exxon Valdez oil spill in 1989. "This beach got absolutely hammered. We had backhoes in here, we moved the rocks out with a Caterpillar, we flushed it all down and collected and skimmed it. But even now we've got a pretty continuous band of oil and asphalt all up and down the beach."

In the coming weeks, $2 million in cleanup work will begin at Sleepy Bay on Latouche Island and at nine other oiled beaches—an effort that, seven years after the disaster, will close the book on cleanup of the deadliest spill in North American history.

But it is the second chapter of the story that is perhaps most remarkable and least remarked. After the last beach-washers go home, more than 30,000 acres of verdant islands around Sleepy Bay and nearby Chenega Island will become national forest and state marine parkland—signed over or sold, if the deal goes through, by a Native Alaskan corporation to help mitigate the damage from the spill. An additional 30,500 acres will be forever protected from logging and development.

$900-Million Mandate

As scientists, lawyers, public officials and corporate representatives battled over cleanup and compensation, the $900 million that the Exxon Corp. agreed to pay in civil damages has quietly funded a huge new trust of public lands—designed to shelter the dozens of species decimated by the spill and protect this part of rural Alaska from the logging and construction boom that washed in with the oil.

It is a program unprecedented in its conception and scope. Never before has government been given such an overwhelming conservation mandate—restore an entire devastated ecosystem—and so much money with which to do it.

The Exxon Valdez Oil Spill Trustee Council has launched negotiations with Native Alaskan shareholders to protect up to 1 million acres of land in southeastern Alaska, so far signing or initialing deals for purchase or permanent resource protection of 422,290 acres.

The land purchases, so far tentatively committing $195.3 million of the trust fund, are creating state parks, expanding wildlife refuges, acquiring key privately held land in such popular spots as Kodiak Island and Kenai Fjords National Park, and establishing a land barrier to a major wave of logging that has crept northward into virgin forests, a phenomenon environmentalists say could prove as disastrous for wildlife as the oil spill.

"It's unique in the history of the environmental movement to be able to have hundreds of millions of dollars to buy some of the most spectacular land, rich in fish and wildlife habitat, on the North American continent. I think it should be a model of how to deal with environmental damage," said Pamela Brodie of the Sierra Club, a member of the trustee council's public advisory group.

"Ironically, the spill turned out in some ways to be a benefit," said Ralph Eluska, who heads the Akhiok Kaguyak native corporation on Kodiak Island, which deeded over 76,646 acres and barred development on an additional 43,239 acres of the Kodiak National Wildlife Refuge—parts of which have the densest brown bear populations on Earth.

"On the one hand you say, no way, you can't let a disaster of this kind happen. There's no value you can place on the harm that happens to the Earth; to people's emotions. But spending the money to restore the habitat, it comes a little bit of the way toward justice.

"That bear habitat has got to last forever. But if it was left in our hands, over 40 or 50 years, the world's going to change. The economy's going to change. At some point . . . there's going to be urban sprawl," he said. "By the time it's over with, they'll end up paying us $46 million. I think that's a small price to pay for the bears."

The social consequences of such a vast acquisition program are only beginning to be felt. Nearly all the land belongs to Alaskan natives who won huge concessions from the government in the 1971 Alaska Native Claims Settlement Act. That legislation ceded native tribes 44 million acres of land—10% of the state of Alaska—to be held by profit-making native corporations.

Although the contracts protect subsistence-hunting rights, the large Exxon Valdez buys represent the most important shift of native land ownership back to the government since the hand-over, reversing, in the eyes of many Native Alaskans, the bitterly fought gains of the past half-century.

Stain on the Land

"Our land is the center of who we are, it's what we are. You can't put a price on culture and heritage and tradition," said Gail Evanoff, a Chenega Bay resident and shareholder who has vowed to fight the sale of land. "I'm sorry, but I can't even begin to fathom . . . how they think they're going to give this area better stewardship than we ever did."

The sense that something big still needed to be done reflects an awareness that, seven years after the Exxon Valdez ran aground on Bligh Reef and dumped 11 million gallons of crude oil into Prince William Sound, the spill's devastating legacy squats there like the rolling, early summer rain clouds.

Harbor seals, Harlequin ducks, killer whales and several species of seabirds have not recovered and, in some cases, continue to decline. Pacific herring populations crashed inexplicably in 1993 and have not sprung back, further hurting hundreds of fishermen. Pink salmon, once the staple of Prince William Sound's canneries, has just begun to recover, and its price on a world market, in part dubious about oil spill fish, remains 1/13th of what it was. Natives don't trust biologists' assurances that mussels and clams can be safely eaten.

In Cordova, fish-based revenues have declined more than 50% since the spill. Many fishermen have abandoned pink salmon fishing in the sound and have gone after other fisheries further afield, in the Copper River.

"The sound is dead, and Exxon keeps trying to tell us everything's normal," said Paul Saunders, a Cordova fisherman since 1975. "You can't crab, there's no shrimp, there's no herring anymore. Before the spill, I had a coffee can and I was stuffing $100 bills in there till I couldn't get any more in. Now I'm thinking about moving. The cannery doesn't even want us here anymore. The guy down there told me I shouldn't go pink fishing this year. . . . A processor telling a catcher, 'Don't go fish.' I never heard of such a thing in my life."

Waiting to Be Rich

Fishermen damaged by the spill won a record $5-billion punitive judgment from Exxon in 1994. If it ever comes through, many of them will be millionaires. "Spillionaires," they call them here. But several years more in legal appeals stand in the way of collecting. A few have died waiting. The former mayor of Cordova committed suicide. Stress levels in Cordova, five years after the spill, were measured by sociologists at the same level as that of a rape victim a year after the crime.

"Some people are surely thinking in the back of their mind, 'That settlement will save us.' But if you're out there planning your life on the Exxon money, I wouldn't do it," said Jerry McCune, president of United Fishermen of Alaska and of the local Cordova fishing union.

Exxon has long argued that the ecological problems plaguing Prince William Sound can't all be blamed on the spill, and the dilemma for trustees trying to rebuild the ecosystem is that Exxon may be at least partly right.

The number of seals, for example, was in decline long before the spill. And it's an open question whether their escalated drop-off would have happened anyway. Declines in spill areas have been sharper. But did the spill affect their food supply in ways that haven't been measured? The herring didn't crash until four years after the spill, and the cause was traced to a virus. But did stress from the spill make the herring more vulnerable to disease? How are declines in small forage fish contributing to the slow recovery of sea-

KIM MURPHY / Los Angeles Times

Kodiak Island's Termination Point is among spots that oil spill trustees may buy.

birds that ought otherwise to be stabilizing?

To answer questions like these, millions of dollars of the Exxon civil settlement money and a separate $125-million fund in fines and criminal restitution have been devoted to research and field studies, some of which have produced findings and methodologies that will benefit marine environmental efforts around the world.

In the end, however, it was clear that simply studying individual populations and allocating money for beach cleanups wasn't enough. Especially when so many of the species already reeling from the effects of the spill were seeing their habitat slowly eroding with increasing timber harvests all around Prince William Sound and the Gulf of Alaska.

"You've never had such a large ecosystem and such a large amount of money to [restore] it with. It's unprecedented," said Molly McCammon, executive director of the trustee council. "But what does it mean to restore an injured ecosystem? . . . Seven years after the spill, we still don't know what restoration needs to be done. You never know for sure."

Forests at Risk

At a series of public hearings, land acquisition was the overwhelming recommendation, focusing on key habitat for species most harmed by the spill. It took years to get underway, prompting legal challenges and a federal General Accounting Office report critical of foot-dragging and bureaucratic waste by the council. Now that the acquisition program is going forward, most of the critics have fallen back to see how it plays out.

"The irony is, the day before the spill, [former Cordova Mayor] Kelley [Weaverling] and I were sitting here in the cafe and saying, 'This is the year we've got to do something with the forest," said David Grimes, a former trustee council critic and environmental activist who has been one of the strongest backers of the habitat-acquisition program. "The irony is that without the oil spill and this possibility of acquiring habitat protection, probably Prince William Sound would have been clear-cut by now."

All across the narrow forest strip that blankets the band of coastline between the sea and the glacial ice fields above—the only place anything on the sound can live, really, and the lifeline for its salmon—chain saws have been cutting the forests for the past decade at rates higher than what can grow back.

Most of the cutting is the work of the native corporations, which are under mandate to return a profit to their shareholders. Ragged clear-cuts scar the hillsides around Cordova, where the Eyak corporation, failing to sell its lands to the trustees, has logged 17,000 acres since 1987.

On Afognak Island, an uninhabited wilderness where trustees acquired land for a new state park at Seal Bay and are negotiating to buy 48,700 acres more, pristine hills have been stripped bare and laced with logging roads.

The Afognak Joint Venture, a coalition of native corporations that is negotiating with the trustees, says it can make more money for its shareholders logging the land than what the trustees want to pay to protect it, with $70 million on the table so far.

"We're obviously unapologetic loggers. We are clear-cut loggers and truly proud of it," said James Carmichael, timber manager for the joint venture. "The mission of the Afognak Joint Venture is economic value, but here [with a sale to the trustees], we have an opportunity to preserve something. I guess I'm talking about saving us from ourselves."

In the living room of his cluttered home in Cordova, Eyak activist Glen "Dune" Lankard has painted a classic native death mask overlooking a clear-cut plain. For him, it should have been an easy decision to sell a conservation easement on Eyak lands to the trustees—the Eyaks keep the land, but agree not to develop it.

But infighting on the Eyak board and haggling over price and terms pushed the

Please see EXXON, A14

EXXON: Legacy

Continued from A12

deal off the table. The chain saws started humming again earlier this year. A new deep water port, subdivisions around scenic Eyak Lake (connected to one of the last wild salmon stock runs in the area), a hydroelectric power plant and coal mining aren't far behind.

"I told them, 'We're clear-cutting ourselves out of house and home, driving ourselves out of our subsistence lifestyle,'" Lankard said.

Acquisition and conservation easement payments so far have been used in most cases to set up permanent trust funds from which native shareholders can draw perhaps $1,500 or more a year in dividends. By comparison, Lankard said, each Eyak shareholder has seen a total of only $2,000 in logging proceeds since 1989.

"To me, there's no other way to go. Let's say you get paid forever to watch your trees grow, or you cut them all down and you get nothing," he said. "The only thing we're going to be left with is a legacy of being idiots."

Settling on a price has been the biggest stumbling block in all the land acquisitions. The council has drawn criticism in the local press for the relatively large amounts it has paid for the land bought so far, often many times the value set in federal government appraisals.

The problem, said McCammon, is the appraisals count only the economic development potential, which is often negligible, not how much the land is worth in terms of habitat. Final deals have hovered at $300 to $400 an acre, although the trustees stretched to pay $1,200 an acre for wilderness on Shuyak Island, the makings of a state park, and $900 an acre to create a park on Afognak Island.

"Valdez ended up giving us the means to do it," said Jay Bellinger, Kodiak National Wildlife Refuge manager, who has seen important additions to the refuge. Now he's urging trustees to complete a purchase on prime logging lands at Afognak before it's too late.

"Sure, it's more than just repairing the damage of the oil spill. The idea is to not only protect it so it could heal from the oil spill injury, but so it could be protected from other kinds of damage," Grimes said. "It's like the first point in the Hippocratic oath: First, do no more harm. And the second is, trust in nature's own healing capacities. That's exactly what we've been trying to do with this settlement."

Valdez spill legacy: up to 1 million protected acres

The Seattle Times
MONDAY
June 24, 1996
Washington's Largest Newspaper
50¢ in Puget Sound area, 75¢ elsewhere

By Kim Mu[illegible]
Los Angeles [illegible]

LATOUCHE ISLAND, Alaska — The sliver of beach looks like one of the many forlorn paradises that stretch uncataloged across the Alaskan wilderness: a small, frigid bay of sharp blue, a narrow crescent of rocks along the shore, then the hard wall of the forest.

It is pristine, except when Ernie Piper begins prying up boulders, uncovering a large chunk of black asphalt and petroleum muck. The water under the stones runs rainbow with oil sheen.

"Unfortunately, this wasn't such a success story," he says, recounting the weeks of cleanup on this island in Prince William Sound that followed the Exxon Valdez oil spill in 1989. "This beach got absolutely hammered. We had backhoes in here, we moved the rocks out with a Caterpillar, we flushed it all down and collected and skimmed it. But even now, we've got a pretty continuous band of oil and asphalt all up and down the beach."

In the coming weeks, $2 million in cleanup work will begin at Sleepy Bay on Latouche Island and at nine other remaining oiled beaches — an effort that, seven years after the disaster, will close the book on cleanup from the deadliest spill in North American history.

But it is the second chapter of the story that is perhaps most remarkable and least remarked upon. After the last beach-washers go home, more than 30,000 acres of verdant islands around Sleepy Bay and nearby Chenega Island will become national forest and state marine park land — signed over or sold, if the deal goes through, by a Native Alaskan corporation to help mitigate the damage from the spill. An additional 30,500 acres will be forever protected from logging and development.

As scientists, lawyers, public officials and corporate representatives battled over cleanup and compensation, the $900 million that the Exxon Corp. agreed to pay in civil damages has quietly funded a huge new trust of public lands — designed to shelter the dozens of species the spill decimated and protect this part of Alaska from a logging and construction boom that washed in with the oil.

It is a program unprecedented in its conception and scope. Never before has government been given such an overwhelming conservation mandate — restore an entire devastated ecosystem — and so much money with which to do it.

The Exxon Valdez Oil Spill Trustee Council has launched negotiations with native shareholders to protect up to 1 million acres of land in southeastern Alaska, so far signing or initialing deals for purchase or permanent resource protection of 422,290 acres.

The land purchases, so far tentatively committing $195.3 million of the trust fund, are creating state parks, expanding wildlife refuges, acquiring key privately held land in popular destination spots such as Kodiak Island and Kenai Fjords National Park, and establishing a land barrier to a major wave of logging that has crept northward into virgin forests — something environm[entalists] say ultimately could pr[ove] disastrous for wildlife as the o[il]

The social consequences of [the] vast acquisition program are beginning to be felt. Nearly [...] land belongs to Alaskan native[s who] won huge concessions from th[e gov]ernment in the 1971 Alaska [Native] Claims Settlement Act. That [legisla]tion ceded native tribes 44 [million] acres of land — 10 percent [of the] state of Alaska — to be held by [money-]making native corporations.

Although the contracts p[reserve] subsistence-hunting rights, th[e land] Exxon Valdez buys represe[nt the] most important shift of nat[ive land] ownership back to the govern[ment] since the hand-over — revers[ing, in] the eyes of many native Ala[skans,] the bitterly fought gains of th[e last] half-century.

"Our land is the center of w[ho we] are, it's what we are. You can't [put a] price on culture and heritag[e and] tradition," said Gail Evanoff, a [Chen]ega Bay resident and shareh[older] who has vowed to fight the lan[d ...]

The sense that something b[ig] needed to be done reflects an a[...]

> *'We had backhoes in he[re,] we moved the rocks out w[ith] a Caterpillar, we flushed [it] all down and collected a[nd] skimmed it. But even no[w,] we've got a pretty continuous band of oil a[nd] asphalt all up and down [the] beach.'*
>
> **Ernie Piper on Latouche Isl[and]**

[...]ness that, seven years after [the] Exxon Valdez grounded o[n Bligh] Reef and pumped 11 million g[allons] of crude oil into Prince W[illiam] Sound, the spill's devastating [...] squats there like the rolling [...] summer rain clouds.

Harbor seals, Harlequin d[ucks,] killer whales and several spec[ies of] seabirds have not recovered a[nd, in] some cases, continue to de[cline.] Pacific herring populations cra[shed] inexplicably in 1993 and have [not] sprung back, further harming [hun]dreds of fishermen already imp[over]ished by the spill's first lean y[ears.] Pink salmon, once the stap[le of] Prince William Sound's catch[...] has just begun to recover. An[d the] price on a world market in[...] dubious about oil-spill fish [...] one-thirteenth of what it was. [Na]tives don't trust biologists' a[ssur]ances that mussels and clams ca[n be] safely eaten.

"For a lot of the people here [it's] like losing their faith," said C[...] Holland, an Alaska state parks ra[nger] on Kodiak Island.

A Department of Justice clearinghouse on Valdez clea[nup] efforts can be reached via the Seattle Times Top Stories Web site at: http://www.seattletimes.com

Anchorage Daily News
June 28, 1996

Council approves $1.9 million for oil spill cleanup at Chenega

By NATALIE PHILLIPS
Daily News reporter

The Exxon Valdez Oil Spill Trustee Council approved a plan Friday to spend up to $1.9 million next summer to continue cleaning up oil near the village of Chenega in Prince William Sound, according to a written statement.

Residents of Chenega requested the cleanup. They told the Trustee Council that oil remaining from the 1989 spill makes them feel that subsistence harvests might not be safe.

Even though the oil is not considered a high environmental risk, the Trustee Council's statement said the panel decided to fund the cleanup to boost public confidence in the subsistence and recreational use of the tidelands.

"We will never be able to remove 100 percent of the oil from the beaches," said Molly McCammon, the council's executive director. "However, we can target some of the most significant areas in terms of public use and haul out the mousse and asphalt, even if we have to do it one bucket at a time."

A study conducted four years after the Exxon Valdez spilled 11 million gallons of oil in Prince William Sound showed that 225 locations still have some oil. The Chenega-area cleanup will target oil found at eight sights on Latouche, Evans and Elrington islands. Those shorelines are covered with heavy boulders, which have protected the oil from the natural cleaning action of waves.

The council is funded by the $900 million civil settlement with Exxon. The settlement money is used for scientific studies and land purchases to help restore natural resources and human services damaged by the spill.

Valdez Vanguard 3/13/96

Cleanup crews return to oiled Alaska beaches

By Rosanne Pagano
The Associated Press

ANCHORAGE — Trustees overseeing Alaska's $900 million oil spill settlement have approved a $1.9 million cleanup aimed at removing clumps of asphalt from rocky beaches in Prince William Sound.

Friday's unanimous vote by the Exxon Valdez oil spill trustees sets aside money for work at roughly eight sites near the Alaska Native village of Chenega.

The village, home to about 70 people, depends on subsistence hunting and fishing in a region among the hardest hit following the Exxon Valdez tanker wreck in 1989.

Ernie Piper, a Department of Environmental Conservation program manager, said the state and villagers were satisfied that residual oil did not pose an ecological hazard.

Piper said the state urged action after agreeing with villagers that tarry remains amounted to litter in a food-gathering area.

"It's easy for me, living in Anchorage, to say what's a little asphalt on a remote shoreline?" Piper said. "But if you live there it's like having trash all over your neighborhood."

Piper said contamination in the sound

See Cleanup, page 8

Cleanup...

From page 1

probably would not qualify as a cleanup priority if it had to compete with other Alaska sites awaiting attention.

He said the project is feasible because funds already are set aside for restoration within the oil spill zone.

Residual oil ranges from asphalt slabs the size an office desk to a continuous band of oiling about three-fourths of a mile long and less than 3 feet wide, Piper said.

Molly McCammon, trustees council executive director, said cleanup could never remove 100 percent of oil from Alaska beaches.

"However we can target some of the most significant areas in terms of public use, and haul out the mousse and asphalt even if we have to do it one bucket at a time," she said.

Exxon has said it spent $1 billion on cleaning oiled beaches. Piper said the state would seek contractors in the fall for work to begin next summer.

Work will concentrate on Evans Island, Elrington Island and the northern end of LaTouche Island. Sites are all within a short ride by small boat from Chenega.

Anchorage Dail
ADN
VOL. LI, NO. 188 60 PAGES ANCHORAGE, ALASKA, SATURDAY, JULY 6, 1996

To keep the Kenai running strong

BILL ROTH / Anchorage Daily News photos

Anita Merkes waters grass seed and vegetation from a metal walkway near the Kenai River Center in Soldotna.

Leaders call for ways to fish and fortify river

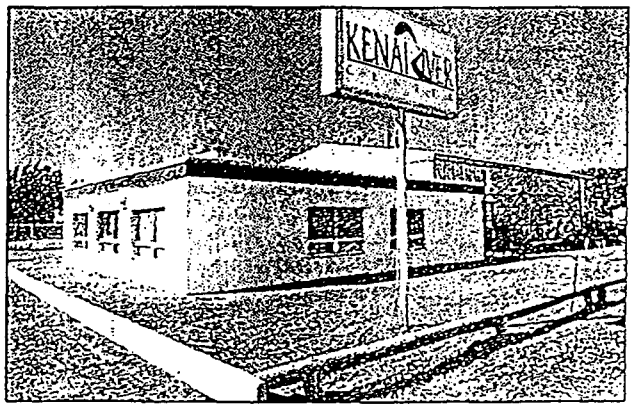
By TOM KIZZIA
Daily News reporter

SOLDOTNA — Delicate bank habitat along the Kenai River can be protected without forcing the public to give up using the popular river, politicians and business leaders said Friday at several public ceremonies here.

Gov. Tony Knowles, in Soldotna to participate in a river-habitat fund-raiser, spoke of protection and increased use in the same breath when

■ **CLASSIC:** Governor, senators fish to raise money for the river. B-1

Please see Back Page, KENAI RIVER



The Kenai River Center, dedicated Friday, is part of a project to maintain the health of the river.

Continued from Page A-1

he dedicated a new center designed to help riverfront property owners with habitat-friendly construction.

"We're seeing a whole new attitude and approach to the enhancement, protection and promotion of one of Alaska's most unique and important resources," said Knowles.

State and borough habitat-protection laws should be seen as model development tools rather than anti-development restrictions, said Kenai Peninsula Borough Mayor Don Gilman. He said the Kenai River Center, a joint state-borough office, will make it easier for landowners to obtain information and permits for riverside construction.

Others also stressed greater use of the river at the dedication of a new walkway in Soldotna designed to allow fishermen to use the banks without trampling vegetation necessary for rearing juvenile salmon.

"It's a place that (says), 'Yes, you can come fishing here,'" said Bob Penney, chairman of the Kenai River Sportfishing Association, the group that built the new $63,000 riverbank walkway. The association also sponsored the Kenai River Classic, the two-day fishing tournament that drew Knowles and other politicians to Soldotna.

State officials said 20 percent of Alaska's sportfishing effort every year is concentrated on the Kenai River. This year the state Board of Fisheries voted to allow more red salmon past commercial nets and into the Kenai River, but required that the expanding sportfishery cause no additional damage to riverbank habitat.

At a time when some riverbanks are being closed to fishing to protect habitat, other areas need to be prepared for an onslaught of foot traffic, sportfishing activists say.

The development of walkways for intensive fishing use is being balanced by acquisition of untrammeled riverbank for protection, Knowles said.

The state has just completed the first two major purchases of habitat along the Kenai River, Knowles announced. The 100-acre Cone property in Kenai and the 110-acre Girves parcel in Soldotna are being purchased for $600,000 and $1.8 million, respectively, using funds from the Exxon Valdez Oil Spill Trustee Council.

Negotiations to protect nearly 5,200 acres at a cost of more than $11 million are under way, Knowles said.

In a day largely devoted to sportfishing concerns, Knowles slipped away to visit a commercial fishing setnet site. On a bluff above the beach north of Kenai, he heard three fishing families complain that sportfish activists want to put them out of business.

"We've been cut to the bare bones," said Wendell Honea, 73, a 35-year setnet veteran. "How can they get rid of an industry that contributes as much as us, for tourists?"

Knowles, whose support of sportfishing has alienated many commercial fishermen, said the family values of setnetting are important, but must be balanced against the needs of a growing state and a growing sportfishery.

"People with equally strong values want to take their kids from the city and want to go down to the river and fish," Knowles said.

"Isn't there a point where the river can't absorb any more pressure?" said Honea's wife, Joyce, as her teenaged grandchildren sat nearby. "It's so crowded most local people don't go anymore. We feel like we lost our river and now we're about to lose our fishery."

Knowles also met with his appointees to the Kenai River Special Management Area board, a group that advises the state Division of Parks on how to manage the river. Board members said they are concerned about several new or recurring problems, including:

- Wetlands along the Kenai River are being filled under permits approved by the U.S. Army Corps of Engineers.
- Budget cuts have forced the state Department of Environmental Conservation to cease reviewing subdivision plats, making it possible for poor riverfront developments to affect water quality.
- Public demands are rising for limits on fishing guides along the Kenai River. The board asked for legal advice.

Oil cleanup in Prince William Sound will resume

Homer News 7/4/96

Cleanup crews will be back in selected areas of Prince William Sound next summer in an effort to remove more oil still left on high-use beaches by the 1989 Exxon Valdez spill, the director of oil spill trustee council said this week.

Seven years after the ill-fated tanker struck Bligh Reef and dumped a reported 11 million gallons of North Slope crude into the sound — the start of the worst oil spill in American history — the Exxon Valdez Oil Spill Council has agreed to revisit beaches near Chenega, some of those hardest hit by the oil spill, Director Molly McCammon said.

Residents of Chenega have told the council that residual oil, mostly old mousse and asphalt, still affects the recovery of injured resources and the confidence in subsistence use of the shorelines, the council said in a press release. Although the residual oil is not considered a high environmental risk, the council agreed to a $1.9 million plan to attempt further cleanup to boost public confidence in the subsistence and recreational use of the tidelands.

"It's clear that the impact of this spill on local residents is still hard-felt," McCammon said. "We will never be able to remove 100 percent of the oil from these beaches. However, we can target some of the most significant areas in terms of public use and haul out the mousse and asphalt, even if we have to do it one bucket at a time."

A 1993 shoreline survey found 225 locations with residual surface oiling, asphalt and mousse, the council said. The Chenega cleanup will target eight sites on Latouche, Evans and Elrington Islands. Heavy oil is thought to be lingering beneath large boulders that protect the oil from wave action, the council said.

In other action, the council voted to offer $375,000 for 76.3 acres along the Kenai River near Soldotna. It also agreed to offer $338,700 for three parcels totaling 290 acres in Kiliuda Bay and Uyak Bay on Kodiak Island.

The council, funded by the $900 million civil settlement with Exxon, was created to help restore natural resources and human services injured by the oil spill through habitat protection and scientific studies.

Kodiak Daily Mirror 7/1/96

Crews to return to clean up beaches

By ROSANNE PAGANO
Associated Press Writer

ANCHORAGE — Trustees overseeing Alaska's $900 million oil spill settlement have approved a $1.9 million cleanup aimed at removing clumps of asphalt from rocky beaches in Prince William Sound.

Friday's unanimous vote by the Exxon Valdez oil spill trustees sets aside money for work at roughly eight sites near the Alaska Native village of Chenega.

The village, home to about 70 people, depends on subsistence hunting and fishing in a region among the hardest hit following the Exxon Valdez tanker wreck in 1989.

Ernie Piper, a Department of Environmental Conservation program manager, said the state and villagers were satisfied that residual oil did not pose an ecological hazard.

Piper said the state urged action after agreeing with villagers that tarry remains amounted to litter in a food-gathering area.

"It's easy for me, living in Anchorage, to say what's a little asphalt on a remote shoreline?" Piper said. "But if you live there it's like having trash all over your neighborhood."

Piper said contamination in the sound probably would not qualify as a cleanup priority if it had to compete with other Alaska sites awaiting attention. He said the project is feasible because funds already are set aside for restoration within the oil spill zone.

Residual oil ranges from asphalt slabs the size an office desk to a continuous band of oiling about three-fourths of a mile long and less than 3 feet wide, Piper said.

Molly McCammon, trustees council executive director, said cleanup could never remove 100 percent of oil from Alaska beaches.

"However we can target some of the most significant areas in terms of public use, and haul out the mousse and asphalt even if we have to do it one bucket at a time," she said.

Exxon has said it spent $1 billion on cleaning oiled beaches. Piper said the state would seek contractors in the fall for work to begin next summer.

FUND: State wants oil taxes to stay in Alaska

Continued from Page B-1

based environmental activist who monitored response to the Exxon Valdez oil spill in 1989.

Steiner said safe aboveground tanks are a supplier's responsibility, not an added task for government. And he said the fund should cover social and environmental restoration within Prince William Sound and other regions polluted by the Exxon Valdez spill.

"Ethically, it should be used for the purpose it was collected," he said.

Mandated by Congress in 1973, the trans-Alaska pipeline liability fund was set up as an alternative to the civil courts for claimants damaged by a spill of North Slope crude.

Claims are processed by a 10-member board of trustees, including representatives from seven Alaska oil producers.

Over the years, the fund has approved tens of millions of dollars in payments stemming from three accidents — the Glacier Bay spill in Cook Inlet in 1987, the Exxon Valdez tanker wreck in 1989 in Prince William Sound, and pending claims from the American Trader spill off Huntington Beach, Calif., in 1989.

Once American Trader claims are resolved, Alaska's fund will roll over to the government under terms of the 1990 Oil Pollution Act, which dissolves Alaska's account and combines it with a nationwide oil-spill liability fund valued at more than $1 billion.

"That was an unfortunate part of OPA '90," Steiner said. "We all missed it."

American Trader claims could be completed this year, fund trustees say. Aides say Stevens wants liability fund legislation ready before October, when Congress is slated to adjourn for the year.

Lack of time isn't the only hurdle. Earl Comstock, a Stevens' legislative director, said budget rules require a liability fund bill to find replacement dollars since the government was counting on Alaska's money as income.

Comstock said Stevens' highest priority for the Alaska fund — if it's returned to the state — would be for western Alaska's faulty fuel storage tanks.

"There's a lot of support from other members to fix the problem," he said.

Richardson, the Knowles spokeswoman, said tank upgrades were being considered along with other interests, such as marine research.

But she said aboveground tanks were a top concern because state records showed 149 gasoline or diesel spills in Alaska over the past few months.

Alaska wants oil fund

ADN 7/18/96

Lawmakers scheme to keep $164 million

By ROSANNE PAGANO
The Associated Press

A $164 million liability fund built up through nickel-a-barrel taxes on Alaska crude oil reverts to the federal government as soon as next year unless Congress acts to leave the account here.

The prospect of Alaska money being absorbed by the federal Treasury has mobilized the Knowles administration and U.S. Sen. Ted Stevens, who is preparing legislation to stop the rollover.

"We're actively looking at it now," Stevens' aide Mitch Rose said Tuesday.

"I would think everybody wants the money to come back to Alaska," Knowles' spokeswoman Claire Richardson said.

Environmental activists also agree that tax money raised in Alaska should stay put. But agreement splinters as Stevens and Gov. Tony Knowles quietly pursue plans to use money from the liability fund to fix Alaska's decrepit above-ground storage tanks, a chronic source of fuel spills in the Bush.

Critics say that would be an improper use, because the industry tax was meant to compensate victims of North Slope oil spills.

"The initial purpose of this fund was clear," said Rick Steiner, a Cordova-

Shades Of A Busy Past...

Oil Spill Cleanup Efforts Underway

ANCHORAGE—Trustees overseeing Alaska's $900 million oil spill settlement have approved a $1.9 million cleanup aimed at removing clumps of asphalt from rocky beaches in Prince William Sound.

Friday's unanimous vote by the Exxon Valdez oil spill trustees sets aside money for work at roughly eight sites near the Alaska Native village of Chenega.

The village, home to about 70 people, depends on subsistence hunting and fishing in a region among the hardest hit following the Exxon Valdez tanker wreck in 1989.

Ernie Piper, a Department of Environmental Conservation program manager, said the state and villagers were satisfied that residual oil did not pose an ecological hazard.

Piper said the state urged action after agreeing with villagers that tarry remains amounted to litter in a food-gathering area.

"It's easy for me, living in Anchorage, to say what's a little asphalt on a remote shoreline?" Piper said. "But if you live there it's like having trash all over your neighborhood."

Piper said contamination in the sound probably would not qualify as a cleanup priority if it had to compete with other Alaska sites awaiting attention. He said the project is feasible because funds already are set aside for restoration within the oil spill zone.

Residual oil ranges from asphalt slabs the size an office desk to a continuous band of oiling about three-fourths of a mile long and less than 3 feet wide, Piper said.

Molly McCammon, trustees council executive director, said cleanup could never remove 100 percent of oil from Alaska beaches.

"However we can target some of the most significant areas in terms of public use, and haul out the mousse and asphalt even if we have to do it one bucket at a time," she said.

Exxon has said it spent $1 billion on cleaning oiled beaches. Piper said the state would seek contractors in the fall for work to begin next summer.

Work will concentrate on Evans Island, Elrington Island and the northern end of LaTouche Island. Sites are all within a short ride by small boat from Chenega.

☆

Valdez Star 7/3/96

Developer Wrangles With State Regs

VALDEZ—Chuck Dennis is an even-tempered kind of guy with a touch of Old Southern charm, a remnant of his upbringing in Georgia where one is taught to be soft-spoken, polite and treat one's peers and elders with respect.

But Dennis' patience has been worn down, wafer-thin, and he is turning uncharacteristically angry against what he perceives are the all-powerful government bureaucracies allied against him.

At issue is his 4.3 acre RV park along the Richardson Highway east of the Totem Inn where he hopes to lay out 130 RV spaces. In his haste to get into operation and begin recouping his investment, Dennis had hoped to have 40 spaces in operation by the lucrative Fourth of July holiday.

It's not going to happen.

Dennis has been wrestling with various state, federal and local agencies for the past 18 months.

In the end, he lost most of what he had planned—a 29-acre development with 16 acres dedicated to habitat and a 3-acre strip set aside for a 900-foot public boardwalk along the edge the wetlands, and build on the remaining 11 acres along the highway.

He describes his walk through bureaucracy as "frustrating and costly."

Continued from Page 1

More than $77,000 spent so far, he says, on time, travel, surveys and engineering in pursuit of federal and state permits.

His latest target is the state Department of Conservation. "What's set me back in the last few days is waiting for the DEC to review and approve the sewage plan. We're hooking up to the city sewer and it should have been a problem left up to the city."

"You've got too many levels of government to deal with and none of them is sympathetic to problems that a small businessman can have," says Dennis.

"In fact, I had one agency look me right in the eye and tell me that cost to the landowner is not even a consideration," he added.

"To hell with it, I'm just going ahead," he said Friday.

But those are fighting words to Paul Pinard, the DEC manager for this area.

"It's extremely shocking to hear that," says Pinard. "We bent over backwards for Mr. Dennis."

In an effort to expedite Dennis' project, Pinard says the Mat/Su office of the DEC put Dennis' sewage plan at the top of the list and completed its review in three days, in contrast to the normal span of 15 to 30 days.

Furthermore, says Pinard, Dennis' design plans were incomplete and submitted weeks late and Dan Lawn (of the Valdez office) summoned an engineer to help bring them into compliance.

"We pulled out all the stops for Mr. Dennis," says Pinard. "It's very frustrating to hear those kind of complaints."

It's apparent that part of the problem is communication. Public agencies, says Dennis, are not always clear about what is required. "You get a permit, then there's a mile long of conditions attached to it."

He said, for example that, he was "unaware" he would require DEC approval to hook into the city's sewer system. "I assumed I had to deal only with the city."

He learned of DEC's authority only belatedly and that required another delay, though Pinard says any "delay" amounted to three days.

Dennis' assumption about the city of Valdez may be correct. City planner Dave Dengle says the city can assume the function of plan review and inspection of sewer systems in place of the DEC. The city, Dengel said, would have to meet all the state requirements, something that he plans to put on his study agenda this fall.

Frustration is the operative word in Dennis' book and, for that matter, in Pinard's book too.

It appears that Dennis' bureaucratic trials, as he sees them, may be near to an end, although he still believes that "it just appears that they would rather I would quit, even now, and just go away."

Would he have gone ahead knowing what he knows now?

"Had I known all this 24 months ago, today I would be in Mississippi sitting beside a crick just enjoying life. I would not be in business in Valdez at all."

☆

Valdez Star 7/3/94

Cordova Times

Prince William Sound's oldest newspaper. Established in 19..

me 82 Number 18 Wednesday, July 3, 1996 75 cents

Trustees endorse cleanup proposal in Prince William Sound

Times staff

Nearly seven-and-a-half years after the Exxon Valdez spilled its cargo in Prince William Sound, restoration crews will be returning to selected beaches in a final effort to remove tarlike pockets of oil, according to the ExxonValdez Oil Spill Trustee Council.

The Trustee Council approved a plan June 28, agreeing to spend up to $1.9 million to conduct a targeted cleanup near the village of Chenega in western Prince William Sound. Detailed plans for the cleanup are due to be finalized by the end of this year with the actual work scheduled to begin next summer, the council said.

Residents of Chenega, a village which is centered in the hardest-hit area of the Sound, requested the cleanup, saying the presence of residual oil is a significant problem for the community. Residents told the Trustee Council that remaining oil affects the recovery of injured resources and confidence in subsistence use of the shorelines, the Trustee Council said.

The residual oiling is not considered a high environmental risk to the resources, but the council endorsed the plan in an effort to boost public confidence in the subsistence and recreation use of the tidelands, according to a press release issued by the Trustee Council Friday.

"It's clear the impact of this spill on local residents is still hard-felt," said Molly McCammon, executive director of the Trustee Council.

"We will never be able to remove 100 percent of the oil from these beaches," McCammon said. "However, we can target some of the most significant areas in terms of public use and haul out the mousse and asphalt, even if we have to do it one bucket at a time."

A 1993 shoreline survey of Prince William Sound identified 225 locations with residual surface oiling asphalt or mousse, the council said. The Chenega-area cleanup will target surface oil found at eight sites on Latouche, Evans and Elrington Islands. Those shorelines are covered with heavy boulders that have served to hide the oil and protect it from the natural cleaning action of waves.

The Prince William Sound Economic Development Corp. will coordinate contracting for cleanup, using local companies and local labor. The corporation is the Alaska Regional Development Organization for the area.

In their action, the Trustee Council authorized the Alaska Department of Natural Resources to offer to purchase three small parcels on Kodiak Island and one parcel along the Kenai River near Soldotna. The Council will offer $375,000 for 76.3 acres along the Kenai River, known as the Patson parcel. The Kodiak parcels include160 acres in Kiliuda Bay, valued at $155,200; 65 acres in Uyak Bay, valued at $110,000; and 65 acres in Kiliuda Bay, valued at $73,500, according to the Trustee Council.

The EVOSTC, funded by the $900 million civil settlement with Exxon, was created to help restore natural resources and human services injured by the oil spill through habitat protection and scientific studies.

Cordova Times 7/3/96

Oceanography cruise researches the Sound

By Sharon DeFalco
Special to The Times

Once again, the Bering Explorer, a 120-foot vessel, set off with scientists from the Prince William Sound Science Center and the University of Alaska Fairbanks to conduct research for the Sound Ecosystem Assessment project.

From June 15-21, they collected data at various sampling stations throughout Prince William Sound. Temperature, salinity, current velocity, phytoplankton and zooplankton data from the Sound will be used to complete and refine computer-operated models that will help predict physical and biological processes in the surrounding ocean waters.

Working for the science center, this writer assisted Shari Vaughan and other scientists in data collection onboard the vessel. A conductivity, temperature and depth instrument was monitored as it was lowered into the water at different stations to collect data on temperature, salinity and oxygen levels. Information and statistics were collected from the surface to approximately 20 meters above the bottom of the ocean.

Zooplankton samples were taken at stations using specially designed nets to funnel small organisms into a canister. They were dropped to 50 and 100 feet below the surface of the sound and brought back up. The canister was then emptied and the contents were

See Ocean, page 8

examined under microscope by scientists on the boat from the science center.

A relationship exists between phytoplankton content, zooplankton and fish in Prince William Sound, in that zooplankton feed on phytoplankton, which are in turn eaten by fish. Our job was to find the abundance of phytoplankton and zooplankton in different areas of the Sound. Then, other scientists will take our information and use it to estimate the relationship to the population of fish.

Throughout the cruise, the Acoustic Doppler Current Profile was towed just below the surface of water at the stern of the boat. This instrument measured the velocity of currents from 20 meters below the surface to the bottom. Data collected by the ADCP was transmitted directly to a computer onboard and monitored by scientists to ensure quality data collection.

Data collected on this cruise, other past and future research trips, will be used to develop a predictive model which will help scientists examine the effect of certain theoretical scenarios in Prince William Sound waters. An example of such a scenario would be how wind, tide and current flow influence certain pollutants in the waters.

Sharon DeFalco is an intern with the Prince William Sound Science Center and a student from Cook College Rutgers University in New Jersey.

Fleet of contractors dig in to build Alaska SeaLife Center in Seward

By Ingrid Martin
Alaska Journal of Commerce

SEWARD — Community and financial supporters joined planners and contractors in a dedication ceremony to launch construction of the Alaska SeaLife Center, a $50 million project slated for completion within two years.

Strand Hunt Construction, which in May won the $27.5 million general construction contract for the 120,000-square-foot facility, already has begun work at the seven-acre waterfront property, on the heels of site and marine work completed last fall by Heery International Inc. and Sandstrom and Sons of Anchorage, and Metco of Seward.

The finished center will include a public plaza, parking, research pools and landscaping. The center, geared toward both ongoing research and public education, is dedicated to understanding and maintaining the integrity of the marine ecosystem of Alaska through research, wildlife rehabilitation and public education. Its mission includes conducting long-term research and monitoring programs to rehabilitate and restore the marine environment and wildlife affected by the Exxon Valdez oil spill.

Strand Hunt will perform about 30 percent of the construction work, according to Executive Vice President Thomas W. Presnell, who attended the June 20 dedication. Among the larger subcontracts were life support and mechanical systems, which together accounted for 13 percent of the construction budget, and electrical and control systems, worth 15.5 percent of the total.

Strand Hunt is signatory to the local carpenters, laborers and cement finishers unions and also will use union operating engineers on the SeaLife Center, Presnell said. In all, close to 60 percent of the construction force will be union workers, he said. An estimated 220,000 manhours of labor will be required to build the center, which when open will employ 69 full-time and 13 part-time staff.

"This is a very complex collection of systems and habitats that are going to support cold-water mammals and birds," Presnell said, calling it "the most unique and most exciting project that we have been able to be involved in." Strand Hunt subcontractors include: Graham Steel of Kirkland, Wash. (rebar); Ogilvie Co. of Astoria, Ore. (structural steel); Independent Steel of Anchorage (steel erection); Starnet of Florida (space frame and bird screen); Denemroc Inc. of Spokane, Wash. (joist and decking); Allen & Petersen Home Decorating of Anchorage (flooring, glass and glazing); Enco of California (zinc siding); Chilkat Electric of Anchorage (electrical); Superior Plumbing & Heating of Anchorage (mechanical); Blackhawk Waterproofing of North Carolina (waterproofing); Glass, Sash & Door of Anchorage (doors and hardware); and Jolly Miller of Seattle (specialty rock work).

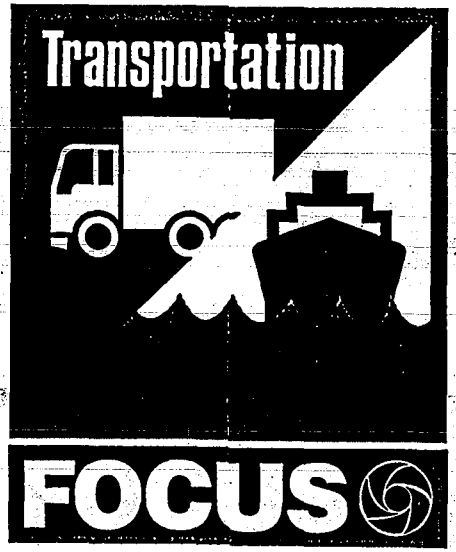
Construction activity will be at full throttle by early July when concrete is poured and the building itself begins to take shape.

The project's only detractors are the weather and logistics that are part and parcel of construction in Seward, which is 120 road miles from Anchorage and known for its chilly, overcast climate, Presnell said.

According to project manager Leif Selkregg, participants promises to be instrumental in building consensus, monitoring progress, resolving problems and achieving goals.

"It jump-starts the process," Selkregg said. "This was team-building in terms of problem- solving."

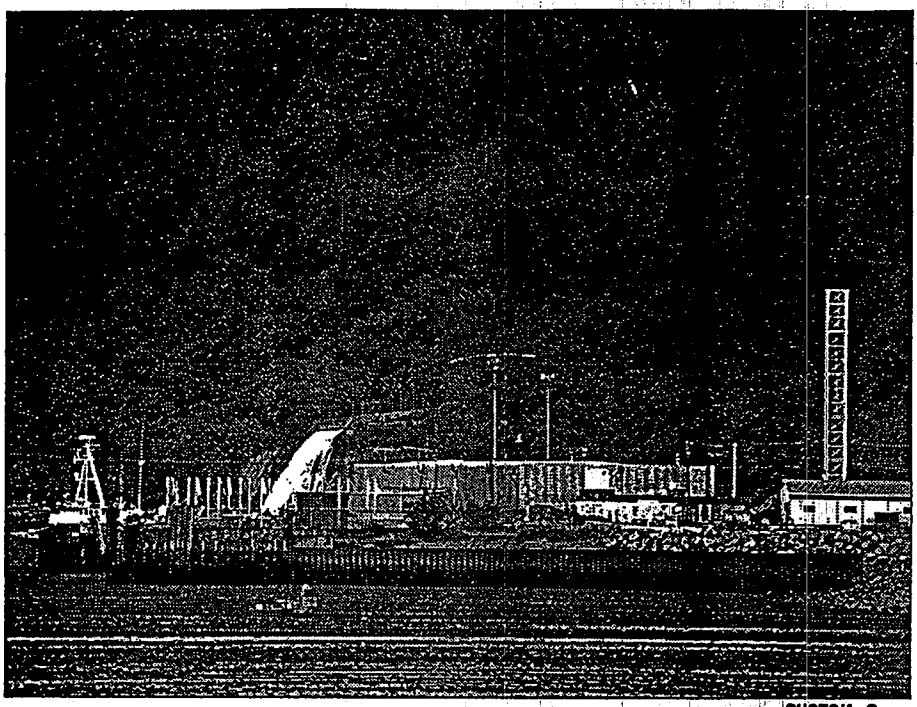
Roe Sturgulewski has been named the onsite construction manager, working with project administrator Darryl Schaefermeyer, who represents the nonprofit Seward Association for the Advancement of Marine Science, which will operate the city-owned center. Troy Stafford, who also joined the effort this spring, is assistant project manager. An executive director will be hired within the coming year, said Selkregg, who will work with the center board in conducting the search.



Selkregg also will continue spearheading the private fund-raising campaign that so far has raised $2.2 million of an initial $6 million goal. That money will go toward enhancing features already part of the basic center package, such as videoconferencing and other communications capabilities, educational programs, exhibits and research equipment; operating reserves; and endowing research chairs. Another $6 million will be raised later, also to fund a research-chair endowment.

Basic funding for the center includes $25 million from the Exxon Valdez Oil Spill Trustee Council, $12.5 million appropriated by the Alaska Legislature in 1993, and $13 million raised by the City of Seward through the sale of revenue bonds. Another $4.5 million in capitalized interest and reserves was raised through the bond sale.

The Seward community, in answer to in-



PHOTO/AL GRILLO

Strand Hunt Construction has begun work on the $50 million Alaska SeaLife Center on the Seward waterfront. The 120,000-square-foot research complex will be completed in two years.

creased tourism and visitor traffic expected with the center's opening, has several projects of its own on tap, according to City Manager Ron Garzini.

"We're working with the Alaska Railroad to upgrade the cruise ship dock," he said, where 120 ships or more already stop each summer.

The city also is working with the U.S. Forest Service and the U.S. Park Service toward construction of a visitor conference facility. The search for a designer will get under way this fall, said Garzini, who anticipates having a plan in hand by December.

The Sisters of Providence have committed to building a $7.5 million health-care facility in town and, in cooperation with the Seward Downtown Business Association, the city will conduct a traffic and parking study in the interest of improving transportation throughout the area.

Beverly Dunham, a 53-year resident of Seward, said locals are enthusiastic about the center project, which can only serve to boost the town's economy. Dunham's husband, Willard, is president of the association that will operate the center.

"I think we've got the healthiest economy of any small town in Alaska," because it is diverse, she said. Tourism, a coal terminal, sawmill, fisheries, government, a vocational-technical training center and even a prison contribute to the economic landscape.

Most locals are enthusiastic about the center, Dunham said, but may not be fully aware of the impact it will have.

"We're geared up for a lot of things," she said, such as sewer and water requirements, but (lodging) could be a problem.

"But it always is," she said. Bed and breakfasts may be part of the solution, along with renovated apartment houses-turned-motels to accommodate an influx of tourists.

For last month's dedication, a party of more than 100 people sailed the Kenai Fjords Tours Glacier Explorer into Resurrection Bay to toast the center, following remarks by former Gov. Wally Hickel, under whose administration the vision for the SeaLife Center was conceived. Revelers included about 50 people shuttled into Seward from Anchorage aboard an ERA Classic Airlines restored DC-3.

Lab tests predict where salmon will be running

Spill money funds Fish and Game genetic work

By NATALIE PHILLIPS
Daily News reporter

As the sun was rising over Anchorage on Tuesday, a Cessna Caravan landed at the Anchorage airport to deliver a cooler crammed with hundreds of laboratory vials packed on dry ice.

Each vial held the heart, liver, eyeball or muscle tissue of Cook Inlet red salmon caught by commercial fishermen a few hours earlier.

The cooler was rushed to the state Department of Fish and Game genetics laboratory, where a dozen lab techs in white coats and blue latex gloves were waiting.

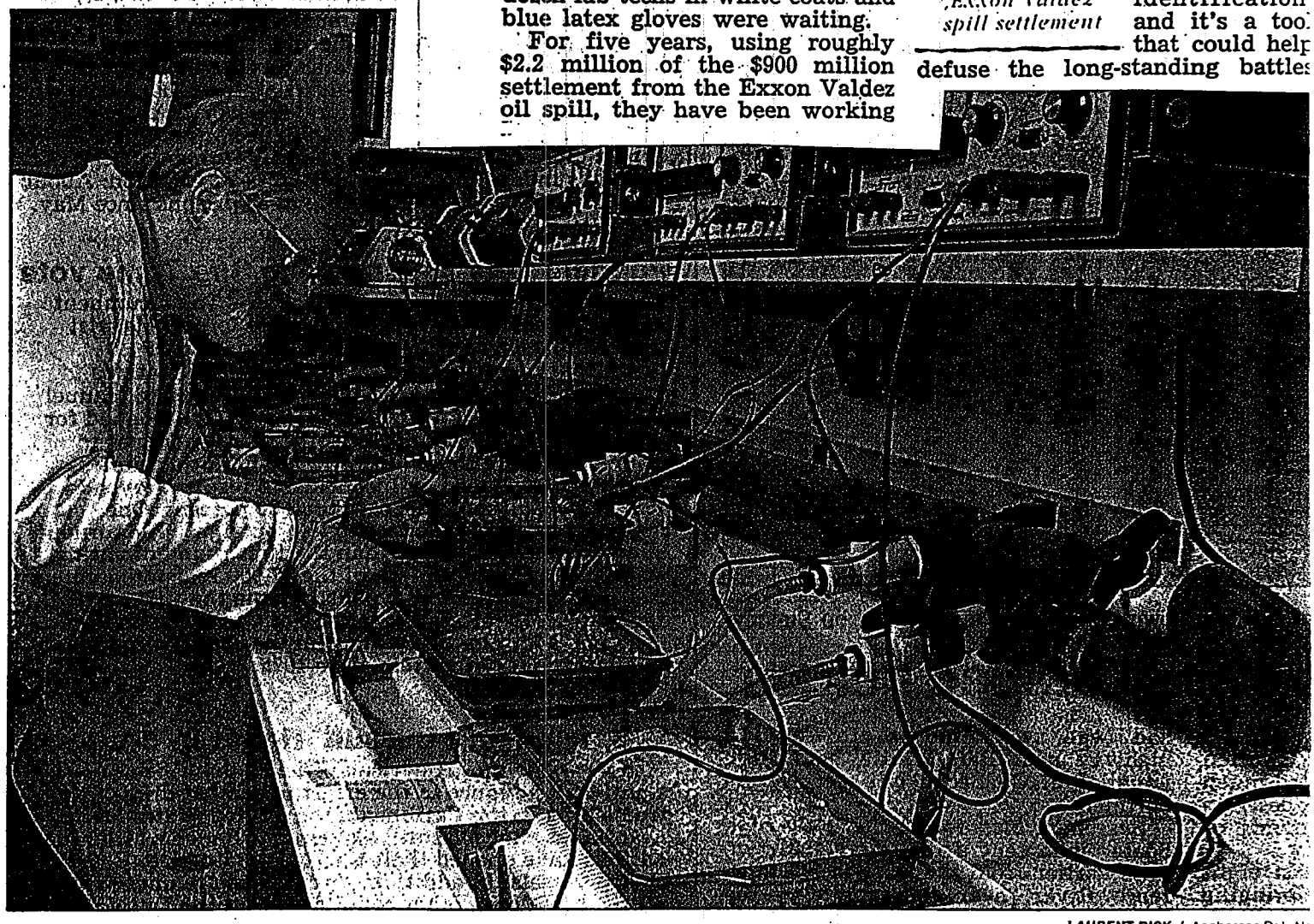
For five years, using roughly $2.2 million of the $900 million settlement from the Exxon Valdez oil spill, they have been working on a way to pluck returning salmon out of the Inlet and determine exactly where the run is headed — the Kenai, the Kasilof, the Susitna, or the Yentna rivers.

They now have their science perfected.

It is called genetic stock identification and it's a tool that could help defuse the long-standing battles

Spill Science

A look at research funded by the Exxon Valdez spill settlement



LAURENT DICK / Anchorage Daily Ne

Bruce Whelan, a technician with the state Department of Fish and Game, checks the progress of starch gels that a subject to steady electrical current and freezing for four hours to separate proteins within each salmon sample.

Continued from Page A-1

over Cook Inlet's bounty between the commercial fleet and sport fishermen in the Mat-Su area and on the Kenai Peninsula.

"We applaud it," said Ben Ellis, executive director of Kenai River Sportfishing Inc.

About 24 hours after receiving the salmon tissue samples early last week, state Fish and Game geneticist Lisa Seeb called managers in Soldotna with preliminary results. About 61 percent of the 347,000 fish caught by the commercial fleet on Monday was headed for the Kenai River.

Fisheries managers spent Wednesday and Thursday poring over that information — along with sonar counts, and off-shore tests of fish movement — and announced Thursday that there would be no restrictions on the Friday commercial fishing opening.

Two weeks ago, they went through the same steps and discovered about 30 percent of the commercial catch was Kenai River fish. So during the next opening, the commercial fleet was ordered to stick to the east side of the Inlet with hopes that salmon bound for the upper reaches of Cook Inlet, where runs in some streams have been weak, would get through.

Now that the genetic stock identification program is perfected, the Exxon Valdez Oil Spill Trustee Council won't be funding the study any further. State officials must decide if they want to fund the program.

"So it may be one of those great inventions that sits on the shelf," said Paul Ruesch, a state Department of Fish and Game management biologist based in Soldotna.

Because salmon instinctively return to their natal stream, those from a certain stream maintain distinctive characteristics. Scientists have long been looking for a foolproof way to say where returning salmon are headed.

One study focused on fish scales. The thinking was that like rings on a tree, the scales would show growth rates and could be tied to various river drainages. But after a few years' work, the theory proved flawed. Another study focused on parasites. Maybe salmon from different streams sported unique parasites. That theory didn't hold up, either.

But the genetic fingerprinting — which involves analyzing protein structures in the fish tissue — is a proven method first tried back on the Kenai River in the 1970s and currently being used by the Pacific Salmon Commission in the battle between Canadians and the state of Washington over pink salmon.

The early genetic studies of Kenai salmon didn't go anywhere because they didn't have comparative data from salmon in all the Cook Inlet drainages.

Seeb and a crew of state Fish and Game scientists proposed using oil spill settlement money to build the genetic data base needed to make the program work. They also thought that the lab work could be turned around quickly enough to be used while salmon were running.

The United Cook Inlet Drift Association lobbied hard for funding, said Theo Matthews, the organization's executive director. "We promoted it as a management tool from day one."

The work began in 1992, with dozens of Fish and Game biologists and technicians traveling to spawning beds on 35 river systems in Cook Inlet. A helicopter was used to reach some remote places, including the West Fork of the Yentna River in Denali National Park. They collected samples from 7,700 fish, at least 100 from each site.

"It took three years to gather all the data, because they all spawn at the same time and we couldn't get to them all at once," said Ken Tarbox, a Soldotna-based research biologist for Fish and Game.

"It is exciting when you start seeing the differences," Tarbox said.

One discovery was that the red salmon that spawn above the falls on the Russian River are genetically very different than the salmon found below the falls, Seeb said. And above the falls, the early run and late run salmon are genetically different, too.

"The genetic diversity among Kenai River populations is clearly far greater than previously documented," Seeb wrote in a report.

By 1994, their data base was taking shape and they were ready to randomly pluck returning fish from Cook Inlet to see if they could make a match. Tarbox once threw samples from a chum salmon in with the mix of fish headed for the Anchorage laboratory just to see if the genetics lab techs could spot the deviant. They did.

This is the second summer the genetic mapping is being used to help manage fisheries.

When the commercial fleet brings its fish to processors, Fish and Game techs are on hand. They work through the night gathering samples from 1(fish from 40 commercial boats. By 4 a.m., some of their samples are ready for a chartered flight for Anchorage.

At the state Fish and Game laboratory on Raspberry Road, lab technicians use a process that produces a hardened gel with a series of dots and dashs resembling the Morse Code. Geneticists translate that information and plug it into a computer. At the end of the day, they compare the information to the data base. They check and recheck their work.

Cook Inlet commercial fishing periods are generally open for 12 hours on Monday and Friday. Returning salmon tend to linger in Cook Inlet for four to 19 days before heading for their spawning grounds. So samples collected on Monday are processed, translated and back to fisheries managers quick enough for them to restrict Friday's opening, if necessary.

METRO
SATURDAY, JULY 6, 1996 ANCHORAGE DAILY NEWS

Sound towns should get money

The 1989 Prince William Sound oil spill did not pollute the Sound like the news media, tree huggers and lawyers would like you to believe. Less than 1 percent of the Sound's shores were affected, and one would be hard-pressed to find any oil still out there. Crude oil is biodegradable over time. More wildlife is killed by hunters and fishermen yearly than were killed by the spill. I don't believe anyone or any community was really hurt by the spill itself. If anything, the spill created jobs, especially for the beachcombers (scientists).

The oil companies were and are generous to the communities. Yet the city of Seward gets a Sealife Research Center, which is designed to be a tourist attraction and create jobs. The University of Alaska had been studying the Sound for years, and probably continues to do so.

Here in Valdez, we barely were able to get a medical clinic built, with funds generated by taxpayers. The city of Valdez was impacted with the increase in population, resulting in the increase in city services as the effect of the spill. To me, human life is more important than keeping a bunch of scientists employed. Yet there is a group of people in charge of the spill trust fund located in Anchorage deciding how to spend this money for us. This money should be divided among the communities of Prince William Sound.

— Larry McIntosh
Valdez

Genetic science moves into Cook Inlet salmon management

By NATALIE PHILLIPS
Anchorage Daily News
An Alaska AP Member Exchange

ANCHORAGE (AP) — As the sun was rising over Anchorage Tuesday, a Cessna Caravan landed at the Anchorage airport to deliver a cooler crammed with hundreds of laboratory vials packed on dry ice.

Each vial held the heart, liver, eyeball or muscle tissue of Cook Inlet red salmon caught by commercial fishermen a few hours earlier.

The cooler was rushed to the state Department of Fish and Game genetics laboratory, where a dozen lab techs in white coats and blue latex gloves were waiting.

For five years, using roughly $2.2 million of the $900 million settlement from the Exxon Valdez oil spill, they have been working on a way to pluck returning salmon out of the Inlet and determine exactly where the run is headed — the Kenai, the Kasilof, the Susitna or the Yentna rivers.

They now have their science perfected.

It is called genetic stock identification, and it's a tool that could help defuse the longstanding battles over Cook Inlet's bounty between the commercial fleet and sport fishermen in the Mat-Su area and on the Kenai Peninsula.

"We applaud it," said Ben Ellis, executive director of Kenai River Sportfishing Inc.

About 24 hours after receiving the salmon tissue samples early last week, state Fish and Game geneticist Lisa Seeb called managers in Soldotna with preliminary results. About 61 percent of the 347,000 fish caught by the commercial fleet on Monday was headed for the Kenai River.

Fisheries managers spent Wednesday and Thursday poring over that information — along with sonar counts, and offshore tests of fish movement — and announced Thursday that there would be no restrictions on the Friday commercial fishing opening.

Two weeks ago, they went through the same steps and discovered about 30 percent of the commercial catch was Kenai River fish. So during the next opening, the commercial fleet was ordered to stick to the east side of the Inlet with hopes that salmon bound for the upper reaches of Cook Inlet, where runs in some streams have been weak, would get through.

Now that the genetic stock identification program is perfected, the Exxon Valdez Oil Spill Trustee Council won't be funding the study any further. State officials must decide if they want to fund the program.

"So it may be one of those great inventions that sits on the shelf," said Paul Ruesch, a state Department of Fish and Game management biologist based in Soldotna.

Because salmon instinctively return to their natal stream, those from a certain stream maintain distinctive characteristics. Scientists have long been looking for a foolproof way to say where returning salmon are headed.

One study focused on fish scales. The thinking was that like rings on a tree, the scales would show growth rates and could be tied to various river drainages. But after a few years' work, the theory proved flawed. Another study focused on parasites. Maybe salmon from different streams sported unique parasites. That theory didn't hold up, either.

But the genetic fingerprinting — which involves analyzing protein structures in the fish tissue — is a proven method first tried back on the Kenai River in the 1970s and currently being used by the Pacific Salmon Commission in the battle between Canadians and the state of Washington over pink salmon.

The early genetic studies of Kenai salmon didn't go anywhere because they didn't have comparative data from salmon in all the Cook Inlet drainages.

Seeb and a crew of state Fish and Game scientists proposed using oil spill settlement money to build the genetic data base needed to make the program work. They also thought that the lab work could be turned around quickly enough to be used while salmon were running.

The United Cook Inlet Drift Association lobbied hard for funding, said Theo Matthews, the organization's executive director. "We promoted it as a management tool from Day One."

The work began in 1992, with dozens of Fish and Game biologists and technicians traveling to spawning beds on 35 river systems in Cook Inlet. A helicopter was used to reach some remote places, including the West Fork of the Yentna River in Denali National Park and Preserve. They collected samples from 7,700 fish, at least 100 from each site.

"It took three years to gather all the data, because they all spawn at the same time and we couldn't get to them all at once," said Ken Tarbox, a Soldotna-based research biologist for Fish and Game.

"It is exciting when you start seeing the differences," Tarbox said.

One discovery was that the red salmon that spawn above the falls on the Russian River are genetically very different from the salmon found below the falls, Seeb said. And above the falls, the early run and late run salmon are genetically different, too.

"The genetic diversity among Kenai River populations is clearly far greater than previously documented," Seeb wrote in a report.

By 1994, their database was taking shape and they were ready to randomly pluck returning fish from Cook Inlet to see if they could make a match. Tarbox once threw samples from a chum salmon in with the mix of fish headed for the Anchorage laboratory just to see if the genetics lab techs could spot the deviant.

They did.

This is the second summer the genetic mapping is being used to help manage fisheries.

When the commercial fleet brings its fish to processors, Fish and Game techs are on hand. They work through the night gathering samples from 10 fish from 40 commercial boats. By 4 a.m., some of their samples are ready for a chartered flight for Anchorage.

Power outages not related

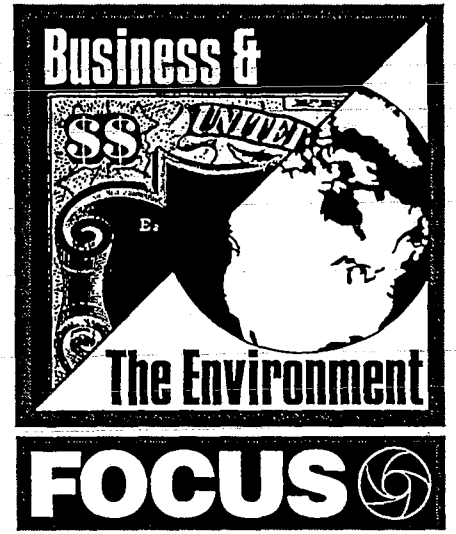
Environmental *Notes*

Spill cleanup plan targets Chenega

More than seven years after the Exxon Valdez spill in Prince William Sound, restoration crews will be returning to selected beaches in a final effort to remove tar-like pockets of oil.

The Exxon Valdez Oil Spill Trustee Council has approved a plan to spend up to $1.9 million to conduct a targeted cleanup near the Village of Chenega in western Prince William Sound. Detailed plans for the cleanup are due to be finalized by the end of the year with work to begin next summer.

Chenega residents say residual oil is a significant problem, affecting the recovery of injured resources. The residue is not a high environmental risk, but the council endorsed the plan to boost public confidence in subsistence and recreational use of the tidelands.



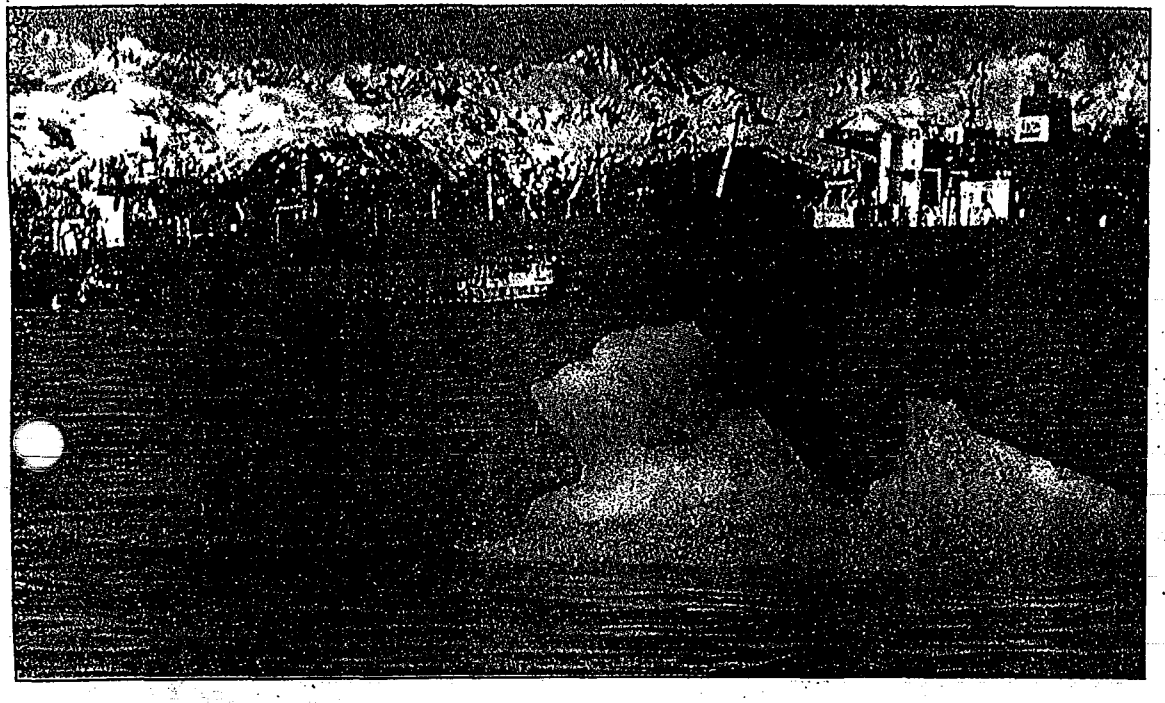
Hart Crowser creates web site

Hart Crowser, an environmental engineering consulting firm, has created a web site outlining its sediment assessment and remediation capabilities.

The address is http://www.hartcrowser.com/sediments/. The web site contains links to major sediment- and dredging-related sit including the Corps' terways Experiment tion, the Environm tal Protection Agenc Assessment a Remediation of C taminated Sedime program, Center Dredging Studies, a many others.

Founded in 19 Hart Crowser speci izes in marine a freshwater contar nated sediment s vices, with headqu ters in Seattle and fices in Anchora and nine other cities.

SPECIAL REPORT



Tankers pump oil in Prince William Sound days after the Exxon Valdez disaster in March 1989. The repercussions of the 11 million gallon spill are still being felt, seven years later.

Associated Press file photo

Nature fights a stubborn stain

EDITOR'S NOTE: Seven years after the Exxon Valdez grounded on Bligh Reef and pumped 11 million gallons of crude oil into Prince William Sound, the spill's devastating legacy continues.

> "I think it (the program) should be a model of how to deal with environmental damage."
>
> **Pamela Brodie,** Sierra Club

Los Angeles Times

LATOUCHE ISLAND, Alaska — The sliver of beach looks like one of the many forlorn paradises that stretch uncataloged across the Alaskan wilderness: a small, frigid bay of sharp blue, a narrow crescent of rocks along the shore, then the hard wall of the forest.

It is pristine, except when Ernie Piper begins prying up boulders, uncovering a large chunk of black asphalt and petroleum muck. The water under the stones runs rainbow with oil sheen. Piper shrugs.

"Unfortunately, this wasn't such a success story," he says, recounting the weeks of cleanup on this island in Prince William Sound that followed the Exxon Valdez oil spill in 1989. "This beach got absolutely hammered. We had backhoes in here, we moved the rocks out with a Caterpillar, we flushed it all down and collected and skimmed it. But even now, we've got a pretty continuous band of oil and asphalt all up and down the beach."

In the coming weeks, $2 million in cleanup work will begin at Sleepy Bay on Latouche Island and at nine other remaining oiled beaches — an effort that, seven years after the disaster, will close the book on cleanup from the deadliest spill in North American history.

But it is the second chapter of the story that is perhaps most remarkable and least remarked.

After the last beach-washers go home, more than 30,000 acres of verdant islands around Sleepy Bay and nearby Chenega Island will become national forest and state marine parkland — signed over or sold, if the deal goes through, by a Native Alaskan corporation to help mitigate the damage from the spill.

An additional 30,500 acres will be forever protected from logging and development.

As scientists, lawyers, public officials and corporate representatives battled over cleanup and compensation, the $900 million that the Exxon Corp. agreed to pay in civil damages has quietly funded a huge new trust of public lands — designed to shelter the dozens of species decimated by the spill and protect this part of rural Alaska from the logging and construction boom that washed in with the oil.

It is a program unprecedented in its conception and scope. Never before has government been given such an overwhelming conservation mandate — restore an entire devastated ecosystem — and so much money with which to do it.

The Exxon Valdez Oil Spill Trustee Council has launched negotiations with Native Alaskan shareholders to protect up to 1 million acres of land in southeastern Alaska, so far signing or initialing deals for purchase or permanent resource protection of 422,290 acres.

The land purchases, so far tentatively committing $195.3 million of the trust fund, are creating state parks, expanding wildlife refuges, acquiring key privately held land in popular destination spots such as Kodiak Island and Kenai Fjords National Park, and establishing a land barrier to a major wave of logging that has crept northward into still-virgin forests — a phenomenon environmentalists say ultimately could prove as disastrous for wildlife as the oil spill.

"It's unique in the history of the environmental movement to be able to have hundreds of millions of dollars to buy some of the most spectacular land, rich in fish and wildlife habitat, on the North American continent. I think it should be a model of how to deal with environmental damage," said Pamela Brodie of the Sierra

Please see OIL SPILL on 33

EXXON VALDEZ: SEVEN YEARS LATER

Trust fund to pay for parklands

OIL SPILL from Page 25A

Club, a member of the trustee council's public advisory group.

"Ironically, the spill turned out in some ways to be a benefit," said Ralph Eluska, who heads the Akhiok Kaguyak native corporation on Kodiak Island, which deeded over 76,646 acres and barred development on an additional 43,239 acres of the Kodiak National Wildlife Refuge — parts of which have the most dense populations of brown bear on Earth.

"On the one hand you say, no way, you can't let a disaster of this kind happen. There's no value you can place on the harm that happens to the Earth, to people's emotions. But spending the money to restore the habitat, it comes a little bit of the way toward justice," he said.

The social consequences of such a vast acquisition program are only beginning to be felt.

Nearly all the land belongs to Alaskan natives who won huge concessions from the government in the 1971 Alaska Native Claims Settlement Act.

That legislation ceded native tribes 44 million acres — 10 percent of the state of Alaska — to be held by profit-making native corporations.

Although the contracts protect subsistence-hunting rights, the large Exxon Valdez buys represent the most important shift of native land ownership back to the government since the hand-over — reversing, in the eyes of many native Alaskans, the bitterly fought gains of the past half-century.

"Our land is the center of who we are, it's what we are. You can't put a price on culture and heritage and tradition," said Gail Evanoff, a Chenega Bay resident and shareholder who has vowed to fight the sale of land. "I'm sorry, but I can't even begin to fathom . . . how they think they're going to give this area better stewardship than we ever did."

Here are some of the lingering impacts:

■ Harbor seals, Harlequin ducks, killer whales and several species of seabirds have not recovered and, in some cases, continue to decline.

■ Pacific herring populations crashed inexplicably in 1993 and have not sprung back, further harming hundreds of fishermen already impoverished by the spill's first lean years.

■ Pink salmon, once the staple of Prince William Sound's canneries, has just begun to recover. And its price on a world market, in part dubious about oil spill fish, remains one-thirteenth of what it was. Natives don't trust biologists' assurances that mussels and clams can be safely eaten.

"It's kind of an emotional thing. For a lot of the people here, it's like losing their faith," said Claire Holland, an Alaska state parks ranger on Kodiak Island. "It was no longer, 'Well, I'm going to wake up and go fishing.' That wasn't something they could believe in anymore."

In Cordova, fish-based revenues have declined more than 50 percent since the spill. Many fishermen have abandoned pink salmon fishing in the sound and have gone after other fisheries further afield, in the Copper River.

Exxon has long argued that the ecological problems plaguing Prince William Sound can't all be blamed on the spill, and the dilemma for trustees trying to rebuild the ecosystem is that Exxon may be at least partly right.

The number of seals, for example, was in decline long before the spill.

Declines in oiled areas have been sharper. But did the spill affect their food supply in ways that haven't been measured yet?

The herring didn't crash until four years after the spill, and the cause was traced to a virus.

But did stress from the spill make the herring more vulnerable to disease? How are declines in small forage fish contributing to the slow recovery of seabirds that ought otherwise to be stabilizing?

To answer questions like these, millions of dollars of the Exxon civil settlement money and a separate $125 million fund in fines and criminal restitution have been devoted to research and field studies, some of which have produced findings and methodologies that will benefit marine environmental efforts around the world.

In the end, however, it was clear that simply studying individual populations and allocating money for beach cleanups would not be enough. Especially when so many of the species already reeling from the effects of the spill were seeing their habitat slowly eroding with increasing timber harvests all around Prince William Sound and the Gulf of Alaska.

"You've never had such a large ecosystem and such a large amount of money to (restore) it with. It's unprecedented," said Molly McCammon, executive director of the trustee council. "But what does it mean to restore an injured ecosystem? . . . Seven years after the spill, we still don't know what restoration needs to be done. You never know for sure."

'Spillionaires' wait for Exxon funds as fishing dries up

LATOUCHE ISLAND, Alaska — "The sound is dead, and Exxon keeps trying to tell us everything's normal," said Paul Saunders, a Cordova fisherman since 1975. "You can't crab, there's no shrimp, there's no herring anymore. Before the spill, I had a coffee can, and I was stuffing $100 bills in there till I couldn't get any more in. Now, I'm thinking about moving. The cannery doesn't even want us here anymore. The guy down there told me I shouldn't go pink fishing this year. . . . A processor telling a catcher, 'Don't go fish.' I never heard of such a thing in my life."

Fishermen damaged by the spill won a record $5 billion punitive judgment from Exxon in 1994.

If it ever comes through, many of them will be millionaires.

"Spillionaires," they call them here. But several years more in legal appeals stand in the way of collecting. A few have died waiting. The former mayor of Cordova committed suicide. Stress levels in Cordova, five years after the spill, were measured by sociologists at the same level as a rape victim a year after the crime.

"Some people are surely thinking in the back of their mind, 'That settlement will save us.' But if you're out there planning your life on the Exxon money, I wouldn't do it," said Jerry McCune, president of United Fishermen of Alaska and of the local Cordova fishing union.

— *Los Angeles Times*