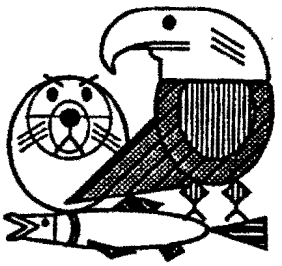
Exxon Valdez Oil Spill Trustee Council

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



Date: July 19, 1993

To: Dave Gibbons
Interim Administrative Director

From: John A. Sandor
Commissioner-ADEC

Subject: Kodiak Fishery Technology Center

Following an additional detailed review of the Project Titles List for the 1994 Draft Work Plan, I have discovered that the project for partial funding of the Kodiak Fishery Technology Center has been inadvertently left off the list. The Trustee Council at its March 29, 1993 meeting assured the proponents of the project that it would be considered as part of the 1994 Work Plan. Please add this project to the list of projects to be included in the draft 1994 Work Plan. I understand that the Department of Natural Resources has agreed to take the lead on this project since it is similar to the proposed Seward Marine Center project.

Thank you for your assistance.

12.5.32

MEMORANDUM

TO: Dave Gibbons, Director
EVOS Trustee Council

FROM: Annie Landrum, Staff
PWSCORS

RE: EVOS Projects

DATE: July 16, 1993

As a new organization, PWSCORS is only now becoming acquainted with the operating methods of the EXXON VALDEZ Oil Spill Trustees Council. Although we have learned that the official deadline for project requests has passed, we are hoping that the Trustees will look with favor on Prince William Sound projects that our group has wholeheartedly endorsed. The following is a brief outline of the projects that I discussed with Charlie Cole that PWSCORS would like to see funded by the Trustees.

The first project we spoke of would need to be funded out of the 1993 work plan.

1). The Pacific Herring Study for the fall of 1993. This study is the last and only chance to collect data for 1993 because the spring study was not conducted. It is needed for the management of the spring 1994 herring fishery. I understand that there has been no support for this project because ADF&G felt that it would take away from their spring 1994 study and because it was thought that it would take 3 to 5 years of study to capture the data. That is apparently not the case and I have some supporting letters documenting the urgency of this project.
Cost: $180,000.

We then spoke of the 1994 work plan. There are a few regional projects that are extremely important to PWSCORS that have not been included in the first list of 50 projects for the 1994 work plan. If these projects could be included in the draft plan that is being distributed for public comment, the people involved in PWSCORS feel strongly that they would be well supported.

2). Hatchery Debt Repayment for PWSAC and VFDA. This is currently on the second list of 50 projects and we would like to see it moved up to the first list for the public comment. We know that there is some question as to the legality of this project, but we would like to see it go out for public comment so that the hatcheries and the fishermen would have the opportunity to present their case and prove that it is a legal use of the money. This project could be funded over time. The money normally used for the debt repayment would go a long way in funding programs which are necessary to enable fisheries managers to protect wild stocks in mixed stock fisheries and to restore and enhance stocks. It is the feeling of the members of PWSCORS that the program will be well received by the public.
Cost: $25 million for PWSAC
$ 8.3 million for VFDA
Total: $33.8 million

3). Restore subsistence resources. Although pieces of this were included in other projects, there is still a need to provide subsistence users with foods that they can no longer obtain in Prince William Sound. For a minimal amount of money, subsistence users could travel to other areas to hunt and fish and come home with sufficient foods for themselves and others.
Cost: $55,000.

4). Otolith Marking. Although the thermal marking (otolith) program for salmon has been recommended for the draft plan, it has been funded at a dollar figure of $152,000. I understand that there is a one-time start-up cost of $300,000. Would it be possible to have this dollar amount increased?

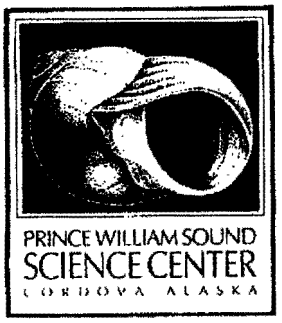
The last topic we discussed was the fact that no projects for Whittier have been included in the 1994 work plan. The following are the three projects that are considered most urgent.

5). Harbor remodeling.
Cost: $930,000.

6). Removal of hazardous materials.
Cost: $250,000.

7). Additional sports fishing access in Whittier.
Cost: $200,000.

We will provide support materials for each of these seven projects within a short while. Thank you very much for your consideration of these requests.



P.O. Box 705
Cordova, AK 99574
(907) 424-5800 FAX: (907) 424-5820

July 12, 1993

Representative Harley Olberg
Alaska State Legislature
P.O. Box 1068
Delta Junction, AK 99737

Dear Harley:

This letter is in response to your request for justification of PWSCOR's proposed project for an acoustic assessment program for Prince William Sound herring in the fall of 1993.

The Prince William Sound herring population, its food base, rearing and spawning habitat were exposed to the EXXON VALDEZ oil spill in the spring spawning season of 1989. Subsequently, damage was detected at individual and population levels. In the spring of 1993, an unexpected collapse of the spawning population occurred and the few fish that did return to spawn were in poor condition, diseased, and to some extent deformed.

Since the egg deposition survey and the herring reproductive capacity experiments were not funded in the spring of 1993, the fall acoustic/net sampling survey is the **only** remaining option for collecting quantitative information on the herring population this year. The quantitative information that this survey provides is needed to manage the spring 1994 fishery. Without any quantitative information on the herring population size in 1993, the capability to assess long-term damages will be severely compromised.

The proposed acoustic and net sampling techniques are accepted by the scientific community and can improve fisheries management. For instance, the egg deposition survey in 1992 predicted a large herring return in the spring of 1993. Because of this prediction, prior to the fishing season some area fishermen intensively lobbied ADF&G to reduce the 1993 herring quotas for economic reasons. This prediction was almost the opposite of what actually happened. If acoustical measurements were made in conjunction with the spring egg deposition surveys, they would increase the credibility of the current prediction process. However, it would probably take three to five years of comparative measurements to demonstrate to ADF&G that the current egg deposition surveys could be replaced.

I appreciate your interest in this project and, again, want to state that the proposed fall 1993 acoustic/net sampling survey is our **only remaining option** to gain <u>any</u> quantitative information on the herring population.

Sincerely,

G.L. Thomas (NB)

G.L. Thomas, Ph.D.
President

PRINCE WILLIAM SOUND
SCIENCE CENTER
CORDOVA ALASKA

P.O. Box 705
Cordova, AK 99574
(907) 424-5800 FAX: (907) 424-5820

FACSIMILE TRANSMISSION

July 12, 1993

Dr. Jerome Montegue, Director
Oil Spill Division
Alaska Department of Fish and Game
(907) 465-4759

Dear Jerome:

Rep. Olberg requested justification for the fall acoustic net sampling survey for PWS herring (see attachment 1).

I developed a proposal for a fall 1993 acoustic/net-sampling survey for PWS herring at John Wilcox's request. I discussed it with Wayne Donaldson and Fritz Funk. We all agreed that the fall 1993 acoustic/net-sampling survey should be done. We all agreed that the spring 1994 egg deposition survey should be done.

Working with the PWSCORS, we endorsed both studies. PWSCORE was informed that the spring 1994 egg deposition survey was approved for the 1994 work plan. We were told the acoustics/net-sampling survey was not approved for a late addition to the 1993 plan. We are now attempting to get the 1993 acoustic/net-sampling survey approved. We need your support.

The 1993 survey will provide immediate information on the status of the stock that will be used for 1994 management decisions, and is the only remaining way for the Trustees to collect quantitative information on the herring stock in 1993, after not funding the spring surveys and experimental work.

As we all know the present herring management process would benefit from improvement of stock assessment techniques. This project is an opportunity for the Center and the Department to work cooperatively to improve the *status quo*.

Thank you for the support.

Sincerely,

G.L. Thomas, President
cc: Wayne Donaldson

12.5.3

July 7, 1994

Dave Gibbons:

Reference: 1994 Workplan Project List Comments

Forest Service has reviewed the draft list of projects that the RT prepared. We would like to commend you and the team for cutting the list from over 400 projects to a more realistic number of projects. Our general comments at this time are related more to projects which the Forest Service is involved as lead or cooperator. We have also not dealt with possible legal issues surrounding any of the projects. Our comments are as follows:

Project 139 and 43 - Since these projects have to do primarily with habitat enhancement techniques and most within the Sound and the National Forest, we believe it would be more appropriate for the Forest Service to be lead on these projects.

Project 316 - The Forest Service is listed as lead for this project, we assume since it involves trails on National Forest lands. We do not believe this project meets the test for linking to oil spill injured resource restoration nor do we believe the litter and maintenance is a result of the spill. We recommend that this project be dropped.

Project 209 - We propose to fund this project from an alternate funding source and request that it be drop from this list.

Project 217 - The Forest Service currently has the lead for developing the PWS Area Recreation Plan and we believe should more appropriately have the lead for implementing the project.

Thanks

J.Wolfe

1994 Work plans

7/7/93

- John Sandor - no changes
- Carl Rosier - no changes
- Mike Barton - See changes (5)
- Steve Rennoyer - Move 5 projects forward
- Charlie Cole -
- Paul Gates - UTR.

- 316 Shoreline clean-up of trash - ADNR

12.5.3A

Exxon Valdez Oil Spill Trustee Council

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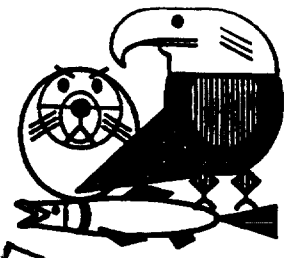

April 19, 1993

Dear Concerned Citizen:

The Trustee Council is in the process of developing the 1994 program of work to help restore the resources and services injured by the Exxon Valdez Oil Spill. "Restoration includes....injury assessment, restoration, replacement and enhancement of natural resources, and acquisition of equivalent resources or services," (Memorandum of Agreement and Consent Decree for Civil Action A91-081CV in U.S. District Court, District of Alaska, filed August 29, 1991). Attached is a list of titles for potential restoration projects for 1994 which are being considered for this program. These potential projects have been derived from the following sources:

(1) Public comments on the Restoration Framework (an April 1992 restoration discussion document),
(2) Public comment on the 1992 and 1993 work plans,
(3) Federal and state trustee agency recommendations,
(4) Other solicited and unsolicited public comments,
(5) Projects identified by the Exxon Valdez Oil Spill Public Advisory Group,
(6) Projects suggested by individuals testifying at Trustee Council meetings.
(7) Projects identified by the Chief Scientist and peer reviewers.

Please review and comment on this list of potential projects. It may be difficult for you to comment on many of the projects because of the limited information available. However, you are being asked to comment now so that you have an opportunity to influence the projects that will be selected for inclusion in the draft 1994 Work Plan. Project descriptions of these titles will be developed for the draft 1994 Work Plan to be released for public comment this summer. After reviewing those public comments, the Trustee Council will select the projects to be conducted in 1994.

Please check the columns on the right hand side of the attached table to indicate whether a project should be conducted and when. Additional space has been provided under each resource name in the table for new project titles. Be sure to note in the appropriate column the injured resource or service and the restoration option/suboption your project title addresses. Titles should be as complete and meaningful as possible. Please indicate the geographic area in which the project would be conducted. If the project is outside of the spill area please write "out" in the region columns. Your cost estimates and duration may be preliminary estimates and subject to change as are ours. A paragraph explaining your new proposed project would be useful to make sure we understand what you are proposing. At the end of the project title listing, two blank sheets are included for your new project ideas. Summary of injury tables are attached as background information to assist your deliberations on restoration projects.

The $900 million civil recovery from the *Exxon Valdez* Oil Spill is to be paid over a 10 year period. In September 1993, a $100 million payment will occur, and, from 1994 through 2001, yearly payments of $70 million will be made. Since the money is being paid over a multi-year period, not all potential projects can be funded in 1994. No decision has been made on the total amount that will be spent for the 1994 program of work (October 1, 1993 through September 30, 1994). Please note that in addition to project costs, any program of work will require funding for the administration of restoration activities.

A Restoration Plan is being developed as a long-term guide to the restoration of the resources and services injured by the *Exxon Valdez* oil spill. The Restoration Plan will be used to guide the selection of specific projects to be included in each annual work plan. A draft Restoration Plan is expected to be available in June 1993; the final version will be published by the end of 1993.

There is a 30-day period to review and comment on the enclosed potential project titles. To make sure your comments are considered, they must be postmarked by May 20, 1993. Please return your comments to:

Exxon Valdez Trustee Council
1994 Work Plan Work Group
645 "G" Street
Anchorage, Alaska 99501

Thank you.

Michael A. Barton
Regional Forester
Alaska Region
Forest Service
U.S. Department of Agriculture

Charles E. Cole
Attorney General
State of Alaska

Paul D. Gates
Regional Environmental Officer
Office of the Secretary
U.S. Department of Interior

Steve Pennoyer
Director
Alaska Region
National Marine Fisheries Service

Carl L. Rosier
Commissioner
Alaska Department of Fish and Game

John A. Sandor
Commissioner
Alaska Department of Environmental Conservation

Name _____
Phone _____

1994 POTENTIAL PROJECT TITLES

	RESOURCE or SERVICE	RESTORATION OPTION or SUBOPTION	POTENTIAL PROJECTS		REGION PWS	REGION KEN	REGION KOD	EST. COST/YR $K	EST. DURATION (YEARS)	1994	1995	1996	1997	1998	1999	2000	2001	Do Not Fund
22	Black Oystercatcher	Restoration Monitoring																
23	Commercial Fishing	Habitat Protection and Acquisition	Weir And Conservation Land Acquisition		X	X	X	$1,100	M									
24		Intensify Management	Establish an Ecological Basis for Restoring and Enhancing Mixed-stock Salmon Resources		X	X	X	$385	M									
25		Intensify Management	Fishery Industrial Technology Center		X	X	X	$3,500	1									
26		Intensify Management	Model for Capacity of Salmon Production for the Susitna Drainage			X		$150	M									
27		Intensify Management	Susitna River Sockeye Salmon Production Evaluation			X		$300	M									
28		Monitoring	Thirteen Commercial Species Hydrocarbon Contamination and Injury Assessment		X	X	X	$200	M									
29		Option Not Identified	Payoff Debt of Valdez Fisheries Development Association		X			$5,000	1									
30		Recovery Monitoring	Recovery of Coded-Wire Tags from Pink Salmon in Commercial Catches, Hatchery Cost Recovery		X			$868	M									
31		Recovery Monitoring	Wild Fish Stock Information Assessment		X	X	X	$50	M									
32		Replace Harvest Opportunities	Mitigation Fishery at Kitoi Bay Hatchery on Afognak Island				X	$45	M									
33		Replace Harvest Opportunities	Montague Island Chum Salmon Restoration		X			$80	M									
34		Replace Harvest Opportunities	Paint River Fish Ladder Salmon Stocking Program			X		$50	M									
35		Replace Harvest Opportunities	Red Lake Mitigation				X	$191	M									
36	Common Murre	Feasibility Study Improve Nest Sites	Testing of the Feasibility of Enhancing Productivity		X	X	X	$280	M									
37		Feasibility Study Social Stimuli	Restoration of Murres by Way of Behavioral Attraction and Habitat Enhancement		X	X	X	$51	93 - M									
38		Feasibility Study. Social Stimuli	Restoration of Murres by Way of Transplantation of Chicks-Feasibility Study		X	X	X	$73	M									
39		Recovery Monitoring	Common Murre Population Monitoring	OUT	X	X	X	$191	M									
40		Reduce Disturbance	Reduce Disturbance Near Murre Colonies Injured by the Oil Spill		X	X	X	$40	M									
41		Remove Introduced Species	Removal of Introduced Predators from Bird Colonies	OUT				$460	M									

PWS=Prince William Sound, KEN=Kenai Peninsula and Cook Inlet,
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93=Funded in 1993 M=Multi-year Project

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42	**Common Murre**	Restoration Monitoring						M									
43	**Cutthroat/Dolly**	Intensify Management	Cutthroat Trout and Dolly Varden Habitat Restoration	X			$200	M									
44		Intensify Management	Enhanced Management of Cutthroat Trout and Dolly Varden	X			$285	M									
45		Option Not Identified	Anadromous Cutthroat and Dolly Varden Char Habitat Inventory, Evaluation, and Restoration	X			$35	M									
46		Option Not Identified	Cutthroat Trout and Dolly Varden Hatchery	X			$950	M									
47		Restoration Monitoring						M									
48	**General**	Administration	Oil Spill Restoration Support Service and Facilities	X	X	X	$600	1									
49		Monitoring	Monitoring of Small Cetaceans (Dall Porpoises) in PWS	X			$200	M									
50		Option Not Identified	Hazardous Material Collection Facility	X	X	X	$100	1									
51		Option Not Identified	Testing of Patch-Response Patch Dependence Hypothesis-Testing of an Ecosystem Model	X	X	X	$488	M									
52		Public Information	Public Broadcasting System Program on Oil Spill	X	X	X	$70	M									
53		Public Information	Publish and Distribute Brochures on Injured Species	X	X	X	$90	M									
54		Public Information	PWS Brochures	X			$65	M									
55		Public Information	PWS Implementation of Interpretive Plan	X			$150	M									
56		Public Information	PWS Large Format Photographic Book	X			$100	M									
57		Public Information	PWS Scenic Byway-- Nomination and Interpretive Plan	X			$70	M									
58		Public Information	PWS Video Programs	X			$100	M									
59		Public Information	Science of the Sound- Education Program	X			$53	M									

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82	Intertidal	Monitoring	Monitoring Sites - Collector Beaches and Lagoons	X	X	X	$500	M									
83		Monitoring	Natural Recovery of Oiled and Treated Shorelines and Monitoring	X	X	X	$600	M									
84		Monitoring	Quantification of Intertidal Algal Recovery Using Multispectral Digital Remote Sensing	X	X	X	$195	M									
85		Monitoring	Recovery Monitoring of Intertidal Oiled Mussel Beds	X	X	X	$500	93 - M									
86		Monitoring	Herring Bay Experimental and Monitoring Studies	X			$495	93 - M									
87		Option Not Identified	Bivalve Shellfish Rehabilitation Project	X	X	X	$860	M									
88		Option Not Identified	Clam Enhancement	X	X	X	$120	M									
89		Option Not Identified	Replacement of Oiled Mussels with Commercially Produced Mussels	X	X	X	$500	M									
90		Option Not Identified	Restoration of Mussel Beds	X	X	X	$500	M									
91		Option Not Identified	Characterization of Near-Shore Bottom Habitat	X	X	X	$237	M									
92	Killer Whale	Monitoring	Photo-Identification Studies of PWS Killer Whales	X			$120	93 - M									
93		Monitoring	Recovery Monitoring	X			$125	M									
94		Monitoring	Use of Satellite Transmitters to Investigate Killer Whale Ecology in PWS	X			$180	M									
95		Reduce Fishery Interactions	Change Black Cod Fishery Gear	X				M									
96	Marbled Murrelet	Habitat Protection	Identification of Nesting Habitat Criteria and Reproductive Success for Marbled Murrelet	X	X	X	$240	93 - M									
97		Habitat Protection	Survey to Identify Upland Use by Murrelets	X	X	X	$180	93 - M									
98		Habitat Protection	Assessment of Marbled Murrelet Foraging Habitat Requirements During Breeding Season	X	X	X	$250	M									
99		Habitat Protection	Marbled Murrelet Nesting and Feeding Site Characterization and Assessment	X	X	X	$509	M									
100		Minimize Incidental Take															
101		Recovery Monitoring	Determine Status of Marbled Murrelet Populations In Kenai Fjords and Katmai National Parks		X	X	$200	M									

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Name _____

Phone _____

1994 POTENTIAL PROJECT TITLES

	RESOURCE or SERVICE	RESTORATION OPTION or SUBOPTION	POTENTIAL PROJECTS	REGION PWS	REGION KEN	REGION KOD	EST. COST/YR $K	EST. DURATION (YEARS)	1994	1995	1996	1997	1998	1999	2000	2001	Do Not Fund
128	Multiple Resources	Habitat Protection and Acquisition	Habitat Acquisition, Kodiak Island			X	$20,000	1									
129		Habitat Protection and Acquisition	Habitat Acquisition, North Afognak Island			X	$4,000	1									
130		Habitat Protection and Acquisition	Kodiak Bear Refuge Stream Mouth Inholdings Acquisition			X	$1,000	1									
131		Increase Natural Food Supply															
132		Intensify Management	Develop Management Strategy for Enhancing Recovery Rate of Bird and Sea Otter Populations	X	X	X	$50	M									
133		Intensify Management	Genetic Risk Assessment of Injured Salmonids	X	X	X	$408	M									
134		Intensify Management	Restoration and Mitigation of Essential Wetland Habitats for PWS Fish and Wildlife	X			$200	M									
135		Intensify Management	Restoration of Second Growth Habitat for Wildlife in PWS	X			$40	M									
136		Intensify Management	Seabird Colony Restoration	X	X	X	$250	M									
137		Intensify Management	Stock Identification of Chum, Sockeye and Chinook Salmon in PWS	X			$250	M									
138		Monitoring	Shoreline Worm Life Monitoring	X	X	X	$388	M									
139		Option Not Identified	Instream Habitat and Stock Restoration Techniques for Anadromous Fish	X	X	X	$416	M									
140		Option Not Identified	Alaska Land and Wildlife Conservation Fund	X	X	X	one billion	M									
141		Option Not Identified	Field Study of Bioremediation Enhancement Treatment Methods	X	X	X	$280	M									
142		Option Not Identified	Oil Spill Injured Resources Literature Research and Review	X	X	X	$7	M									
143		Option Not Identified	Analyze Natural Resource Damage Assessment Samples Left Un-Analyzed	X	X	X	$650	1									
144		Option Not Identified	Identification of Seabird Feeding Areas from Remotely Sensed Data and Impact on Restoration	X	X	X	$48	M									
145		Option Not Identified	Shoreline Assessment	X	X	X	$250	93 - M									
146		Option Not Identified	Uganik River Fish Counting Weir - Brown Bear and Other Wildlife Food Study			X	$28	M									
147		Recovery Monitoring	Comprehensive Monitoring Program, Plan and Administer	X	X	X	$500	93 - M									
148		Recovery Monitoring	Cook Inlet Comprehensive Monitoring Program		X		$800	M									
149		Recovery Monitoring	Full Funding for Oil Spill Recovery Institute	X	X	X	$2,300	1									
150		Recovery Monitoring	Injured Resource Food Supply	X	X	X	$850	M									
151		Recovery Monitoring	Inventory, Monitor, Protect Permanent Study Sites	X	X	X	$500	M									
152		Recovery Monitoring	Long-Term Monitoring of Marine Environment of Resurrection Bay		X		$600	M									
153		Recovery Monitoring	Migratory Shore Birds Staging in Rocky Intertidal Habitats of PWS	X			$80	M									
154		Recovery Monitoring	Migratory Waterfowl and Shorebird Monitoring	X	X	X	$150	M									
155		Recovery Monitoring	Monitor Population Status of Seabird Nesting Colonies in the Spill Zone	X	X	X	$100	M									
156		Recovery Monitoring	Restoration Recovery Monitoring of Stream-Rearing Anadromous Salmonids	X	X	X	$200	M									
157		Recovery Monitoring	Survey to Determine Abundance Distribution, Habitat, and Food Habits of Staging Shore Birds	X			$35	M									

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176	Pink Salmon	Fish Passes and Access	Feasibility of Fish Passes as Oil Spill Restoration	X	X	X	$25	M									
177		Fish Passes and Access	Horse Marine Creek Pink Salmon Restoration			X	$28	1									
178		Fish Passes and Access	Otter Creek Fish Pass	X			$130	1									
179		Fish Passes and Access	Pink Creek Pink Salmon Restoration			X	$11	1									
180		Fish Passes and Access	Sockeye Creek Fish Pass	X			$60	1									
181		Fish Passes and Access	Waterfall Creek Pink Salmon Restoration-Fish Improvement			X	$55	1									
182		Improve Survival Rates	Fry Rearing to Improve Survival and Restore Wild Pink and Chum Salmon Stocks	X	X	X	$727	M									
183		Intensify Management	Adult Tagging to Determine Distribution, Migratory Timing and Rate of Movement of Pink Salmon	X			$495	M									
184		Intensify Management	Coded Wire Tag Recoveries from Commercial Catches in PWS Salmon Fisheries	X			$855	M									
185		Intensify Management	Coded Wire Tagging of Wild Stock Pink Salmon for Stock Identification	X			$500	M									
186		Intensify Management	Inventory and Effect of Straying Hatchery Pink Salmon on Wild Pink Salmon Population	X			$253	M									
187		Intensify Management	Otolith Marking - Inseason Stock Separation Tool to Reduce Wild Stock Salmon Exploitation	X	X	X	$152	M									
188		Intensify Management	Pink Salmon Escapement Enumeration	X	X	X	$705	M									
189		Intensify Management	PWS Salmon Stock Genetics	X			$150	M									
190		Intensify Management	Quality Assurance for PWS Coded Wire Tagging and Fish Production Records	X			$66	M									
191		Monitoring	Investigating and Monitoring Oil Related Egg and Alevin Mortalities	X	X		$686	M									
192		Monitoring	Restoration Monitoring and Preservation of Wild Populations of Pink Salmon	X	X		$899	M									
193		Monitoring	Injury to Salmon Eggs and Pre-emergent Fry in PWS, Laboratory Verification	X			$141	M									
194		Monitoring	Pink Salmon Egg to Pre-Emergent Fry Survival in PWS	X			$385	93 - M									
195		Monitoring	Monitoring Early Marine Growth of Juvenile Salmon in Prince William Sound	X			$50	M									
196		Option Not Identified	Pink Salmon Stream Enhancement in Prince William Sound, Lower Cook Inlet and Kodiak	X	X	X	$300	M									
197	Recreation	Establish Marine Environmental Institute	Build Research and Monitoring Facilities and Program/Cook Inlet, Kodiak		X	X	$1,250	M									
198		Establish Marine Environmental Institute	Oiled Wildlife Rehabilitation Center	X	X	X	$6,000	1									
199		Establish Marine Environmental Institute	Seward Sea Life Center	X	X	X	$40,000	1									
200		Habitat Protection and Acquisition	17(b) Easement Identification-Public Access	X	X	X	$500	M									
201		Habitat Protection and Acquisition	Acquisition of Important Recreation Lands	X	X	X	$500	M									

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Name _____
Phone _____

1994 POTENTIAL PROJECT TITLES

	RESOURCE or SERVICE	RESTORATION OPTION or SUBOPTION	POTENTIAL PROJECTS	REGION PWS	REGION KEN	REGION KOD	EST. COST/YR $K	EST. DURATION (YEARS)	1994	1995	1996	1997	1998	1999	2000	2001	Do Not Fund
232	Recreation	Visitor Center	Information Center	X	X	X	$600	1									
233		Visitor Center	Interpretation of PWS	X			$10	M									
234		Visitor Center	Maritime Wing Valdez Museum	X			$150	1									
235		Visitor Center	Multi-agency Library on PWS and Copper River Delta	X			$150	1									
236		Visitor Center	Valdez Visitor Center	X			$850	1									
237	River Otter	Monitoring	River Otter Recovery Monitoring	X			$180	M									
238		Monitoring	Synthesis of Information on Ecology and Injury to River Otters in PWS	X			$40	M									
239		Restoration Monitoring															
240		Sport/trap Harvest Guidelines	Develop Harvest Guidelines to Aid Restoration of Injured Terrestrial Mammals and Seaducks	X	X	X	$99	1									
241	Rockfish	Intensify Management	Develop a Rockfish Management Plan	X	X		$175	M									
242		Monitoring	Monitoring Injury to Rockfish in PWS	X			$117	M									
243		Monitoring															
244	Sea Otter	Cooporative Prgm-Subsistence Users															
245		Habitat Protection (Public Land)	Habitat Utilization by Sea Otters and Designation of Protected Areas	X	X	X	$83	M									
246		Monitoring	Monitoring of Sea Otter Population Abundance, Distribution, Reproduction, and Mortality	X	X	X	$337	M									
247		Monitoring	Radio-Telemetry Project to Monitor Recovery of Sea Otters	X	X	X	$450	M									
248		Monitoring	Sea Otter Population Dynamics	X	X	X	$291	93 - M									
249		Restoration Monitoring															

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	RESOURCE or SERVICE	RESTORATION OPTION or SUBOPTION	POTENTIAL PROJECTS	REGION PWS	REGION KEN	REGION KOD	EST. COST/YR $K	EST. DURATION (YEARS)	1994	1995	1996	1997	1998	1999	2000	2001	Do Not Fund
268	Subsistence	Option Not Identified	Mariculture Technical Center	X	X	X	$2,200	1									
269		Option Not Identified	Seward Shellfish Hatchery	X	X	X	$1,300	1									
270		Recovery Monitoring	Survey of Impacted Native Communities-Subsistence	X	X	X	$700	M									
271		Replace Harvest Opportunities	Chenega Bay Replacement Subsistence Resource Project	X			$50	M									
272		Replace Harvest Opportunities	Chenega Chinook and Coho Release Program	X			$55	M									
273		Replace Harvest Opportunities	Port Graham Salmon Hatchery		X		$2,500	1									
274		Replace Harvest Opportunities	Silver Lake Fish Hatchery	X			$1,000	1									
275		Replace Harvest Opportunities	Subsistence Harvest Replacement-Transport Subsistence Users to Unoiled Areas	X	X	X	$55	M									
276		Restoration Monitoring															
277		Subsistence Mariculture Sites	Village Mariculture Project - Oyster Farming	X	X	X	$589	M									
278		Test Subsistence Foods	Assessment and Quality Assurance of Shellfish Resources	X	X	X	$300	M									
279		Test Subsistence Foods	Subsistence Food Safety Testing	X	X	X	$308	93 - M									
280	Subtidal	Habitat Protection	Juvenile Spot Shrimp Habitat Identification	X	X		$110	M									
281		Intensify Management	PWS Spot Shrimp Recovery Management Plan	X			$715	M									
282		Monitoring	PWS Spot Shrimp Survey	X			$90	M									
283		Monitoring	Injury and Recovery of Deep-Benthic Macrofaunal Communities	X	X	X	$275	M									
284		Monitoring	Natural Recovery Monitoring of Subtidal Eelgrass Communities in PWS	X			$265	93 - M									
285		Monitoring	Recovery Monitoring of Hydrocarbon-Contaminated Subtidal Marine Sediment Resources	X	X	X	$390	M									
286		Monitoring	Subtidal Recovery Monitoring	X	X	X	$400	M									
287		Restoration Monitoring	Experimental Studies of Interaction Between Subtidal Epifaunal Invertebrates	X	X	X	$90	M									
288	Technical Services	Administration	Electronic Archiving of Exxon Valdez Records	X	X	X	$450	M									
289		Administration	Geographic Information System Mapping of Natural Resources in Western PWS	X			$75	M									

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	RESOURCE or SERVICE	RESTORATION OPTION or SUBOPTION	POTENTIAL PROJECTS	REGION			EST. COST/YR $K	EST. DURATION (YEARS)	1994	1995	1996	1997	1998	1999	2000	2001	Do Not Fund
				PWS	KEN	KOD											

PWS=Prince William Sound, KEN=Kenai Peninsula and Cook Inlet,
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Resources: Summary of Results of Injury Assessment Studies Done After the *Exxon Valdez* Oil Spill

Resource	Description of Injury			Status of Recovery in December, 1992		Geographic Extent of Injury (a)				Comments/Discussion
	Oil Spill Mortality (total mortality estimate) (b)	Decline in Population after the spill	Evidence of Sublethal or Chronic Effects	Current Population Status	Evidence of Continuing Sublethal or Chronic Effects	PWS	Kenai	Kodiak	Alaska Penin.	
MARINE MAMMALS										
Harbor Seals (c)	YES (200)	YES	YES	POSSIBLY STABLE, BUT NOT RECOVERING (a)	UNKNOWN	YES	YES (d)	UNKNOWN	UNKNOWN	Many seals were directly oiled There was a measurable difference in populations between oiled and unoiled areas in PWS in 1989 and 1990. Population was declining prior to the spill and no recovery evident in 1992 Oil residues found in seal bile were 5 to 6 times higher in oiled areas than unoiled areas in 1990
Humpback Whales	NO	NO	NO	(e)	(e)	(e)	(e)	(e)	(e)	Other than fewer animals being observed in Knight Island Passage in summer 1989, which did not persist in 1990, the oil spill did not have a measurable impact on the north Pacific population of humpback whales.
Killer Whales	YES (13)	YES	UNKNOWN	RECOVERING	UNKNOWN	YES	UNKNOWN	UNKNOWN	UNKNOWN	13 Adult whales of the 36 in AB pod are missing and presumed dead The AB pod has grown by 2 whales since 1990 Circumstantial evidence links whale disappearance to oiling
Sea Lions (c)	UNKNOWN	UNKNOWN	NO	CONTINUING DECLINE	(e)	(e)	(e)	(e)	(e)	Several sea lions were observed with oiled pelts and oil residues were found in some tissues It was not possible to determine population effects or cause of death of carcasses recovered Sea populations were declining prior to the oil sp

(a) There may have been an unequal distribution of injury within each region,
(b) Adjusted for carcasses not found, not reported, scavenged, or otherwise lost,
(c) Population may have been declining prior to the spill,
(d) Based on recovery of dead animals from this region of the spill zone;
(e) If no injury was detected or known, no assessment of recovery could be made;
(f) Total body count, not adjusted for carcasses not found

Resource	Description of Injury			Status of Recovery in December, 1992		Geographic Extent of Injury (a)				Comments/Discussion
	Oil Spill Mortality (total mortality estimate) (b)	Decline in Population after the spill	Evidence of Sublethal or Chronic Effects	Current Population Status	Evidence of Continuing Sublethal or Chronic Effects	PWS	Kenai	Kodiak	Alaska Penin	
BIRDS										
Bald Eagles	YES (614-902)	YES	YES	RECOVERING	UNKNOWN	YES	YES	YES (d)	YES(d)	Productivity in PWS was disrupted in 1989, but returned to normal in 1990 Exposure to hydrocarbons and some sub-lethal effects were found in 1989 and 1990, but no continuing effects were observed on populations
Black-legged Kittiwakes	YES (NUMBER UNKNOWN)	NO	NO	NO CHANGE	NO	YES	YES (d)	YES (d)	YES (d)	Total reproductive success in oiled and unoiled areas of PWS has declined since 1989 Hydrocarbon contaminated tissues were detected in 1989 Hydrocarbon contaminated stomach contents were detected in 1989 and 1990 This species is known for great natural variation and reproductive failure may be unrelated to the oil spill.
Black Oyster-catchers	YES (129 ADULTS, UNKNOWN FOR CHICKS (f)	YES	YES	RECOVERING	YES	YES	YES (d)	YES (d)	YES (d)	Differences in egg size between oiled and unoiled areas were found in 1989 Exposure to hydrocarbons and some sublethal effects were determined Populations declined more in oiled areas than unoiled areas in post-spill surveys in 1989, 1990 and 1991 Black oystercatchers feed in the intertidal areas and may be still be exposed to hydrocarbons in the environment
Common Murres	YES (175,000 to 300,000)	YES	YES	DEGREE OF RECOVERY VARIES IN COLONY	YES	NO	YES	YES	YES	Measurable impacts on populations were recorded in 1989, 1990 and 1991 Breeding is still inhibited in some colonies in the Gulf of Alaska
Glaucous-winged gulls	YES (NUMBER UNKNOWN)	NOT DETECTED	NO	NO CHANGE	NO	YES (d)	YES (d)	YES (d)	YES (d)	While dead birds were recovered in 1989, there no evidence of a population level impact when compared to historic (1972, 1973) population levels

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Resource	Description of Injury			Status of Recovery in December, 1992		Geographic Extent of Injury (a)				Comments/Discussion
	Oil Spill Mortality (total mortality estimate) (b)	Decline in Population after the spill	Evidence of Sublethal or Chronic Effects	Current Population Status	Evidence of Continuing Sublethal or Chronic Effects	PWS	Kenai	Kodiak	Alaska Penin	
Other Sea Ducks	YES (875) (b)	NO	UNKNOWN	UNKNOWN	UNKNOWN	YES	YES (d)	YES (d)	YES (d)	Species collected dead in 1989 include Stellar's, king and common eider, white-winged, surf and black scoter, oldsquaw, bufflehead, common and Barrow's goldeneye, and common and red-breasted merganser Sea ducks tend to feed in the intertidal and shallow subtidal areas which were most heavily impacted by oil
Other Shorebirds	YES (NUMBER UNKNOWN)	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	YES	YES (d)	YES (d)	YES (d)	Species collected dead in 1989 include golden plover, lesser yellowlegs, semipalmated, western, least and Baird's sandpiper, surfbird, short-billed dowitcher, common snipe, red and red-necked phalarope
Other Birds	YES (NUMBER UNKNOWN)	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	YES (d)	YES (d)	YES (d)	YES (d)	Species collected dead in 1989 include emperor and Canada goose, brant, mallard, northern pintail, green-winged teal, greater and lesser scaup, ruddy duck, great blue heron, long-tailed jaeger, willow ptarmigan, great-horned owl, Stellar's jay, magpie, common raven, northwestern crow, robin, varied and hermit thrush, yellow warbler, pine grosbeak, savannah and golden-crowned sparrow, white-winged crossbill
FISH										
Cutthroat Trout	YES, SEE COMMENTS	POSSIBLY	YES	STABLE, BUT NOT RECOVERING	UNKNOWN	YES	UNKNOWN	UNKNOWN	UNKNOWN	Differences in survival and growth between anadromous adult populations in the oiled and unoiled areas persisted in 1991 despite the decrease in exposure indicators This could be due to continuing injury to the food base
Dolly Varden	YES, SEE COMMENTS	POSSIBLY	YES	STABLE, BUT NOT RECOVERING	UNKNOWN	YES	UNKNOWN	UNKNOWN	UNKNOWN	Differences in survival between anadromous adult populations in the oiled and unoiled areas persisted in 1991 despite the decrease in exposure indicators This could be due to continuing injury to the food base

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Resource	Description of Injury			Status of Recovery in December, 1992		Geographic Extent of Injury (a)				Comments/Discussion
	Oil Spill Mortality (total mortality estimate) (b)	Decline in Population after the spill	Evidence of Sublethal or Chronic Effects	Current Population Status	Evidence of Continuing Sublethal or Chronic Effects	PWS	Kenai	Kodiak	Alaska Penin	
Crab (Dungeness)	UNKNOWN	UNKNOWN	UNKNOWN	(e)	(e)	(e)	(e)	(e)	(e)	Crabs collected from oil areas were not found to have accumulated petroleum hydrocarbons
Oyster	UNKNOWN	UNKNOWN	UNKNOWN	(e)	(e)	(e)	(e)	(e)	(e)	Although studies were initiated in 1989, they were not completed because they were determined to be of limited value
Sea Urchin	UNKNOWN	UNKNOWN	UNKNOWN	(e)	(e)	(e)	(e)	(e)	(e)	Studies limited to laboratory toxicity studies
Shrimp	UNKNOWN	UNKNOWN	NO	(e)	(e)	(e)	(e)	(e)	(e)	No conclusive evidence presented for injury linked to oil spill
INTERTIDAL/SUBTIDAL COMMUNITIES										
Intertidal Organisms/ Communities	YES	YES	YES	VARIABLE BY SPECIES, SEE COMMENTS	YES	YES	YES	YES	YES	Measurable impacts on populations of plants and animals were determined The lower intertidal and, to some extent, the mid intertidal is recovering Some species (Fucus) in the upper intertidal zone have not recovered, and oil may persist in and mussel beds
Subtidal Communities	YES	YES	YES	VARIABLE BY SPECIES, SEE COMMENTS	YES	YES	UNKNOWN	UNKNOWN	UNKNOWN	Measurable impacts on population of plants and animals were determined in 1989 Eel grass and some species of algae appear to be recovering Amphipods in eel grass beds recovered to pre-spill densities in 1991 Leather stars and helmet crabs show little sign of recovery through 1991

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Summary of Results of Injury Assessment Studies Done After the *Exxon Valdez* Oil Spill

Service	Description of Injury	Status of Recovery in December, 1992	Geographic Extent of Injury (a)				Comments/Discussion
			PWS	Kenai	Kodiak	Alaska Penin.	
Commercial Fishing	During 1989, emergency commercial fishery closures were ordered in PWS, Cook Inlet, Kodiak and the Alaska Peninsula This affected salmon, herring, crab, shrimp, rockfish and sablefish The 1989 closures resulted in sockeye over-escapement in the Kenai River and in the Red Lake system (Kodiak Island). In 1990 a portion of PWS was closed to shrimp fishing	Currently there are no area-wide oil spill-related commercial closures in effect Management actions to try to compensate for the spill are still in effect. EVOS related sockeye over-escapement in the Kenai River and Red Lake system is anticipated to result in low adult returns in 1994 and 1995. These over-escapements may result in closure or harvest restrictions during these and perhaps in subsequent years	YES	YES	YES	YES	Injuries and recovery status of rockfish, pink salmon, shellfish and herring are uncertain. Therefore, future impacts on these fisheries is unknown.
Commercial Tourism	Approximately 43% of the tourism businesses surveyed felt their businesses had been significantly affected by the oil spill in summer 1989. The net loss in visitor spending in the oil spill area in 1989 was $19 million.	By 1990, 12% of the tourism businesses surveyed felt their businesses had been significantly affected by the oil spill.	YES	YES	YES	YES	

(a) There may have been an unequal distribution of injury within each region.

Summary of Results of Injury Assessment Studies Done After the *Exxon Valdez* Oil Spill

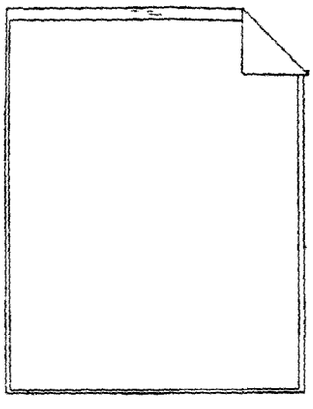
Other Natural Resources and Archaeology: Summary of Results of Injury Assessment Studies Done After the *Exxon Valdez* Oil Spill (b)

Resource	Description of Injury	Status of Recovery in December, 1992	Geographic Extent of Injury (a)				Comments/Discussion
			PWS	Kenai	Kodiak	Alaska Penin	
Air	Air quality standards for aromatic hydrocarbons were exceeded in portions of PWS Health and safety standards for permissible exposure levels were exceeded up to 400 times.	Recovered	YES	NO	NO	NO	Impacts diminished rapidly as oil weathered and lighter factions evaporated.
Sediments	Oil coated beaches and became buried in beach sediments. Oil laden sediments were transported off beaches and deposited on subtidal marine sediments	Patches of oil residue remain intertidally on rocks and beaches and buried beneath the surface at other beach locations Oil remains in some subtidal marine sediments and has spread to depths greater than 20 meters.	YES	YES	YES	YES	Unweathered buried oil will persist for many years in protected low-energy sites.
Water	State of Alaska water quality standards may have been exceeded in portions of PWS. Federal and State oil discharge standards of no visible sheen were exceeded	Recovered	YES	YES	YES	YES	Impacts diminished as oil weathered and lighter fractions evaporated
Archaeological sites/artifacts	Currently, 24 sites are known to have been adversely affected by oiling, clean-up activities, or looting and vandalism linked to the oil spill. 113 sites are estimated to have been similarly affected. Injuries attributed to looting and vandalism (linked to the oil spill) are still occurring	Archaeological sites and artifacts cannot recover; they are finite non-renewable resources	YES	YES	YES	YES	
Designated Wilderness Areas	Many miles of Federal and State Wilderness and Wilderness Study Area coastlines were affected by oil. Some oil remains buried in the sediments of these areas	Oil has degraded in many areas but remains in others Until the remaining oil degrades, injury to Wilderness areas will continue.	YES	YES	YES	YES	

(a) There may have been an unequal distribution of injury within each region

(b) This page has not yet been reviewed by the Chief Scientist

(a) There may have been an unequal distribution of injury within each region.



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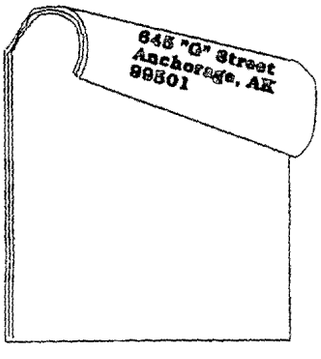

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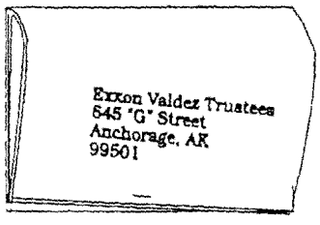

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