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1993 WORKPLAN - ALASKA DEPARTMENT OF FISH AND GAME PROPOSALS

1. Restoration of Prince William Sound Rockfish and Lingcod Resources
2. Prince William Sound Herring Egg Loss Survey
3. Prince William Sound Herring Spawn Deposition Survey
4. Prince William Sound Herring Tagging Feasibility Study
5. Larval Herring Age and Growth in PWS Using Otoliths
6. Replacement of Oiled Mussels with Commercially Produced Mussels
7. Maricultural Technical Center
8. Database Integration
9. Lower Cook Inlet Sockeye Salmon Restoration and Enhancement
10. Subsistence Food Safety Testing
11. Workshop to develop Protocols for Analysis and Assessment of Benthic Biological, Physical, and Hydrocarbon Data
12. Injury and Recovery of Deep Benthic Macrofaunal Communities
13. Synthesis of Information on Ecology and Injury to River Otters in PWS
14. Habitat Use and Behavior of Harbor Seals in PWS
15. Monitoring Trends in Abundance of Harbor Seals in PWS 1993-1994
16. Development of Economic Guidelines and Cost Benefit Analysis of Oil Spill Projects for NEPA and Trustee Council - OY 1993
17. Quality assurance for PWS coded-wire tagging and fish production records for improved management ability.
18. Coastal Habitat Comprehensive Intertidal Monitoring Program
19. Herring Bay Experimental and Monitoring Studies
20. Cold Creek Pink Salmon Restoration
21. Horse Marine Creek Pink Salmon Restoration
22. Waterfall Creek Pink Salmon Restoration - Fishpass Improvement
23. Pink Creek Pink Salmon Restoration

ADF&G Proposals. Cont.

24. Natural Recovery Monitoring of Subtidal Eelgrass Communities in PWS

25. Monitoring for Recruitment of Littleneck Clams

26. Kitoi Bay Hatchery Oil Spill Equipment Storage

27. Stream Habitat Assessment (R47)

28. Enhanced management for Cutthroat Trout and Dolly Varden in PWS

29. Identification of Critical Upland Wildlife Habitat in PWS for Protection or Acquisition

30. Develop Harvest Guidelines to Aid Restoration of Injured Terrestrial Mammals and Sea Ducks

31. Harlequin Duck Restoration and Monitoring Study

32. Sockeye Salmon Overescapement

33. Genetic Risk Assessment of Injured Salmonids

34. Genetic Stock Identification for Herring in PWS

35. Genetic Stock identification of Kenai River Sockeye for Protection in Mixed Harvest Areas

36. Genetic Monitoring of Kodiak Island Sockeye Salmon

37. Pink Salmon Egg to Pre-emergent Fry Survival in PWS (R 60C)

38. Coded Wire Tagging of Wild Stock Pink Salmon for Stock Identification

39. Inventory and Effects of Straying Hatchery Pink Salmon on Wild Pink Salmon Populations in PWS

40. Pink Salmon Escapement Enumeration (R 60B)

41. Adult Tagging to Determine Stock Specific Distributions, Migratory Timing, and Rates of Movement for Pink Salmon in PWS Fisheries

42. Coded-wire Tag Recoveries from Commercial Catches in PWS Pink Salmon Fisheries (R 60A)

43. Kenai River Sockeye Salmon Restoration (R 53)

44. PWS Spot Shrimp Recovery Management Plan

ADF&G proposals, Cont.

45. PWS Spot Shrimp Survey

46. Juvenile Spot Shrimp Habitat

47. Intertidal/Shallow Subtidal Crustacean (Decapod) Composition

48 - 67 Fort Richardson Hatchery Water Pipeline (Includes supporting letters.)

68. Weir/Conservation Land Acquisition

69. Red Lake Salmon Restoration

70. Red Lake Mitigation for Red Salmon Sockeye Salmon Fishery

71. Fry Rearing to Improve Survival and Restore Wild Pink and Chum Salmon Stocks

72. Restoration of the Coghill Lake Sockeye Salmon Stock

73. Survey and Evaluation of Instream Habitat and Stock Restoration Techniques for Anadromous Fish (R 105)

74. Development of Otolith Mass Marking as an Inseason Stock Separation Tool to Reduce Exploitation on Damaged Wildstock Salmon

75. Establishing an Ecological Basis for Restoring and Enhancing the Mixed-Stock Salmon Resources of PWS: Early Marine Influences

76. Quantification of Intertidal Algal Recovery Using Multispectral Digital Remote Sensing

77. Experimental Studies of Interactions Between Subtidal Epifaunal Invertebrates

Alaska State Legislature

SENATOR
ARLISS STURGULEWSKI

Senate

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While in Juneau
STATE CAPITOL
JUNEAU, ALASKA 99801-1182
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June 3, 1992

Steve Pennoyer
Director
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802- 1668

Dear Mr. ~~Pennoyer~~ Steve:

Re: *Exxon Valdez* Oil Spill Restoration - Restoration Framework

During the three years since the grounding of the *Exxon Valdez*, you and your associates have charted a course through previously unnavigated waters. Much has been accomplished in cleaning the beaches and seas, determining the extent of resource damage, and stemming the tide of injury. The distribution for public comment of the Restoration Framework is another sign that the ultimate destination, the restoration of Alaska's coastal and marine environments, is nearer now, although much remains to be done.

The finished version of the Restoration Framework will map the work of the trustees through the culmination of the charge established by the court settlement. As such, it must make manifest your vision of future programs and objectives, as shaped by experts and the public. As that vision coalesces over the next year, I hope that you will place strong emphasis on looking forward, past individual restoration projects, to a comprehensive view of the outcome of your efforts. That vision should include not only restoration, but also protection of Alaska's shoreline and seas. The physical protection of our injured environment will be difficult to achieve. The constraints on our abilities to foresee and influence the processes of nature, the vagaries of chance, and the limits on technological capabilities are too great. Protection can best become reality through acquiring and using more and better knowledge of Alaska's

marine systems and resources. The more we know about those ecosystems, the better equipped we are to both restore and protect them.

I want to make some specific comments on the process to date and in the future. These cover both the Restoration Framework process and those for the 1992 Work Plan and 1993 Work Plan:

- The compressed and overlapping timelines for these three efforts may not result in the best final products. You and the other trustees and staff must simultaneously consider three separate works, each significant in its own right. That must certainly strain resources. The public is likely to suffer some confusion between projects, at the least, and have insufficient time to develop reasoned and comprehensive comments, at worst.

- Comments are due on the 1993 and future work plans before the 1992 Work Plan and the Restoration Plan are finalized. This will surely lead to inefficiencies and duplications avoidable if interested parties had one or both of these documents available prior to submitting comments on future work plans. I understand there is pressure to get these plans in place and proceed accordingly, but the damage has been done, clean-up is essentially complete, and restoration can now generally assume a more considered pace reflective of conservative stewardship and long-term concerns.

- The final Restoration Plan should be final only in the sense that it establishes fundamental guidelines for format, programs, and objectives. It should be a living document, adaptable over time as goals are achieved, conditions change, and knowledge expands.

- Spending $900 million in public funds is a heavy responsibility under any circumstances. I believe that while a share of the *Exxon Valdez* settlement may reasonably be spent on habitat acquisition and individual restoration projects, these should not be the exclusive focus of restoration efforts. The long-term health of injured ecosystems and ongoing management of their systems and resources should be accorded an equal priority.

In keeping with these comments and my broad concern that you look to the future in a fashion that makes explicit how each facet of the restoration program contributes to the overall goal, I am submitting a proposal for the

Restoration Framework. As you know, some of my colleagues have been involved in this proposal and I am confident of their support as well. The proposal outlines the creation, mission, and administration of the *Exxon Valdez* Oil Spill Marine Sciences Endowment. This endowment would consist of portions of annual civil settlement payments set aside in a trust generating annual income. That income would be used to fund long-term baseline research into ecosystem status, resource recovery and enhancement, and equivalent resource enhancement and acquisition. Additionally, the entity established to administer the endowment would serve as a research coordinating mechanism.

This proposal is a draft document. It is my intention to submit essentially the same proposal, with refinements, as a suggestion for the 1993 Work Plan. It is my hope that over the next few months, I will be able to work with you to further focus this proposal into a shape determined appropriate by the trustees and that fulfills the conditions set by the court.

I look forward to working with you. We have the opportunity for significant achievements in reclaiming and preserving Alaska's marine and coastal environment. Please contact me or Richard Rainery of my staff if you have any questions concerning my proposal.

Sincerely,

Arliss Sturgulewski

Arliss Sturgulewski
Alaska State Senator

Enclosure

PROPOSED RESTORATION OPTION FOR RESTORATION FRAMEWORK

Exxon Valdez Oil Spill Marine Sciences Endowment

Submitted by:

State Senator Arliss Sturgulewski
State Capitol, Room 427
Juneau, Alaska 99801-1182
465-3818

June 3, 1992

Purpose

The *Exxon Valdez* Marine Sciences Endowment would be created by diverting a portion of civil settlement funds due the State of Alaska and the United States beginning in December 1992 into a separate fund. The endowment will be dedicated to long-term baseline marine research necessary to:

- monitor and assess the status of ecosystems affected by the oil spill;
- determine how to best effect resource recovery and enhancement where necessary;
- identify needs and opportunities to enhance or acquire equivalent natural resources.

A final mission of the endowment would be to provide a mechanism to coordinate the research programs of the various research organizations active in Alaska's marine environment.

Endowment Charter and Operations

Endowment Administration: The trustee council will create a foundation directed by a board distinct from the council. The charter of the foundation will be based on principles established by the trustees.

Endowment Life: The endowment will be established as either a limited duration sinking fund which will spend itself out of existence by a time certain or as a trust with a perpetual existence.

Board Composition: University of Alaska, University of Washington, Alaska Department of Fish and Game, National Oceanic and Atmospheric Administration (Alaska Region), Alaska Science and Technology Foundation and two public members.

Operations: Operations costs will be held to a minimum (target - 3% or less of funds available annually) by utilizing existing agency resources as much as possible. A small staff will screen proposals and administer grants. The board will make all funding decisions. The EVOS Trustee Council may have to initially administer the foundation until annual income is sufficient to support operations.

Endowment Management: Annual contributions to the endowment trust fund on a schedule based on the amount determined to be appropriate and the fund's structure (sinking fund or perpetual trust). Two alternatives ($75 million and $100 million) showing fund growth and income under a perpetual endowment are attached. The trust fund would be managed in a conservative fashion similar to that historically pursued by the Alaska Permanent Fund Corporation, the objects being to protect the principal from inflation and provide a predictable annual income stream.

Research Grant Program

Proposal Eligibility: Research on the marine ecosystem as a whole, focussing on biota from the first link in the food chain to the last, oceanographic systems, and their interrelationships. The basic requirements for project eligibility are three:

- A proposal must demonstrate scientific merit and technical feasibility;

- The outcome of a proposal must directly benefit management of injured marine resources or systems or the equivalent of such injured resources or systems;

- A reasonable link between the civil settlement requirements to restore, replace, enhance, rehabilitate, or acquire natural resources injured by the spill or their equivalents and the outcome of a proposal must be established.

Any scientist or institution with a demonstrated record of achievement in marine research or equivalent qualifications may apply for grants, although a formula affording priority for Alaskan scientists and institutions, as indicated by the settlement conditions, will be developed.

Research Coordination: An additional function of the endowment board is as a mechanism to coordinate activities undertaken by the North Pacific marine research community. The intent is to ensure that limited research funding is directed in the most efficient, non-duplicative manner. Institutions and individuals would be required to include as a part of their grant proposals a synopsis of other all current and planned research activities and the board would be required to use this information in its deliberations. The endowment board, composed of the major participants in Alaskan marine research, will be uniquely competent to ensure coordination and cooperation.

EVOS Marine Sciences Endowment

Contributions Totalling $75 Million

(Thousands of Dollars)

Year	Beginning Balance	Deposit	Earnings	Inflation Proofing	Grants	Ending Balance
1992	0	25,000	2,250	1,000	1,250	26,000
1993	26,000	15,000	3,690	1,640	2,050	42,640
1994	42,640	5,000	4,288	1,906	2,382	49,546
1995	49,546	5,000	4,909	2,182	2,727	56,727
1996	56,727	5,000	5,555	2,469	3,086	64,197
1997	64,197	5,000	6,228	2,768	3,460	71,964
1998	71,964	5,000	6,927	3,079	3,848	80,043
1999	80,043	5,000	7,654	3,402	4,252	88,445
2000	88,445	5,000	8,410	3,738	4,672	97,182
2001	97,182	0	8,746	3,887	4,859	101,070
2002	101,070	0	9,096	4,043	5,053	105,113
2003	105,113	0	9,460	4,205	5,256	109,317
2004	109,317	0	9,839	4,373	5,466	113,690
2005	113,690	0	10,232	4,548	5,684	118,237
2006	118,237	0	10,641	4,729	5,912	122,967
2007	122,967	0	11,067	4,919	6,148	127,885
2008	127,885	0	11,510	5,115	6,394	133,001
2009	133,001	0	11,970	5,320	6,650	138,321
2010	138,321	0	12,449	5,533	6,916	143,854
2011	143,854	0	12,947	5,754	7,193	149,608
2012	149,608	0	13,465	5,984	7,480	155,592
2013	155,592	0	14,003	6,224	7,780	161,816
2014	161,816	0	14,563	6,473	8,091	168,289
2015	168,289	0	15,146	6,732	8,414	175,020
2016	175,020	0	15,752	7,001	8,751	182,021
2017	182,021	0	16,382	7,281	9,101	189,302
2018	189,302	0	17,037	7,572	9,465	196,874
2019	196,874	0	17,719	7,875	9,844	204,749
2020	204,749	0	18,427	8,190	10,237	212,939
Totals		75,000	310,362	137,939	172,423	

Assumes annual earnings of 9% and inflation of 4%.

EVOS Marine Sciences Endowment

Contributions Totalling $100 Million

(Thousands of Dollars)

Year	Beginning Balance	Deposit	Earnings	Inflation Proofing	Grants	Ending Balance
1992	0	35,000	3,150	1,400	1,750	36,400
1993	36,400	25,000	5,526	2,456	3,070	63,856
1994	63,856	5,000	6,197	2,754	3,443	71,610
1995	71,610	5,000	6,895	3,064	3,831	79,675
1996	79,675	5,000	7,621	3,387	4,234	88,062
1997	88,062	5,000	8,376	3,722	4,653	96,784
1998	96,784	5,000	9,161	4,071	5,089	105,855
1999	105,855	5,000	9,977	4,434	5,543	115,290
2000	115,290	5,000	10,826	4,812	6,014	125,101
2001	125,101	5,000	11,709	5,204	6,505	135,305
2002	135,305	0	12,177	5,412	6,765	140,718
2003	140,718	0	12,665	5,629	7,036	146,346
2004	146,346	0	13,171	5,854	7,317	152,200
2005	152,200	0	13,698	6,088	7,610	158,288
2006	158,288	0	14,246	6,332	7,914	164,620
2007	164,620	0	14,816	6,585	8,231	171,204
2008	171,204	0	15,408	6,848	8,560	178,053
2009	178,053	0	16,025	7,122	8,903	185,175
2010	185,175	0	16,666	7,407	9,259	192,582
2011	192,582	0	17,332	7,703	9,629	200,285
2012	200,285	0	18,026	8,011	10,014	208,296
2013	208,296	0	18,747	8,332	10,415	216,628
2014	216,628	0	19,497	8,665	10,831	225,293
2015	225,293	0	20,276	9,012	11,265	234,305
2016	234,305	0	21,087	9,372	11,715	243,677
2017	243,677	0	21,931	9,747	12,184	253,424
2018	253,424	0	22,808	10,137	12,671	263,561
2019	263,561	0	23,721	10,542	13,178	274,104
2020	274,104	0	24,669	10,964	13,705	285,068
Totals		100,000	416,403	185,068	231,335	

Assumes annual earnings of 9% and inflation of 4%.

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:

Natural Resource Community Emergency Response System Survey

Justification: (Link to Injured Resource or Service)

Natural resource and recreational and intrinsic values of Prince William Sound communities were reduced and injured by the Exxon Valdez oil spill. This resulted in negative impacts to community services, social institutions, recreational activities, and subsistence and commercial interests.

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

The goal of this project is to develop a culturally appropriate emergency response system for natural resource communities in Prince William Sound in the event of an oil spill. The project objectives are: (1) identify past and on-going community impacts to residents of Cordova and adjacent villages from oil spill(s), (2) develop a culturally appropriate "response system" to mitigate impacts on residents in these natural resource-based communities, and (3) evaluate the inter-relationships of (1) and (2) above.

This project will be conducted in Cordova, Alaska, and in nearby villages of Tatitlek and Eyak (in Cordova). Community impact evaluation includes community use areas of Prince William Sound and the Copper River Delta. These areas have historically been linked to diverse multi-cultural populations residing in small communities and villages. Natural resource communities place cultural and socioeconomic value on the ecosystem through subsistence and commercial harvests of fish and mammals. Past oil spill events have demonstrated that community impacts and response must be sensitive to this lifestyle. Future drilling and transportation of oil and gas resources provide a risk of oil spills stemming from accidents.

This project will be conducted using community impact and hazard-risk assessment survey instruments. Past information on oil spill impacts in the communities and region will be evaluated in preparing and administering social science surveys and focus group interviews in Cordova and designated villages.

Estimated Duration of Project: Two years.

Estimated Cost per Year: $100,000 first year on-site survey and data collection, $50,000 second year follow-up survey, data analysis, final report.

Other Comments: This project falls within the category of combination alternatives. It evaluates community response, concerns, and potential negative impacts arising from threats to natural resources in order to provide an appropriate emergency response system for protection of those resources. Management of human uses is combined with manipulation of community resources to protect habitat and community subsistence, recreation, and intrinsic values.

Names, Addresses, Telephones:
Dr. M.A.Bishop, Acting Manager Copper River Delta Institute, USDA Forest Service; Technical Contact: Dr. J. Steven Picou, Dr. Chris Dyer
P.O. Box 1460, Cordova, Alaska, 99574, (907) 424-7212, (907) 424-7214 FAX.

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

29902

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:
MULTI-AGENCY LIBRARY ON PRINCE WILLIAM SOUND AND COPPER RIVER DELTA

Justification:

PWS communities, along with public and private agencies in PWS need scientific information on Prince William Sound and the Copper River Delta that is readily and publicly available in order to plan and assess restoration activities. A multi-agency public library in Cordova would mitigate the impact of services lost because of the Exxon Valdez oil spill. The U.S. Forest Service, Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, Alaska Department of Environmental Conservation, PWS Science Center and associated Oil Spill Recovery Institute, and PWS Community College are located in Cordova and would benefit from the library along with the general public.

Description of Project:

A multi-agency, public library administered by the Copper River Delta Institute, USDA Forest Service would be established. The library would maintain a complete list of existing data files on research, inventory, and monitoring information on Prince William Sound and Copper River Delta. Whenever possible, data would be housed in the library. Otherwise, the library would maintain a catalogue that identified the owner and location of the data, the content, when it was collected, and the geographic area data pertained to. The library would also include a complete bibliography of published research, and major development activities that have been conducted in Prince William Sound and the Copper River Delta. The library would maintain a current list of active administrative and research studies in Prince William Sound and on the Copper River Delta, including off-site studies that have direct connections to current studies.

This proposal suggests a ten-year funding strategy. First year activities include acquisition of reference materials and operation of a temporary facility. Planning and design for a newly constructed or long-term leased facility would also take place in Year One. In the second year, construction or renovation would be undertaken, followed by operation in the permanent facility. Operations are covered under Years Three to Ten.

Estimated Duration of Project: 10 Years.

Estimated Cost per Year:
First Year $150,000. Second year $200,000. Third-Tenth Year $100,000.

Other Comments:
Cooperating agencies include: U.S. Forest Service, Alaska Dept. Fish and Game, U.S. Fish and Wildlife Service, Alaska Dept. Environmental Conservation, PWS Science Center and the Oil Spill Recovery Institute.

Name, Address, Telephone:
Dr. Mary Anne Bishop, Acting Manager,
Copper River Delta Institute, Pacific Northwest Research Station
USDA Forest Service,
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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:

ENVIRONMENTAL EDUCATION CENTER IN PRINCE WILLIAM SOUND

Justification: (Link to Injured Resource or Service)

The Exxon Valdez Oil Spill impacted the ecology of Prince William Sound. The oil spill had negative impacts on some species and eco-systems moderate impacts on other eco-systems and minor impacts on upland eco-systems. An educational center in the sound would allow for long term studies of eco-systems in the sound

Description of Project:

This project would entail the establishment of an educational research center in Prince William Sound. The center would focus on providing a hands on educational experience for Elementary, Junior High and High School students. It would be an inter-agency run center located on Forest Service land in Prince William Sound. The center would include a bunkhouse, a mess hall with study area, and a lab and classroom building. As part of the proposal the Forest Service would pursue a partnership with Disney Corporation, who has already expressed and interest in partnering with the Forest Service on educational endeavors.
The objective of the project would be to take students out into the sound and give them the opportunity to work on projects relating to the ecology of Prince William Sound and related impacts from the oil spill. The center could handle twenty-five students at a time and they could stay for as little time as one day or as long as two weeks.

Estimated Duration of Project: **3 Years before it would be operational**

Estimated Cost per Year: **$90,000 for '93, $5,000,000 for '94 & '95**
$200,000 for each year for operation

Other Comments

Name, Address Telephone:
Bruce Van Zee
Forest Supervisor
201 East 9th
Anchorage, AK 99501

Technical Contact
Anne Jeffery, Public Affairs Officer
271-2508

Oil Spill restoration is a public process. Your ideas and suggestions will not be proprietary, and you will not be given any exclusive right or privilege to them.

29905

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:

PRINCE WILLIAM SOUND LARGE FORMAT PHOTOGRAPHIC BOOK

Justification: (Link to Injured Resource or Service)

The Exxon Valdez oil spill injured those resources (scenic, wildlife, wilderness...) that drew people to Prince William Sound. This perception of the sound as soiled and blemished, remains because of the power of the photographs and visual images that came out at the time of the spill. Recreational visits to PWS have decreased as a result of the spill and the desirability of PWS as a travel destination has also decreased.

Description of Project:

Goal: The goal for this project is to combat the persistent image of Prince William Sound as it was during the oil spill with images of how it is today. To present in a visual media that even though the Sound was injured from the oil spill it is recovering and should again be considered as a travel and recreational destination.

Project: We are proposing the creation of a large format coffee table style photographic book on Prince William Sound. The book would be long on photographs and short on text, it would use the power of the visual image to demonstrate that Prince William Sound is recovering from the effects of the spill and should be considered as a travel destination. Subjects to be covered in the book would include cultural and historical resources, wildlife, fish, commercial fishing, local communities and of course the incredible scenery of the sound.

Estimated Duration of Project: 2 1/2 Years

Estimated Cost per Year: $100,00 for '93 & '94 and $50,000 for '95

Other Comments

Name, Address Telephone:
Bruce Van Zee
Forest Supervisor
201 East 9th
Anchorage, AK 99501

Technical Contact
Anne Jeffery, Public Affairs Officer
271-2508

Oil Spill restoration is a public process. Your ideas and suggestions will not be proprietary, and you will not be given any exclusive right or privilege to them.

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Document ID Number 920615299

- ☐ A-92 WPWG
- ☑ B-93 WPWG
- ☐ C-RFWG
- ☐ D-PAG
- ☐ E-MISC.

Title of Project:

PRINCE WILLIAM SOUND FAMILY OF BROCHURES

Justification: (Link to Injured Resource or Service)

Recreational visits to Prince William Sound and the quality of the experience decreased as a result of the Oil Spill. This proposed project will enhance the recreational experience, will inform and educate as well provide users with information on how to avoid further damage to the resources.

Description of Project:

Goals: 1.) To provide an accurate\balanced view of the existing conditions in PWS after the Exxon Valdez oil spill. 2.) To enhance eco-tourism recreation opportunities and experiences through interpretation of the natural resources and the environment in PWS.

Project: We are proposing the development and printing of a family of brochures on PWS. The focus of the brochures will be on how the different subject areas were or were not affected by the oil spill, and on educating recreationists and other users of PWS about minimum impact use, including ways to avoid further damage to resources injured by the oil spill. Subjects to be covered by the brochures would include Cultural Resources, Man's Impact on Prince William Sound Through History, Marine Mammals, Plants, Anadromous fish, Upland Wildlife, Waterbirds and Upland Birds.

Estimated Duration of Project: 2 years

Estimated Cost per Year: $145,000.00 ($65,000 in 1993 and $80,000 in 1994)

Other Comments

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Forest Supervisor
201 East 9th
Anchorage, AK 99501

Technical Contact
Anne Jeffery, Public Affairs Officer
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Oil Spill restoration is a public process. Your ideas and suggestions will not be proprietary, and you will not be given any exclusive right or privilege to them.

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DOCUMENT ID NUMBER
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☐ A-92 WPWG
☑ B-93 WPWG
☐ C-RPWG
☐ D-PAG
☐ E-MISC.

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:

PRINCE WILLIAM SOUND FAMILY OF VIDEO PROGRAMS

Justification: (Link to Injured Resource or Service)

Recreational visits to Prince William Sound and the quality of the experience decreased as a result of the oil spill. This proposed project will enhance the recreational experience as well as provide a mechanism to inform not only the recreational users of the sound but a diverse audience of other interested publics about the sound and its recovery from the spill.

Description of Project:

Goals: 1) To provide an accurate/balenced view of the existing conditions in PWS after the Exxon Valdez oil spill. 2) To enhance eco-tourism recreational opportunities and experiences through the interpretation of the natural resources and the environment in PWS. 3) To provide a media that can be presented to a wide variety of audiences for the purpose of informing the public about the oil spill and the sound.

Project: We are proposing the development and production of a family of videos on PWS. The focus of the videos will be on how different subject areas were or were not affected by the oil spill. These will be short (5-10 minute) videos that can be used in visitor centers, in kiosks, taken to schools, public meetings or can be sent off as stand alone entities to whomever has a need for this type of information. Subjects to be covered by the videos would include Cultural Resources, People's Impact on Prince William Sound Over Time, Marine Mammals of the Sound, Plants, Anadromous Fish, Upland wildlife, Water Birds, Upland Birds. and Recreational Opportunities in Prince William Sound.

Estimated Duration of Project: **3 years**

Estimated Cost per Year: **$100,000 a year for three years**

Other Comments _____

Name, Address Telephone:
Bruce Van Zee
Forest Supervisor
201 East 9th
Anchorage, AK 99501

Technical Contact
Anne Jeffery, Public Affairs Officer
271-2508

Oil Spill restoration is a public process. Your ideas and suggestions will not be proprietary, and you will not be given any exclusive right or privilege to them.

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920615299
☐ A-92 WPWG
☑ B-93 WPWG
☐ C-RFWG
☐ D-PAG
☐ E-MISC.

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:

PBS PROGRAM ON PRINCE WILLIAM SOUND

Justification: (Link to Injured Resource or Service)

We are proposing an hour-long PBS program which will look at the oil spill itself, the injured resources (wildlife, birds, fish, scenic, recreational, economic), restoration and research efforts and where the sound is today.

Description of Project:

The Exxon Valdez oil spill was an event that had national significance. The impact the oil spill had on Prince William Sound, what has and is being done to mitigate the effects of the spill, what we have learned from this experience and what the sound is like today are of national interest and concern. We have targeted PBS because this is the type of programming that they use and we could reach a national audience through PBS.

Since PBS relies on independent producers for much of their programming the focus of this proposal will be on preparing an information packet, contacting potential producers, providing potential producers access to information and chances to travel to the sound, and looking for other sources of funding or services to cover the cost of actual production.

Estimated Duration of Project: **1 year**

Estimated Cost per Year: **$70,000 for 1993 only**

Other Comments

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Oil Spill restoration is a public process. Your ideas and suggestions will not be proprietary, and you will not be given any exclusive right or privilege to them.

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:

PRINCE WILLIAM SOUND KAYAK TRAIL

Justification: (Link to Injured Resource or Service)

Recreational visits to Prince William Sound decreased and the quality of the experience was degraded because of the Exxon Valdez oil spill. We are proposing the creation of a kayak trail system to enhance the recreational experience in Prince William Sound.

Description of Project:

Goal: 1) To enhance the kayaking publics recreational experience in Prince William Sound. 2) To direct the kayaking public to identified camping locations. 3) To provide a variety of interpretive sites on a variety of resources.

Project: We are proposing the development of a system of kayak or other watercraft trails in Prince William Sound. Chugach National Forest will work cooperatively with the state on developing the water routes and will develop primitive campsites and interpretive sites along the selected routes. This project will involve a two-year planning phase and then a five year implementation phase.

Estimated Duration of Project: **7 years**

Estimated Cost per Year: **$100,000**

Other Comments

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Title of Project:

PRINCE WILLIAM SOUND IMPLEMENTAION OF INTERPRETIVE PLAN

Justification: (Link to Injured Resource or Service)

There is a need to interpret the extent and effects of the oil spill, what has been done to ameliorate the effects of the spill, what type of research is and has been done and there is a need to enhance the recreational experience through interpretation.

Description of Project:

Goals: 1) To provide an accurate/balanced view of the existing conditions in the sound after the Exxon Valdez oil spill. 2) To provide recreation users information necessary to find their desired recreation experience particularly those experiences affected by the oil spill. 3) To develop eco-tourism recreation opportunities through interpretation of the natural resources and environment in Prince William Sound. 4) To educate the recreation users about minimum impact use of the sound including ways to avoid further damage to resources injured by the oil spill and Leave No Trace camping techniques. 5) To educate and inform the public about the oil spill and its effects on the total environment of the sound including the physical effects on wildlife, the environment, the cultural and historical resources and on the communities in the sound.

Project: The Chugach National Forest is in the process of developing a comprehensive interpretive plan for Prince William Sound which will be completed by June '93. We are looking here for funding to implement the plan. Implementation could include such projects as Forest interpreters on cruise ships in the sound, informational kiosks, interpretive signs and trails at sites throughout the sound, videos, brochures, watchable wildlife sites, etc.

Estimated Duration of Project: 5 years

Estimated Cost per Year: $150,000 for 5 years

Other Comments

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

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Title of Project: **Protect Resources and Enhance Visitor Enjoyment through Increased Administrative Presence**

Justification:

Attention drawn to Prince William Sound due to the oil spill has resulted in publicity for sensitive resources, including cultural resources. On-site agency employees can reduce additional human impacts to injured resources through public contact, education, and law enforcement.

Description of Project

GOAL: To reduce additional adverse impacts to wildlife, fisheries, and archeologic resources caused by unintentional or willful actions of visitors.

PROJECT: Current efforts by agencies to protect the resources of PWS are hindered by the remoteness and difficulty of travel in the Sound, as well as low staffing levels. This project would direct additional resources to responsible agencies to enable them to maintain a greater presence in PWS.

Specifically, kayak and powerboat rangers would be stationed throughout the Sound to contact visitors, educate them about the resources of the Sound, and provide guidance on minimizing their impacts through 'Leave No Trace' practices. Additional law enforcement officers would be assigned to the Sound, with cross-jurisdictional authority to enforce all resource protection statutes.

Estimated Duration of Project: **Ten years**

Estimated Cost per Year: **$500,000**

Other Comments:

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

Title of Project: **Prince William Sound Scenic Byway: Nomination and Interpretive Plan**

Justification:

Recreational visits to Prince William Sound decreased as a result of the Oil Spill. Nominating the marine highway and cruise ship routes as a Scenic Byway would enhance the recreational resources. It would also serve as a mechanism to more fully inform and educate visitors about the Sound and its restoration before, during, and after their visit.

Description of Project:

The National Forest Scenic Byway program has been very successful at bringing together the public and private sectors to promote tourism along outstanding travel routes. Prince William Sound is an outstanding area consisting of the "best of the best" in natural, cultural and visual resources. It is also a main transportation route for the Alaska ferry system and major cruise ship lines. This project would seek National Forest and state designation of major marine travel routes in PWS as Scenic Byways.

In addition to seeking byway designation, this project would develop an interpretive plan for the route. The interpretive plan would identify significant resources along ferry and cruise ship routes for interpretation, develop interpretive themes, and recommend interpretive media such as shipboard naturalist programs, travel guides, audio and video tapes, brochures, signage, etc. All programs and products would be designed to be accessible for all ages and abilities.

Strong involvement and support by land managing agencies, AK Marine Highways, native corporations, local communities, cruise ship operators, and other interested parties is essential for the success of this project.

Estimated Duration of Project: **1 year**

Estimated Cost per Year: **$70,000**

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

Title of Project: **Sustainable Tourism in Prince William Sound**

Justification:

Recreational use decreased or was displaced as a result of the oil spill, and the quality of the experience for visitors was degraded. Negative perceptions of the Sound were also created as a result of the media coverage of the spill and clean-up. Such lingering perceptions may continue to affect people's choice of PWS as a recreational destination.

Description of Project:

GOAL: 1) To research perceptions of PWS as a recreation destination among the travel industry and key segments of the public in Alaska, the lower 48, and international markets; (2) to develop sustainable tourism opportunities in PWS; and (3) to market and promote existing and new opportunities in such a way as to counteract negative perceptions.

PROJECT: Existing perceptions about the desirability of PWS as a recreation destination may be affecting the level of visitation. Lost or displaced recreation use may be restored by a focused effort to determine existing perceptions and then undertaking promotional efforts to overcome inaccurate, negative perceptions.

In addition to promotional efforts for existing opportunities, recreation use may be enhanced by careful development of sustainable tourism. Sustainable tourism is an approach to tourism development that seeks to provide opportunities at a level consistent with "limits of acceptable change", for both the natural environment and the social environment. In other words, resource and land managers working with local populations and interested groups define the amount of change that is acceptable, both environmentally and socially, in an area due to tourism development. For a remote and relatively untouched area such as PWS, low impact tourism such as eco-, heritage, and adventure tourism, provided in such a way that economic benefits stay in the local area, would probably be the most sustainable types of tourism opportunities.

Developing and marketing sustainable tourism would require three-way partnerships between land managers, native corporations, commercial operators, and tourism promoters. Low-interest loans and/or grants would aid in the start-up costs for new ventures.

Estimated Duration of Project: **Five years**

Estimated Cost per Year: **$240,000 per year (average)**

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

Title of Project: **Non-Profit Foundation for Prince William Sound**

Justification:

The oil spill sparked great interest in the Sound and its resources, as well as concern for the future of those resources. This project would provide a means to harness that concern for the long-term benefit of the Sound, the recovery of its resources, and people's appreciation of the area.

Description of Project:

GOAL: To foster the creation of a non-profit foundation which will support education, interpretation, research, and sustainable tourism in PWS.

PROJECT: Non-profit organizations supporting natural resource purposes exist throughout the nation, including interpretive associations, the National Forest Foundation, various "Friends" organizations, Tread Lightly!, Inc., and so on. These organizations provide a means by which private citizens and the private sector can express support for various natural resource programs in which they have a strong interest. This proposed project will provide such a vehicle for private interest support for Prince William Sound and its ongoing recovery.

This project will have three phases: feasibility study and establishment of a steering committee; the legal incorporation of the non-profit foundation and establishment of its endowment; and the self-sustaining operation of the foundation.

Estimated Duration of Project: **Two years to establish the foundation.**

Estimated Cost per Year: **Year 1 - $70,000; Year 2 - $1,000,000 endowment**

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92061599

- ☐ A-92 WPWG
- ☑ B-93 WPWG
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Title of Project: **Prince William's Campground**

Justification:

Recreation use of the Sound decreased or was displaced immediately after the spill. Use in some areas in the southern part of the Sound are still impacted to some degree. As a partial result of the publicity generated by the oil spill, a new demand for recreation different than either scenery viewing from cruise ships or primitive camping appears to be developing among some segments of the public.

Description of Project:

GOALS: (1) Provide a facility for visitors desiring a more social-based camping experience than available at isolated, small cabins; and (2) provide a facility that enables visitors to experience the landscape and resources of PWS they have seen portrayed in oil spill coverage.

PROJECT: The proposal is to develop a campground of 30-60 units, depending on the demand analysis, equipped with cabins rather than traditional tent pads and RV sites. Such a facility would be designed to provide a rustic "base camp" for day trips, as well as meet the demand for cabins by groups larger than can be accomodated at existing, isolated cabins. The campground would be located along the Alaska Marine Ferry Route and would be serviced by a shuttle boat connecting the facility with the Ferry. It would also be located to connect with existing and proposed trail systems on land and water. Proximity to fishing, glacier viewing, and wildlife viewing opportunities is essential. Interpretation of the tidewater ecosystems and the cultural history of the Sound, including the oil spill, would be incorporated into the facility design and operation.

Estimated Duration of Project: **Five to seven years for feasibility analysis through construction phases, followed by permanent operation of the facility.**

Estimated Cost per Year: **Five year funding schedule is FY 93 - $70,000; FY 94 - $100,000; FY 95 - $500,000; FY 96 - $500,000; FY 97 - $500,000.**

Other Comments: Prince William of Great Britain will be invited to dedicate the facility. Involvement by the British royal family would provide positive media coverage for Prince William Sound and the recovery efforts, as well as highlight exploration of southcentral Alaska by English explorers. We will propose developing the facility in partnership with Operation Raleigh, a conservation and development program sponsored by Prince Charles for young adults of the British Commonwealth. Operation Raleigh has mounted expeditions to the Chugach National Forest in the past.

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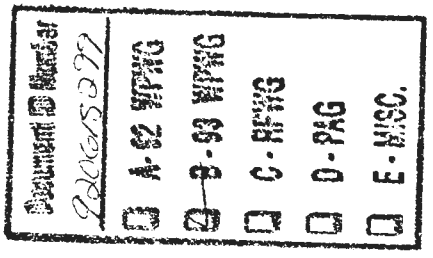

Title of Project: **Prince William Sound Recreation Facilities**

Justification:

Recreation visits to Prince William Sound (PWS) decreased or were displaced as a result of the Oil Spill. Identifying and providing a range of recreation facilities in the Sound will restore lost use and accomodate displaced users. This will enhance the recreation experience of current and future visitors to PWS.

Description of Project:

GOALS: (1) To enhance recreation opportunities in PWS by providing additional recreation facilities, and (2) to maintain the existing character of PWS and the quality of the recreation experience. Facilities would include mooring bouys, public recreation cabins, hardened tent sites, trails, interpretive and informative signs.

PROJECT: To ensure that the quality of the current setting and opportunities is not degraded, the "Limits of Acceptable Change" (LAC) system will be used to determine the best locations and numbers of each type of facility. LAC requires managers, in consultation with the public, to define desired conditions in the recreation setting, and to undertake actions to maintain or achieve these conditions. Results of past planning efforts will also be incorporated, including AK DNR's Prince William Sound Area Plan, Recreation & Tourism Element (June 1987); Potential Units of the AK Marine Parks System (March 1983), and past Forest Service inventories of recreation use areas and potential facilities. Cabins and signs may be located inland along trails that connect Anchorage and the Kenai Penninsula to PWS. Locations will avoid areas that remain impacted by oil, critical waterfowl and wildlife habitats, and other sites which may be affected by increased human use. Interpretation will be used to encourage minimum impact behavior by visitors.

Estimated Duration of Project: **5 years**

Estimated Cost per Year: **$250,000**

Other Comments: **outyear costs will be revised as actual facility needs, sites, sizes and types are decided.**

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

Title of Project: **Enhanced Trail Opportunities, including Columbia Glacier and Blackstone Glacier National Scenic Trails**

Justification:

Recreation use in Prince William Sound decreased or was displaced following the spill. Enhanced recreation opportunities provided by an expanded trail system will increase use, as well as increase accessibility to a portion of the Sound for the less skilled user.

Description of Project:

GOAL: To develop a system of trails serving a range of user skill levels and activities in and around the Sound. The proposal includes a minimum of four components: (1) trails providing access to PWS from the Seward Highway Scenic Byway; (2) a National Scenic Trail along portions of the shoreline of the Sound; (3) connecting trails between salt water recreation facilities, such as mooring bouys and landing sites, and inland recreation attractions; and (4) designated saltwater routes, or "kayak trails".

Potential routes in the system include: Anchorage to the Sound with feeder trails from Girdwood, Portage, and Bird Creek; a shoreline National Scenic Trail through Whittier connecting Point Doran and Blackstone Glacier; a shoreline trail from Valdez to Columbia Glacier; and a network of trails on Montague Island. The total system would be 150-200 miles, and would be designed and managed to accommodate a variety of users including hikers, mountain bikers, and kayakers. Support facilities such as cabins, mooring bouys, and signage would also be provided at appropriate locations.

Estimated Duration of Project: **10-12 year feasibility and construction phase, followed by ongoing operation and maintenance.**

Estimated Cost per Year: **The project would be funded over a 10-12 year period as follows: FY 93 - $150,000, FY 94 - $200,000, FY 95-05 - $1,000,000 per year.**

Other Comments: **Implementation of this proposal would require partnerships with other agencies, regional and village corporations, interest and user groups, and private citizens.**

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Title of Project: **Nuchek Heritage Interpretive Center**

Justification:

One of the most significant injuries to Cultural Resources as a result of the Valdez Oil Spill was vandalism resulting from increased knowledge of site location. Mitigation of this injury involves educating the public as to why they should not loot or deface sites. Understanding the extent of injury and interpreting cultural resources for the public requires a place for archaeological analysis to take place, and also a place for the public to both view and experience interpretation of cultural resources.

Development of an Interpretive Center at Nuchek, on Hinchinbrook Island, in cooperation with Chugach Alaska Corporation's tourist development plans in the Nuchek area, would divert tourism from injured sites in the Oil Spill area to a historic area with more controlled access. At the Center, the public could view interpretive exhibits, including reconstructions and living history demonstrations, as well as participate in archeological investigation and documentation of historic and prehistoric sites in the immediate area. There is precedence for interpretive centers as restorative measures in the Anasazi Heritage Center in Colorado.

Description of Project:

This project calls for the development of a seasonally operating Interpretive Center at the historic Russian/Alaska Native site of Nuchek, on Hinchinbrook Island. This center would provide a small amount of laboratory and analysis space, where preliminary processing of cultural remains could be done. The major focus of the center would be interpretive areas for public educational displays, where collections may be viewed in both static and "living history" situations. This could include settlement reconstructions, user-friendly computer stations for visitor use, and photo exhibits.

The seasonally operating center would present regional educational material, as well as focusing on the immediate area. Archaeological excavations in the vicinity could provide a view of how such information is obtained, and coordinated Passports in Time projects will allow public participation in the process. Interpretation would be coordinated with Chugach Alaska Corporation, and village organizations with an interest in the interpretation.

Because the prehistoric and historic inhabitants of the Oil Spill area interacted with residents of other parts of Southern Alaska, effective interpretation of Oil Spill area cultural resources must take these relations into account.

Estimated Duration of Project: **3 years for full construction and start-up**

Estimated Cost per Year: **$3 million construction costs**

Other Comments: **Potential partners: Chugach Alaska Corporation, Village corporations, Tourism/guiding enterprises**

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Title of Project: **Vandalized Cultural Resources: Inventory, Evaluation, and Interpretation**

Justification:

One of the most significant injuries to Cultural Resources as a result of the Valdez Oil Spill was vandalism resulting from increased knowledge of site location. Mitigation of this injury involves educating the public as to why they should not loot or deface sites. Understanding the extent of injury and interpreting cultural resources for the public requires an inventory and on-the-ground evaluation of vandalized sites by professional archaeologists. Vandalized and otherwise injured sites discovered during the course of the Oil Spill have not yet been evaluated for their significance in understanding the prehistory of Prince William Sound.

Because sites of Native Alaskan and Euro-American importance did not occur only within the Oil Spill area, it is necessary to consider such sites outside the Oil Spill area as well as within it. Once a field assessment of such sites both within and outside the Oil Spill area has been completed, public interpretation and education efforts regarding cultural resources in Prince William Sound will be possible and worthwhile.

Description of Project:

The Exxon Cultural Resource program identified a variety of previously unknown sites relating to both prehistoric and historic human use of Prince William Sound. Many of these sites, as well as previously known sites both within and outside the Oil Spill area, are eroding or have been/continue to be vandalized.

As evaluation of only those sites discovered or noted by the Exxon program will result in a skewed perspective of the prehistory of the Sound, this project will fund a Forest Archaeologist and five assistants to 1) prepare a work plan and carry out a field evaluation of those sites identified as endangered by vandalism or at risk of erosion in Prince William Sound, 2) to report on the evaluations and provide a balanced view of the significance of such sites in the Oil Spill area in relation to those sites outside the Spill area and 3) to interpret the resulting information for public educational purposes. Field evaluation of sites will include archaeological testing to determine the extent of damage and the nature of the significance of the remaining portion of each site.

Both field work, evaluation and resulting public interpretation of information resulting from the evaluations will occur in conjunction with the appropriate Native organizations.

Estimated Duration of Project: **6 years**

Estimated Cost: **$400,000 annually, Years 1-3; $200,000 annually, Years 4-6**

Other Comments: **Preliminary discussions with Chugach Alaska Corporation, NPS, Alaska Pacific University and University of Wisconsin-Madison staff/faculty indicate opportunities for cooperation and partnerships.**

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Title of Project: **Prince William Sound Landmarks: Evaluation and Interpretation**

Justification:

One of the most significant injuries to Cultural Resources as a result of the Valdez Oil Spill was vandalism resulting from increased knowledge of site locations. Mitigation of this injury involves educating the public as to why they should not loot or deface sites. Vandalized and otherwise injured sites discovered during the course of the Oil Spill have not yet been evaluated for their significance in understanding the prehistory of Prince William Sound. It is likely that some may be eligible for National Landmark status. Recognition and interpretation of cultural resources that could be included in the National Landmark program would be an excellent way of demonstrating to the public the significance of and necessity for protection of cultural resources.

Description of Project:

This project will fund a Forest archaeologist and three assistants to conduct field evaluations of archaeological sites, which may be eligible for National Landmark Status, on national forest lands in Prince William Sound. The goals of the project would be to to obtain archaeological information through testing which will allow a determination of each site's significance, and its applicability in terms of the National Landmark program criteria.

Estimated Duration of Project: **6 years**

Estimated Cost per Year: **$400,000 annually, Years 1-3**
$200,000 annually, Years 4-6

Other Comments: **Work would be accomplished in conjunction with interested Native and Historical organizations.**

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

Title of Project: **Prince William Sound Site Stewardship Program**

Justification:

One of the most significant injuries to Cultural Resources as a result of the Valdez Oil Spill was vandalism resulting from increased knowledge of site location. Because of the irretrievable nature of archaeological data once a site has been disturbed, increased vigilance over sites, and public education as to why people should not loot or deface sites, should be an aspect of the restoration process. A site stewardship program of local residents is feasible and has been initiated by Fish and Wildlife Service, but needs cooperation with other agencies and Native organizations to be effective.

Description of Project:

Knowledge of archeological site locations in the Oil Spill area has increased because of the Exxon Valdez Oil Spill and related cleanup and assessment activities. The site stewardship program (104a) as initially funded in 1992, with Fish and Wildlife Service as the lead agency, involves the development of educational material and the set-up of a preliminary education and training program.

Forest Service participation is necessary to identify sites to include in the program, and to assist in recruiting potential stewards. The interest of local residents in nearby sites can provide a long-term source of valuable information on changes in the condition of those sites. Because lost information from archaeological sites is irretrievable, the site stewardship program offers a means for protection, as well as for reducing impacts to sites which are damaged, and swift restoration of site integrity.

Estimated Duration of Project: **The project will be ongoing, with initial development phase estimated at 2-3 years.**

Estimated Cost per Year: **$12,000 annually, Years 1-3.**

Other Comments: **Preliminary program development by Fish and Wildlife Service and the Alaska State Office of History and Archaeology make this program quite likely to succeed, in cooperation with interested Native associations.**

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Technical Advisor:
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Title of Project: **Chugach National Forest Heritage Interpretive Centers**

Justification:

One of the most significant injuries to Cultural Resources as a result of the Valdez Oil Spill was vandalism resulting from increased knowledge of site location. Mitigation of this injury involves educating the public as to why they should not loot or deface sites. Understanding the extent of injury and interpreting cultural resources for the public requires a place for archaeological analysis to take place, and also a place for the public to both view and experience interpretation of cultural resources. Vandalized and otherwise injured sites discovered during the course of the Oil Spill have not yet been evaluated for their significance in understanding the prehistory of Prince William Sound.

Description of Project:

This project calls for the development of a permanent Heritage Interpretive Center which will function as an educational center for the public and a base for ongoing research on the Chugach National Forest, and two seasonally operating Interpretive Centers. The permanent center will provide 40,000 sq.ft for archaeological/cultural laboratory/analysis space and permanent storage for collections. Interpretive areas for public educational displays will also be provided, including collections stored in "open stacks" accessible to visitors; static and "living history" displays, including settlement reconstructions; user-friendly computer stations; and other interpretive exhibits and tools.

The seasonally operating centers will present educational material in a similar manner, but will be more focused on the immediate area. Archaeological excavations in the vicinity of seasonal centers will provide a view of how such information is obtained, and coordinated Passports in Time projects will allow public participation in the process. Small lab facilities at each seasonal center will allow preliminary processing of cultural remains. Interpretation at all centers will be coordinated with appropriate Native or historical organizations.

Estimated Duration of Project: **3 years for full construction and start-up**

Estimated Cost per Year: **$12 million construction costs for all 3 centers.**

Other Comments: **Potential partners: Chugach Alaska Corporation, Kenaitze Tribe, Kenai Peninsula Historical Society**

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

Title of Project: **Passports in Time: Cultural Resource Patterns in Prince William Sound**

Justification:

One of the most significant injuries to Cultural Resources as a result of the Valdez Oil Spill was vandalism resulting from increased knowledge of site location. Mitigation of this injury involves educating the public as to why they should not loot or deface sites and why archaeological sites are important. Including the public in such archaeological work through Forest Service Passports in Time projects will provide valuable educational experience, and aid in the goal of interpreting cultural resources in the Sound.

Description of Project:

The project's goals are to 1) evaluate the usefulness of the data gathered through Exxon's intensive archaeological surveys of the Oil Spill area, in understanding settlement patterns and cultural development in Prince William Sound as a whole; and 2) provide educational and recreational experiences for members of the public who volunteer for the Passports in Time projects.

The Forest Service Passports in Time (PIT) is an extremely popular program which provides volunteers the opportunity to work on archaeological projects. Five field seasons of PIT projects are included in this proposal. Specifically, this proposal would 1) develop a project plan for three seasons of survey within and outside the Oil Spill area, and two seasons of excavation at sites identified as endangered through vandalism and/or erosion, 2) implement this plan using Passports in Time volunteers, and 3) analyse and interpret the results of the PIT program fieldwork.

The Exxon Cultural Resource program and increasing Native awareness of the importance of archaeological sites has led to increasing public awareness of the importance of cultural resources both within and outside the Oil Spill Area. Because the prehistoric and historic inhabitants of the Oil Spill area had interactions with residents of the Kenai Peninsula, the Northwest Coast, the Kodiak Archipelago, and the Copper River, effective interpretation of Oil Spill area cultural resources must take these relations into account.

Estimated Duration of Project: **10 years (5 yrs. field season/analysis, 5 yrs. analysis)**

Estimated Cost per Year: **$230,000 annually, Years 1-5; $125,000 annually, Years 6-10**

Other Comments: **Likely partners for PIT projects on the Chugach NF include Chugach Alaska Corporation, Alaska Pacific University, University of Wisconsin**

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: VALDEZ VISITOR CENTER

Justification: (Link to Injured Resource or Service)

The community of Valdez was directly injured by the oil spill. Not only were the resources of the area impacted by the spill, but the community suffered a social upheaval during the spill, and tourism to the area declined. The construction of a Valdez visitor facility focused on interpretation of the oil spill and its effects, would provide economic growth for the community and would provide a forum to disseminate information about the event. There is a manifest need for facilities in which information about the Prince William Sound ecosystem and the oil spill can be shared. Valdez is logically the primary port of call for visitor exposure to oil spill information.

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

Each year, approximately one out of every ten Alaska visitors (100,000) passes through Valdez to explore the area and travel through Prince William Sound. Little information on Prince William Sound, agency management, or the Exxon Valdez Oil Spill is available to these visitors. A Forest Service Visitor Center in Valdez would fill this obvious niche and provide a forum to objectively discuss human impacts on the Prince William Sound ecosystem. Previous proposals and evaluations have been completed for the Valdez facility.

The goal of an interpretive facility in Valdez is to tell the oil spill story from start to finish, to supplement existing interpretive programs and to create additional programs covering the complex Prince William Sound and the Copper River Delta ecosystems. These programs would not only explain humans' role in the ecosystem and our impacts on those systems, but also explain the natural and cultural history of the area. Previous discussions have occurred with key people in Valdez. The proposal is highly supported in the Valdez community.

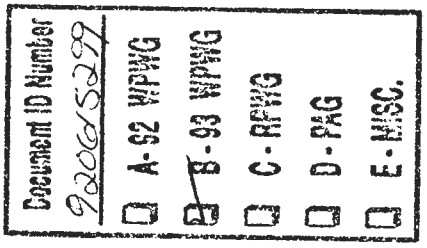
Although planning and public involvement will determine the scope of a Valdez center, a likely facility would be a modest log cabin-style structure incorporating a rustic Alaskan appearance. Public, work, storage and office space would be included in the design. This proposal suggests a five year funding strategy, with Phase 1, Planning and Design, occurring in FY 1993. Construction of the facility and accompanying exhibits is covered in FY 1994. Operation of the facility and the interpretive program is covered under FY 1995-1997.

Estimated Duration of Project: Five Years, 1993-1997

Estimated Cost per Year:

FY 1993	FY 1994	FY 1995	FY 1996	FY 1997
Phase 1	Phase 2	Phase 3	Phase 4	Phase 4
$25,000	$150,000	$40,000	$40,000	$40,000

Other Comments: Cooperating agencies include; City of Valdez, Copper River Delta Institute Glacier Ranger District, Alaska Marine Highway System, Alaska State Parks, Prince William Sound Science Center, Alyeska Corporation, US Coast Guard. This proposal addresses Items #7, 12, and 33 of the potential restoration options identified in the Restoration Framework.



EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: GREEN ISLAND CABIN REPLACEMENT

Justification: (Link to Injured Resource or Service)

Green Island and the Green Island recreational cabin were directly impacted by the Exxon Valdez oil spill. Green Island was in the path of Exxon Valdez crude oil as it flowed out of Prince William Sound. The Chugach National Forest Cabin Use Study showed that Green Island cabin was the most heavily used cabin on the forest for administrative oil spill activities. Oil spill related use exceeded public use in 1989 and 1990. Because of extensive administrative use, few public fees have been collected for the continued maintenance of the cabin.

The cabin continues to provide overnight facilities for post-cleanup activities and monitoring. Green Island is one of the few Prince William Sound locations with significant pre-spill information and is the site of a proposed Research Natural Area. Green Island is centrally located in Prince William Sound with easy access to oil impacted beaches and oil injured resources.

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

This proposal will fund the replacement of the Green Island recreational cabin. Due to the increase in oil spill related administrative use at the cabin during the last three years and with no cabin maintenance income from these users, the condition of the Green Island cabin has deteriorated. This cabin was acquired from the USF&WS in 1985 in fair to moderate condition. The cabin is constructed from primarily plywood. Plywood cabins generally do not withstand the Prince William Sound elements well, and deteriorate quickly.

Replacement of the existing Green Island recreational cabin will insure that post oil spill researchers, and the recreating public will have a useable cabin in which to base oil spill related work operations while meeting the needs of the recreating public

Estimated Duration of Project: Two Years, 1993 & 1994

Estimated Cost per Year:

FY 1993	FY 1994	FY 1995	FY 1996	FY 1997
Phase 1	Phase 2	Phase 3	Phase 4	Phase 4
Purchase	Construction			
$20,000	$25,000	–	–	–

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: INTERPRETATION FOR CRUISE SHIP VISITORS

Justification: (Link to Injured Resource or Service)

Each year thousands of visitors pass through Prince William Sound aboard a growing armada of cruise ships. With their travel originating and ending outside of Prince William Sound there is no current mechanism to educate visitors on the oil spill. These visitors are missed by the region's interpretive and education efforts. While these visitors experience Prince William Sound and oil impacted areas, we have no mechanism to aid in their understanding of the Prince William Sound ecosystem or our effects upon it.

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

This project would fund the planning, development and implementation of a broad-based interpretive and education program aimed at the numerous cruiseships that ply the waters of Prince William Sound. Through this program, Chugach National Forest visitors travelling aboard cruise ships will be given a chance to learn about the Prince William Sound ecosystem and our impacts upon it.

Although this initiative reflects a new step in the interpretive efforts in Prince William Sound, experience with a similar program in Southeast Alaska attests to its viability. In southeast Alaska, the USDA Forest Service and the National Park Service work cooperatively with the cruise ship industry to provide training, staffing and educational materials to the ships. Response to initial contacts with the cruise ship industry has been very favorable. A partnership with these companies would be an effective method to contact the cruise ship visitors.

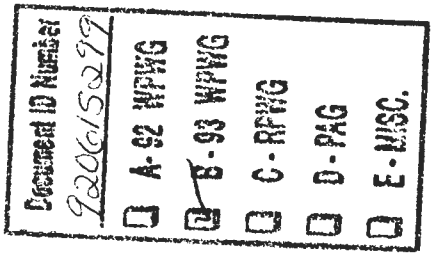
The first year of this multi-year project would fund the planning of the program. Phase 1 would include establishing contacts with the cruise ship industry, networking with other agencies and interested parties, developing an interpretive plan for the initiative and establishing an implementation timeline.

The following years of the program would include implementation of the cruise ship interpretive program through training, publications, personal services and products. All of these interpretive avenues may be valuable in the implementation of the program. Individual projects and a program strategy will be developed in the first year's work.

Estimated Duration of Project: Five years, 1993 - 1997

Estimated Cost per Year: $15,000

Other Comments: This proposal addresses item *#7 - increase management in parks and refuges* and *#33 - develop integrated public information and education program* identified in the Restoration Framework.



EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: INTERPRETATION OF PRINCE WILLIAM SOUND

Justification: (Link to Injured Resource or Service)

Each year, tens of thousands of visitors travel through Prince William Sound. However, there is no present program for presenting the oil spill and recovery story to those visitors. People throughout the United States and the world shared the experience of the Exxon Valdez oil spill through the ongoing media coverage. Past surveys have shown that people care deeply about the Sound, the oil spill, and the continued efforts to discover the effects of the spill and the efforts to mitigate those effects.

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

This proposal would fund the development of interpretive services and products that would supplement exisiting programs in Prince William Sound. Although the Chugach National Forest manages a successful interpretive program aboard the Alaska Marine Highway ferries in Prince William Sound, there are many other interpretive opportunities available to provide information to other audiences. For example, existing FS kiosks are located in Cordova, Valdez and Whittier.

These "missed" audiences include recreational boaters, private charter boat patrons, airline passengers, foreign visitors, and handicapped visitors. Several specific projects targeted for each unique audience will be developed to interpret Prince William Sound and our effects upon it.

One project will be the development of a 90 minute audio-cassette tape "travelogue" of a voyage through Prince William Sound. This interpretation will be available to a wide-range of "under-served" customers, including visually impaired visitors, recreational boaters, cruise ship passengers and international visitors. The project would also fund the purchase of inexpensive tape players that will be loaned to travelers.

Another project will be the development of an aerial map of Prince William Sound to be used by airline passengers in their trip over the area. This map would integrate natural and cultural information with information about our impacts upon the ecosystem. Initial reaction to this information has been very favorable by the airlines.

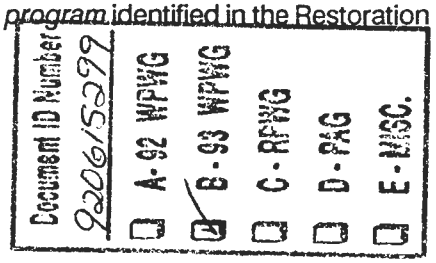
Through planning and public scoping, other projects will be developed that meet the needs of the resource, the public and the responsible agencies.

Estimated Duration of Project: Five years +, 1993-1997

Estimated Cost per Year: $10,000

Other Comments: This proposal can be easily and effectively combined with other areas' and agencies' interpretive proposals. Any interpretation about the Exxon Valdez Oil Spill should be coordinated throughout the region to maximize efficiency and effectiveness.

This proposal addresses item *#7 - increase management in parks and refuges* and *#33 - develop integrated public information and education program* identified in the Restoration Framework.



EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Cordova Environmental Education Center

Justification: (Link to Injured Resource or Service)

Perhaps no other community in Prince William Sound was as injured by the Exxon Valdez oil spill as was Cordova. The oil spill damaged the economic, social and psychic fabric of the community. Although oil never hit the shores of the Cordova area, many Cordovans were dependent upon the fisheries of impacted areas. The oil spill and subsequent impacts associated with the spill continue to adversely affect the town. The local economy is resource-based, and community members depend upon Prince William Sound for their livelihood, recreation and lifestyle.

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

Perched on the margin between the wetlands of the Copper River Delta and the marine ecosystem of Prince William Sound, Cordova is the ideal community in Prince William Sound from which to improve an existing integrated natural resource education program. Not only is the area intimately tied to the resources of the Sound, but it has also established a strong, community-based natural resource initiative. The Oil Spill Recovery Institute was recently established at the Prince William Sound Science Center. This project would be accomplished in partnership with the PWSSC.

Since 1989, a group of partners, including the Prince William Sound Science Center, USDA Forest Service, Copper River Delta Institute, Alaska Department of Fish & Game, Cordova Public Schools, and the Prince William Sound Community College have cooperatively worked at developing a strong and aggressive resource education program for area children. This program has included development of an Oil Spill Education Curriculum, after-school Science Club, Lecture Series, Adopt-A-Scientist Program and extensive involvement in school activities. Funding for the existing program has been provided through fund-raisers, grants, and federal contributions. The community of Cordova has supported these efforts through funding and logistical support. The community and agency support necessary for an expanded NRE program already exist in Cordova.

The growth of the existing program is limited by the lack of suitable facilities. This proposal would fund the planning, public involvement, design and construction of a natural resource education facility in Cordova. The goal of the facility would be to educate children about the oil spill and human's effects upon the environment, while integration information about the natural and cultural resources of Prince William Sound. The facility would be used by Cordovans, but would also serve as a "hub" of information for children from throughout the Sound and the region. The scope of the facility would be determined through the planning process but would incorporate interactive educational techniques when possible.

Estimated Duration of Project: Five + Years, 1993-1997

Estimated Cost per Year:

FY 1993	FY 1994	FY 1995	FY 1996	FY 1997
Phase 1	Phase 2	Phase 3	Phase 4	Phase 4
Planning	Construction	Operation	Operation	Operation
$15,000	$100,000	$20,000	$20,000	$20,000

Other Comments: The Prince William Sound Science Center would be a partner in the implementation of the project. Additional funding from other sources would be solicited. This proposal addresses Items *#7 -Increase management in parks and refuges, #12-creation of new recreation facilities* and *#33-develop integrated public information and education program* identified in the Restoration Framework.

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: POST-OIL SPILL RECREATION BASED USER SURVEY FOR PRINCE WILLIAM SOUND

Justification: (Link to Injured Resource or Service)

The oil spill altered lifestyles of those who live, work and recreate in Prince William Sound. Since that time, public scrutiny and involvement with management of resources has increased. Our efforts will focus on recreational opportunities, resources affected by the spill and how management and planning can meet the needs and desires of the public.

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

The goal of this project would be to collect and synthesize information concerning resource conditions, post-oil spill recreation use, user needs, and perceptions in order to develop long term management plans.

We plan on utilizing the services and expertise of Customer Survey personnel who are presently conducting recreation surveys for the Forest Service nationwide. This particular survey would focus on the effects of the spill in relation to recreational opportunities and resources. The survey would also continue to monitor post-oil spill recreational use in Prince William Sound.

Estimated Duration of Project: Three Years, 1993-1995

Estimated Cost per Year: $58,000

Other Comments:

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Project Title: Low Impact Recreation Development in the Nellie Juan College Fjord Wilderness Study Area

Justification: (1) As a result of the oil spill, recreation users were displaced to other locations, increasing use in existing sites, and creatingresource damage. (2) Provide low impact recreation facilities/site to redistribute use away from heavily used sites and back into areas affected by the oil spill and accommodate increased recreation use as a result of the publicity Prince William Sound received.

Project Description: This project will involve the development of four types of recreation facilities to handle the increased use in the Sound.

(1) Recreation Cabins - Recreation cabins of typical forest service style will be constructed at the following locations:

*Three Finger Bay (off Cochrane Bay)

*Port Audry (head of Drier Bay)

*Herring Bay (Knight Island)

*Head of Eaglek Bay

*Miners Bay/Lake (Unakwik Inlet)

*Snug Harbor (Knight Island)

*Cabin Bay (Naked Island)

*Cedar Bay

(2) Mooring Buoys - Mooring buoys will be placed at the following locations:

*Disk Island

*Solf Bay (off Herring Bay)

*Miners Bay

*Granite Bay (off Wells Bay)

(3) Tent Platforms and Outhouse Facilities

*Willard Island

*Barry Arm

*Applegate Beach

(4) Hiking Trails - Hiking trails built to wilderness standards (maximum 2' wide, minimum cut/fill, boardwalk across muskeg, timber bridges, etc.) will be constructed as follow:

*From Threefinger Bay to Shrodelake Cabin (1 1/2 miles)

*From Mines Bay to east end of Mines Lake (4 miles)

*Paulson Cabin to Paulson Creek (3/4 mile)

*Port Audry/Drier Bay to S. Thumb/Bay of Isles (3 miles)
(coop with CAC)

*Siwash Bay to head of Eaglek Bay (3 miles)
(coop with State of Alaska)

Pigot Bay (3 miles)

Project Duration: Estimate project to last 5 to 8 years.

Estimated Cost Per Year: Year 1: $100,000 for environmental analysis; following year finding is based on projects for each year. Following is the estimated cost for each project:

Cabins (each)	$ 35,000
Mooring Buoys (each)	15,000
Tent Platforms and outhouse Facilities (each)	12,000
Trails:	
Three Fingers	90,000
Miners Bay	400,000
Paulson Creek	20,000
Port Audry	100,000
Siwash Bay	75,000
Pigot Bay	150,000

Bruce VAN Zee
201 East 9th
Anchorage Alaska 99501

Steve Hennig
783-3842

Project Title: Chugach National Forest Foundation

Justification: This project will assist the people of Prince William Sound living the affected communities (Chenega, Tatilik, Whittier, Cordova)

Project Description: The Chugach National Forest Foundation would be an independent, nonprofit organization providing financial assistance to communities and individual through:

(1) Granting college scholarships to individuals for natural resources education.

(2) Hire several individuals who will work for the Chugach National Forest in natural resource positions.

(3) Provide grants to communities for specific projects to restore opportunities lost or damaged in the oil spill such as recreation sites or subsistence resources.

The primary charter of the Chugach National Forest Foundation will be to promote and financially assist individuals and communities in resource management in Prince William Sound.

Project Duration: This project will last forever.

Estimated Cost Per Year: The foundation will need to be funded with an endowment in its first year. The funds will be managed to annually fund the foundations programs and grants. Estimated initial cost: $5 million.

Other Comments: The foundation will be run by an executive director which will be responsible to a board of directors made up of one individual from each community, the Chugach National Forest supervisor, the District Rangers for Glacier and Cordova districts.

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:
INVENTORY, MONITOR, AND PROTECT PERMANENT MONITORING SITES

Justification:

Permanent monitoring sites, including non-oiled control sites, can determine the extent and rate of recovery of habitats injured by the Exxon Valdez Oil Spill.

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

This project would establish permanent study sites, including non-oiled control areas for monitoring of marine, intertidal, and upland habitats as suggested by Restoration Option 27. In addition to habitat, the wildlife, fish, recreation and other cultural values can be inventoried, monitored, and protected. Any restoration-funded study would include the permanent monitoring sites in their sampling schemes. Low-impact field camp facilities will be provided when possible.

Control areas should include areas of high vulnerability to oil spills, including the following locations: a) near the Alyeska terminal; 2) in the PWS Vessel Traffic System; and c) on the western Copper River Delta.

Estimated Duration of Project: Ten years.

Estimated Cost per Year: $500,000

Other Comments: This project falls within the confines of Restoration Option No. 27, and No. 31 in terms of the development of a comprehensive monitoring program. Data collection and analysis could be coordinated between all studies.

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:

ABUNDANCE, DISTRIBUTION, HABITAT USE AND FOOD HABITS OF STAGING SHOREBIRDS ON INTERTIDAL HABITATS ON THE WESTERN COPPER RIVER DELTA

Justification: (Link to Injured Resource or Service)

Shorebirds staging on intertidal mudflats were injured by the Exxon Valdez oil spill.

Description of Project: (goal(s), objectives, location, rationale, approach)

The extensive 500+km^2 tidalflats on the Copper River Delta are the largest staging area for an estimated 10+million shorebirds migrating on the Pacific Coast of North America. Over 30 species stage on the Copper River Delta during the spring, including nearly 100% of the western sandpiper (Calidris mauri) and dunlin (Calidris alpina pacifica) populations on the Pacific coast, the two largest Pacific coast shorebird populations. Low reproductive rates, high energy requirements for migration, and precise timing create a critical dependence on the environmental conditions on the Delta during spring migration. The recent Exxon Valdez oil spill in Prince William Sound has underscored the vulnerability of the western delta to catastrophic oil spills. Shorebird stopover areas on the the western end of the delta, including Orca Inlet and mudflats adjacent to Hawkins Island Cutoff, overlap with areas that could be impacted by a future oil spill in Prince William Sound.

This study would gather information that would enable efficient and effective deployment of response and containment resources to best protect shorebird habitats in the event of a spill. Numbers, distribution, key concentration areas and species composition of shorebirds can be determined using aerial shoreline surveys combined with ground transects. Prey availability for shorebirds can be sampled using a stratified random sampling design in the intertidal zone weekly during spring migration. Prey availability will be correlated with food habits as determined by examination of esophageal contents. Two years of sampling has refined aerial methodology and provided initial baseline information on numbers and distribution. Long-term monitoring is necessary to determine population trends, key concentration areas, and to assess habitat use patterns in relation to habitat type and prey availability.

Estimated Duration of Project: Five years.

Estimated Cost per Year: $35,000

Other Comments: This project falls within the confines of Restoration Option No. 31 in terms of the development of a comprehensive monitoring program. Data collection and analysis could be coordinated with intertidal ecology studies.

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:

SURVEYS TO DETERMINE DISTRIBUTION, ABUNDANCE AND FOOD HABITS OF MIGRATORY WATERFOWL STAGING IN INTERTIDAL HABITATS OF THE WESTERN COPPER RIVER DELTA DURING SPRING AND FALL

Justification: (Link to Injured Resource or Service)

Sea ducks, in particular the 3 species of scoters, were injured by the Exxon Valdez Oil Spill. All three species of scoters (white-winged, surf and black), as well as 6 other diving duck species and 4 dabbling duck species occur as migrants in the intertidal and shallow subtidal zone of western Copper River Delta. Baseline information is needed on food resources available, food habits, and the numbers and distribution of dabbling and sea ducks staging in the intertidal and shallow subtidal habitats on the Copper River Delta.

Description of Project:

Baseline information on sea and dabbling duck relative abundance, spatial and temporal distribution patterns, and key concentration areas in intertidal and shallow subtidal zones can be used to direct and monitor restoration efforts, and enable effective response in the event of a future spill. The numbers, distribution and species composition of staging waterfowl in intertidal habitats will be determined using a combination of aerial and boat surveys along the western Copper River delta shoreline and barrier islands. Aerial shoreline surveys at high tide and aerial fixed-strip transects for shallow subtidal habitats will be used to estimate waterfowl abundance. Extensive exposed intertidal areas will be surveyed in their entirety.

A data base describing spring and fall food habits of sea and dabbling ducks staging in the intertidal and shallow subtidal zone will be compiled. Food habits of dabbling and sea ducks will be determined from collections in the intertidal and shallow subtidal zone of the western Copper River Delta throughout spring and fall migration. Gizzards and stomach contents will be analyzed for frequency of occurrence and percent volume of prey items. Based on waterfowl distribution, a stratified random sampling design will be used to sample prey availability and waterfowl habitat use.

Estimated Duration of Project: Three years.

Estimated Cost per Year: $91,000 Year1. $78,000 Year2. $20,000 Year 3.

Other Comments: This project falls within the confines of Restoration Option No. 31 in terms of the development of a comprehensive monitoring program.

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:
MIGRATORY SHOREBIRDS STAGING IN ROCKY INTERTIDAL HABITATS OF PRINCE WILLIAM SOUND

Justification: (Link to Injured Resource or Service)

Up to one half-million shorebirds, representing 5 species, stage each spring in rocky intertidal habitats of Prince William Sound, feeding primarily on small crustaceans, blue mussels, and herring spawn deposition. These species include black turnstone, ruddy turnstone, surfbirds, rock sandpiper and wandering tattler. The rocky intertidal zone at Montague and Green Islands have been particularly important to black turnstones and surfbirds with as many as 75,000 birds representing 20-45% of their respective breeding populations observed staging in this area during spring. Shorebirds and their prey base on rocky intertidal habitats were injured by the Exxon Valdez oil spill.

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

Baseline information on shorebird relative abundance, spatial and temporal distribution patterns, length of stay and key concentration areas in rocky intertidal habitats can be used to direct and monitor restoration efforts, and enable effective response in the event of a future spill.

The numbers, distribution, key concentration areas, and species composition of staging shorebirds in rocky intertidal habitats can be determined using stratified random aerial and boat transects along rocky shorelines in PWS, along with intensive transect sampling at Montague and Green Islands. In conjunction with herring spawn deposition information, shorebird spatial and temporal distribution in relation to habitat type and intertidal food resources can be monitored. A sample of surfbirds and black turnstones will be collected to assess the relative importance of prey items. Gut contents will be analyzed for frequency of occurrence and percent volume of food items. At northern Montague Island, black turnstones and surfbirds will be captured and marked with dye and colored leg-bands to determine length of stay (turnover rate) and total bird-day-use.

Estimated Duration of Project: Three years.

Estimated Cost per Year: $80,000 first year; $70,000 second and third years.

Other Comments: This project falls within the confines of Restoration Option No. 31 in terms of the development of a comprehensive monitoring program. Data collection and analysis could be coordinated with herring egg deposition surveys conducted by ADF&G.

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RESTORATION PROJECT IDEAS

Title of Project: Fish Limiting Factors Analysis

Justification: Identification of habitat limiting factors for cutthroat, dolly varden, coho and pink salmon that can guide restoration activities.

Description of Project: Identification of mitigation, protection and restoration measures for injured fish species will require adequate knowledge of the habitat limiting features. For example, if a restoration project proposes to enhance spawning habitat for sea run cutthroat, when in fact freshwater rearing habitat for young of the year fish is limiting their production then, obviously, the restoration efforts will not accomplish the end goal.

Currently, the Chugach National Forest has mapped channel types for most of Prince William Sound. These channel types, which identify broad physical characteristics (e.g., gradient, width, surrounding landforms, and hydrologic process) for a given segment of stream, were mapped using aerial photographs and topographic maps. With ground verification and further delineations of specific habitats present within channel types, this habitat inventory technique could be used to conduct limiting factors analysis to guide restoration, mitigation, and protection measures. We propose to field verify channel type designations and to define specific fish habitat characteristics within channel types used by injured fish species. This information will be used to conduct limiting habitat factors analysis for species such as sea run cutthroat and to predict where non documented populations of injured fish species may exist should mitigation measures be proposed.

The study area will focus on the Nellie Juan, College Fiord, Big Islands, and Gravina management areas of the Chugach National Forest but may be expanded to other areas. Initially, using ADF&G anadromous water maps, along with other sources, streams known to provide habitat for injured fish species will be identified. The fish distribution information will be overlayed on USFS channel type maps to identify areas to focus field verification and habitat surveys.

Habitat surveys will be tiered to channel type designations. A statistically valid sample of each channel type within the drainages known to contain injured fish species will be sampled for presence of habitat and cover. The final step will involve predicting habitat limiting factors for the injured species. Using known habitat requirements along with the habitat surveys that have been tiered to channel types, limiting habitat factors analyses will be developed for the injured fish species.

Project Duration: 2.5 years.

Estimated Cost per Year: Years one and two $125,000/year, Year three $30,000.

Other Comments: None

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Technical contact: Kim Barber 271-2836

RESTORATION PROJECT IDEAS

Title of Project: Wild Fish Stock Information Assessment

Justification: Information data base that will guide and prioritize on the ground enhancement activities for the injured cutthroat, dolly varden, coho salmon, pink salmon and all other freshwater fish and anadromous fish in PWS.

Description of Project: Recognizing the cultural, social, economic, and health benefits of maintaining genetic diversity, in 1973 Congress passed the Endangered Species Act (ESA), setting forth a policy that we would not be indifferent to the loss of plant and animal species. In addition to the ESA, the National Forest Management Act (1968) requires the maintenance of viable populations of all native and desirable non-native vertebrates by maintaining plant, animal, and habitat diversity. The Prince William Sound has long been a significant producer of wild salmon in Alaska. These salmon stocks, along with other fish species, support a diverse, economically important, and culturally significant fisheries. As witnessed by the collapse of the salmon fisheries in the Columbia River, as well as numerous other drainages in Washington, Oregon, Idaho, and California, fish stocks in the Prince William Sound are not immune to depletion. The recent Exxon Valdez oil spill has further heightened awareness for the vulnerability of wildlife species to habitat destruction. To maintain the genetic diversity, and hence, the commercial, subsistence and sport fisheries in the Sound, thereby; avoiding legal and social complications associated with threatened or endangered species, it is imperative that systematic land planning measures be taken now.

To manage habitat for the fish populations that were affected by the Exxon Valdez oil spill, the Forest Service and other federal and state agencies require adequate knowledge of where the populations exist, their significance (eg., biological, commercial, and cultural), habitat limiting factors, susceptibility to disturbance, and potential impacts to the populations. Currently, a substantial amount of information on fish in Prince William Sound is available. However, the amount and variety of information available is somewhat overwhelming. Not only is the information unconsolidated but furthermore it is not available in a format that allows the Forest Service, as a land manager, to readily make use of it with regards to maintaining population diversity.

We propose to systematically compile and review existing information on all wild freshwater and anadromous fish stocks in the Sound, making this information available in a readily useable format, which is catalogued by stream and species. The ultimate goal is to use the information to evaluate and prioritize fish stocks based on their biological, economic, and cultural significance. Compiling and reviewing the existing information will be the first step towards systematically identifying the various fish stocks (including those that were injured as a result of the Exxon Valdez oil spill), defining potential impacts on them, and developing appropriate pro[illegible] maintaining or enhancing them.

Project Duration: 2 years.

Estimated Cost per Year: $50,000.

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Technical contact: Kim Barber 217-2836

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:
Restoration and Mitigation of Essential Wetland Habitats for Injured Prince William Sound (PWS) Fish and Wildlife Species

Justification: (Link to Injured Resource or Service)
Intertidal marine habitats adversely affected by the Exxon Valdez oil spill, especially tidally influenced wetland vegetation, would be supplemented by long term enhancement activities in both riparian and floodplain habitats in San Juan Bay, Montague Island.

Description of Project:(e.g. goal(s), objectives, location, rationale, and technical approach)

Goal:
To improve the status of waterfowl, anadromous fish and furbearing species impacted by the oil spill in Prince William Sound.

Objective:
Create pools and ponds in riparian and flood plain areas to restore associated aquatic vegetation. Minimize large mammal predation on waterbirds through use of appropriate nesting islands and cover distribution. A broad spectrum of Prince William Sound species will benefit.

Location: San Juan Bay, Montague Island

Rationale:
Past events associated with the 1964 earthquake drained the former lake within the San Juan Bay Drainage. Periodic flooding occurs, but this is a temporal event which happens during periods of high, nearly continuous rainfall or in combination with melt of the snowpack and high volume runoff. Downcutting of the channel has changed the character of the stream along a major portion of its course through lake bed deposits. The amount of pool habitat has been reduced and adjacent sedge meadow, some containing temporary ponds, is undergoing plant succession to shrub and forest growth. Opportunities exist for long term improvement of PWS waterfowl, furbearer and anadromous fish habitat within the stream and in the adjacent wet meadow zones. Eventual outcomes would be a stream and adjacent pond/wetland system within newly established spruce/hemlock forest.

Technical Approach:

- **Year 1.** Feasibility, including soils, hydrology and project planning work. If acceptable, Complete an EA and/or EIS. Submit for public review.
- **Year 2.** If approved, complete project design and cost estimates and submit for the Corps of Army Engineers 404 permit.
- **Year 3.** Commence the project construction activity leading to appropriate instream structures and adjacent wetland habitat formation.
- **Year 4.** Monitor the project relative to meeting the objectives and to assure soil stability and acceptable revegetation of the site.
- **year 5.** Continue to monitor the project and assess wildlife/fisheries activity.

Estimated Duration of Project: 5 to 10 years (possibly two or more phases)
Estimated Cost per Year: $200,000 Average over 5 years (approximate estimate)
Other Comments: Coordinate project logistics with the Montague road access.

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Oil Spill restoration is a public process. Your ideas and suggestions will not be proprietary, and you will not be given any exclusive right or privilege to them.

Technical Contact: Ken Holbrook

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:

Stream Channel Type Classification and Fish Habitat Assessment

Justification: (Link to Injured Resource or Service)

The Oil Spill triggered substantial changes in the fisheries resources and fishing industry. The need for an accurate assessment of fish habitat and production capabilities has never been higher.

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

The channel typing program will enable resource managers to better predict the effects of land management activities on any given watershed on the District. It also allows managers to predict fisheries habitat capability by channel type. Stream channel type classification was initiated on the District in 1989. Since 1989, mapping and data collection techniques have been refined to produce high quality baseline information on watersheds on the District. In 1993, the District will finalize all manuscripts for data entry into the Forest GIS data base, and will have information available to all management agencies. In addition, the District will be moving into the next phase of the program and begin looking at fisheries habitat components within specific channel types, and develop habitat capability models for watersheds. Channel typing information will completed using Forest Service, Region 10 (R10) standards, and those standards more specifically outlined by the Chugach National Forest Channel Type User Guide. Habitat data will be collected using Hankin and Reeves methods refined by Olsen and Wenger for use in R10. Habitat data will be collected on Montague Island and the West Copper River Delta initially. Sample locations in Eastern Prince William Sound and the East Copper River Delta will be established in successive field seasons.

Estimated Duration of Project: 1993 - 1997

Estimated Cost per Year: 1993-1995 $50,000; 1996 $25,000; 1997 $10,000

Other Comments:

This project will provide baseline information needed to implement Restoration Option No. 2 (Intensify Management of Fish and Shellfish), No. 3 (Increase Management for Fish and Shellfish that Previously Did Not Require Intensive Management), and No. 11 (Improve or Supplement Stream and Lake Habitats for Spawning and Rearing of Wild Salmonids). Since it is part of the Forest GIS data base, there is great potential for synthesizing and transfer of information between agencies, especially as data from other studies becomes available.

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2600-93-1

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:

Montague Island Chum Salmon Restoration

Justification: (Link to Injured Resource or Service)

Chum salmon were determined to be an injured species as a result of the Exxon Valdez oil spill. Montague Island remains as one of the best PWS locations for improving wild chum salmon production.

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

Prior to the 1964 earthquake, Montague Island streams accounted for nearly 8% of the total chum salmon production in Prince William Sound. Habitat alterations caused by the uplift, combined with a number of environmental and man-induced factors, led to the virtual extirpation of chums on the Island. Many of the Island's historic chum producing streams are thought to have stabilized over time to once again support chum salmon populations. However, there is a lack of a sufficient brood source to re-establish numbers of chums within those same streams

The goals of this project are, 1) to re-establish wild stock populations of chum salmon on Montague Island and maintain the genetic diversity of wild chum salmon stocks in Prince William Sound; and 2) to provide mitigation to identified injured species. Once the project is established it could contribute an estimated 300,000 pounds of salmon annually to the common property fishery.

A four-year cooperative chum fry stocking effort in Chalmers river was completed in 1990. This stocking proved successful when more than 1,000 chums were observed returning to Chalmers river. Pending favorable spawning success of these fish, stocking efforts will be expanded to include all historic chum producing streams on Montague Island. Cooperative work with Alaska Department of Fish and Game and Prince William Sound Aquaculture Corporation will continue to identify a source for brood stock and eggs will be collected for culture by 1994.

During 1991, spawning habitat surveys were conducted at proposed stocking locations. Based on the information collected recommendations were made on possible habitat restoration projects for several of the chum salmon streams. These projects will be further evaluated in 1992 for implementation in 1993.

The goals of habitat restoration projects are to accelerate natural stream stabilization, and promote a healthy riparian forest. Projects will include in-stream structure placement, various spawning and rearing habitat improvement structures, and development of a riparian forest prescription. Riparian forest management will include tree planting and tree thinning of selected zones. Through effective silvicultural management these areas can be rehabilitated to provide excellent habitat not only for fish species, but many wildlife species as well.

Project: Montague Island Chum Salmon Restoration (continued)

Estimated Duration of Project: 5 years (1993 - 1997)

Estimated Cost per Year: 1993 - $80,000; 1994-1997 - $75,000

Other Comments:
This project offers a means of minimizing impacts on fisheries within PWS by increasing chum salmon production. This meets the goals of restoration Option Nos. 2 (Intensify Management of Fish and Shellfish) and 18 (Replace Fisheries Harvest Opportunities by Establishing Alternative Salmon Runs). It also provides a means for implementing Restoration Option No. 11 (Improve or Supplement Stream and Lake Habitats for Spawning and Rearing of Wild Salmonids). The Forest Service has expertise in a variety of established techniques for salmonid habitat improvement.

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:
Anadromous Cutthroat and Dolly Varden Char Habitat Inventory, Evaluation and Restoration

Justification: (Link to Injured Resource or Service)
Anadromous cutthroat trout and dolly varden char were determined to be an injured species as a result of the Exxon Valdez oil spill. Strong downward trends in cutthroat population numbers have been observed since the spill. Emergency clousures have been inacted by ADF&G in some areas of PWS.

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

The project goal is to determine habitat capability as it relates to population status of sea-run cutthroat trout and dolly varden char on the Copper River Delta and eastern Prince William Sound. Through project development we will gain critical information required to make sound management decisions and direct enhancement and mitigation efforts at maintaining viable populations of sea-run cutthroat trout. Habitat evaluations and inventory work will be completed using the Chugach National Forest stream channel type classification, as well as modified Hankin and Reeves methods for relating habitat to stream type.

While information on population status is limited, strong downward trends have been observed since the oil spill. During the 1991 field season the District began working closely with ADF&G, Division of Sport Fish, in their assessment of population status. The District will continue to work closely with ADF&G in the future. The District will also develop habitat capability models to relate habitat components to population.

Estimated Duration of Project: 1993 - 1995

Estimated Cost per Year: 1993 - $35,000; 1994-1995 - $55,000

Other Comments:
Habitat capability modeling must be a vital part of population modeling. This project will provide critical information on habitat components related to population of two injured fish species. It provides the information needed for Restoration Option Nos. 2 (Intensify Management of Fish and Shellfish) and 5 (Reduce Harvest by Re-directing Sport-Fishing Pressure). Once habitat capability models are developed for various watersheds within Prince William Sound and the Copper River Delta, they will provide the information needed to implement Restoration Option No. 11 (Improve or Supplement Stream and Lake Habitats for Spawning and Rearing of Wild Salmonids).

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

Title of Project:

Eyes on Wildlife - Inured Resources and Their Restoration

Justification:

As a public land management agency, the FS has the responsibility to make available information regarding natural resources and their management to facilitate informed public involvement in decision making. Extensive efforts have been made to assess effects to resources in Prince William Sound by the 1989 oil spill, and efforts are ongoing to assure a full recovery. The Exxon Valdez oil spill was and still is of international significance, and holds a prominent position in the debate over oil production and transport as opposed to alternative energy sources.

Description of Project:

Goal: To provide objective, complete information on the natural resources of western Prince William Sound, the effects to these resources as a result of the 1989 Exxon Valdez oil spill, and the cooperative efforts by agencies and organizations to restore resources injured in this event.
Objective: Develop interpretive programs, videos and displays for use on Alaska Marine Highway Ferry System.
Objective: Work cooperatively with guide operators in Prince William Sound to provide interpretive services (biologists, interpreters, information) on tours.
Objective: Develop interpretive videos and displays for the Glacier Ranger Station, the Beggich-Boggs Visitor Center, and the International Airport.
Objective: Provide education opportunities for area schools and childrens and adult groups and organizations.
Objective: Conduct a Prince William Sound Ecology Tour which would take visitors to oil spill effected areas, describe resources injured due to oiling, and discuss efforts being made to restore habitat and dependent species.
Location: The scope of this project would include but not be limited to western Prince William Sound, Anchorage municipality, Whittier, Seward and Girdwood.

Estimated Duration of Project:
Ongoing.
Estimated Cost per Year:
$200,000
Other Comments:
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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

Title of Project:

Migratory Waterfowl and Shorebird Monitoring

Justification:

Of 36,000 bird carcasses recovered following the spill, 31,000 of the deaths were attributable to oil, with the total number of birds killed by the spill estimated to be between 375,000 and 435,000. Approximately 1,200 miles of coastline were effected by the oil spill. Many of the sheltered bays and inlets of western Prince William Sound contain wetland habitat important as staging and nesting areas for numerous species. Effected species which commonly use these areas as nesting beaches, feeding areas and staging areas include black oystercatcher and harlequin duck. In the event of additional natural or man-caused catastrophes, this baseline information will facilitate damage assessment and response.

Description of Project:

Goal: To assess and monitor use of Prince William Sound wetland habitats by migratory waterfowl and shorebirds.
Objective: Complete initial wetland map based on aerial photo interpretation.
Objective: Ground truth wetland identification and suitability as monitoring site via aerial reconnaissance.
Objective: Conduct land- and boat-based inventories of species composition and use of identified wetlands during migration.
Objective: Conduct land- and boat-based inventories of species composition and use of identified wetlands during breeding season.
Objective: Continue monitoring use of these wetlands.
Objective: Transer ecological information (identified nesting beaches, staging areas, feeding areas) by species and species groups into Geographical Information System database for easy retrieval and maintenance.

Estimated Duration of Project:

Three years.

Estimated Cost per Year:

$150,000

Other Comments:

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
IDEAS FOR RESTORATION PROJECTS

Title of Project:
Feasibility of Fishpasses as oilspill restoration
Justification:
Restoration of several fish species could be aided by improved fish passage to previously underutilized habitat.

Description of Project:
Goal: -Restore injured species by improving access to unused or untilized fish habitat

Objective:
-survey PWS for potental fishpasses
-conduct feasibility studies and develop engineering designs

Estimated Duration of Project:

3 years

Estimated Cost per Year:
$25,000

Other Comments:

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
IDEAS FOR RESTORATION PROJECTS

Title of Project:
Prince William Sound Salmon Stock Genetics
Justification:

Description of Project:
Goal: Develop baseline data on salmonid genetics which will be used by the US FS and other agencies interested in habitat improvement and preserving the genetic diversity in wild fish stocks in Prince William Sound

This project will build upon previous work by USFS, NMFS, ADFG. This included sampling for baseline data in 1991 by NMFS and ADFG and a USFS project to summarize all existing information in Prince William Sound and identifiy phenotypic characteristics of salmon which are indicative of gentypic variation which will be completed in 1992.

Objectives:
-develop sampling scheme based on geographic, temporal, phenotypic differences, oiled and non-oiled, hatchery and wild differences, type of spawning habitat (intertidal, lake, inlet stream).
-determine which stocks will need to be sampled over multiyears to obtain samples without endangering stocks
-sample for both immediate electorphoresis and eventual DNA samples; put a portion of sample in long term storage for use with techniques developed in the future
-after initial data collection, identify further needs and gene pools where more detailed sampling is needed
-sample coho and cut throat trout and dolly varden in order to identify what protocol to use for electorphoresis
-interact with scientists developing cut throat data bases in more southerly portions of the cut throat range.

Estimated Duration of Project:

Five years

Estimated Cost per Year:
$150,000

Other Comments:

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
IDEAS FOR RESTORATION PROJECTS

Title of Project:

Stream Channel Capability Modeling

Justification:

Capability modeling would allow us to address those channels that would give the best benefits to Oilspill restoration strategies.

Description of Project:

Goal: Develop model to analyze stream channel capabilities for supporting fish in Prince William Sound.

Objectives:

-stratify channel types using maps developed, ground-truthed and digitized in project proposed above (Vegetation and stream classification mapping of western Prince William Sound).

-measure fish habitat capability characteristics on represenntative sampleof each channel type most likely to support fish.

-document fish numbers and use on a representative sample of each channel type

-product a cablbility model for use inconjunction with the stream channeltype database

-field test the capability model

Estimated Duration of Project:

Four years

Estimated Cost per Year:

$110,000

Other Comments:

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4600-93-16

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

TITLE OF PROJECT:
Distribution, abundance, habitat use, and phylogeny of Canada Geese in Prince William Sound.

JUSTIFICATION: (Link to Injured Resources or Service)

Up to four thousand geese use coastal mudflats, esturaries, and tidally influenced sloughs for staging, nesting and brood rearing throughout Prince William Sound . These habitat types were damaged during the Exxon Valdez oil spill. Baseline information is necessary to evaluate management activities and identify critical habitat that will help managers react in the event of a future oil spill in PWS and to help evaluate the impacts of a future spill.

DESCRIPTION OF PROJECT: (e.g. goals, objective, location, and rationale)

Baseline information on distribution, abundance, habitat use and phylogeny of Prince William Sound Canada Geese will be collected. Currently, very little information exists on Canada Geese in Prince William Sound. The relationship between Prince William Sound geese and dusky Canada geese on the Copper River Delta is unknown; the genetic relationship between these 2 populations will be determined. Nesting, staging, and wintering habitat use will be determined using systematic aerial surveys. These habitat types can then be identified using the Chugach National Forest Ecological Data Base. This project could be done cooperatively with Alaska Department of Fish and Game.

ESTIMATED DURATION PROJECT: 4 years

ESTIMATED COST PER YEAR: $50,000

OTHER COMMENTS:
This project falls within Restoration Option No. 31 in terms of the development of a comprehensive monitoring program.

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2600-93-11

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

TITLE OF PROJECT:
Inland Survey of Marbled Murrelet Habitat Use in Prince William Sound

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JUSTIFICATION:
Almost 10,000 marbled murrelets, or approximately 10% of their population in PWS, were estimated to have been killed directly by the oil spill. In addition, internal contamination of murrelets in the spill area may be causing continued mortality. Being a diving seabird increases the chances of future oil spills adversely impacting the murrelet population of PWS. Identification of critical habitat will help managers react in the event of a future oil spill in PWS.

DESCRIPTION OF PROJECT: (e.g. goal, objective, location, and rationale)

The objective of this project is to determine marbled murrelet distribution, abundance, and habitat use in PWS, outside of the oil spill corridor. The USFWS initiated a cooperative project on Naked Island with the U. S. Forest Service in 1990 to look at inland use of habitat by marbled murrelets within the oil spill corridor. In 1992 they are expanding the project to include many areas of western PWS. This project would be coordinated with their effort and cover the eastern part of the Sound. Inland habitat will be described in association to use by murrelets. Nest sites will be located and described.

ESTIMATED DURATION OF PROJECT: 2 years

ESTIMATED COST PER YEAR: $40,000

OTHER COMMENTS: This project falls within Restoration Option 31 in terms of the development of a comprehensive monitoring program.

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2000-93-16

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

TITLE OF PROJECT:
Restoration of second growth habitat for wildlife in Prince William Sound

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JUSTIFICATION:
Several species of wildlife damaged by the Exxon Valdez oil spill require old growth forest habitat. This proposal will manage previously harvested forest stands on federal lands to accelerate development of old growth components needed for these damaged species.

DESCRIPTION OF PROJECT:
The Prince William Sound area has several watersheds on National Forest lands where timber harvest occured in the early 1970's without present knowledge of stand structure required for wildlife. As a result of this it will take up to 75 years longer for these stands to become valuable habitat for old growth dependent species. This project will evaluate the existing second growth stands within riparian and beach fringe zones for potential habitat enhancement. Management options could include pre-commercial thinning to maintain understory components as will as increase growth of spruce trees to more rapidly develop old growth structure, understory planting in riparian zones to convert the area to a spruce stand as it was prior to harvest. The most common damaged species that depend on these habitat types are: harlequin duck, marbled murrlet, river otter, and bald eagle.

ESTIMATED DURATION OF PROJECT: 5 years

ESTIMATED COST PER YEAR: $40,000

OTHER COMMENTS: This project falls within the category of habitat protection and aquisition and manipulation of resources since the objective is to rehabilitate habitats for injured species. This project will implement restoration option number 11 (improve or supplement stream and lake habitats) and number 25 (protect or aquire upland forests and watersheds, establish or extend buffer zones for nesting birds).

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RESTORATION PROJECT IDEAS

Title of Project: Ecological Land Classification of PWS and Copper River Delta

Justification: Characterization and identification of habitats important to upland species injured in the oil spill (Harlequin ducks, marbled murrelet, black oystercatcher, bald eagle).

Description of Project: An ecological data base is necessary to properly characterize and identify habitats and direct recovery efforts for the identified injured species. The data base must be defensible and have both spatial and statistical accuracy to meet this objective. The development of such a data base is sophisticated and time consuming, containing information such as landforms, edaphic factors, terrain features, elevation, aspect, slope, physical characteristics of streams, and vegetation composition and structure. To develop the data base within a reasonable timeframe, a consistent spatial base will be used to delineate the array of land cover features that can be ground-truthed. Landsat Thematic Mapper (TM) and/or SPOT image data, along with ancillary Geographic Information System (GIS) based information, will be used as the spatial basis. The combination of spatial information and extensive field sampling and verification will provide the habitat information needed to guide many of the oil spill recovery efforts.

Landsat based ecological mapping techniques have evolved from numerous and extensive studies throughout Alaska. Development of an ecological classification system for Prince William Sound has been ongoing since 1988. Using established techniques a preliminary map delineating ecologically similar units will be developed prior to the 1993 field season. This initial map, along with information on habitat requirements of injured species, will be used to direct field sampling efforts that will begin in 1993. Ecological classification types will be selected across as many environmental gradients as possible, prior to on-the ground survey. A GIS stream map, attributed with channel type information and Alaska Department of Fish and Game anadromous habitat delineations, will be generated to assist in directing sampling efforts for species, such as the Harlequin duck, that are associated with stream habitats.

Field survey sites will be selected to provide an unbiased statistically valid sample. Following the 1993 field season, draft habitat capability models will be developed that will operate in conjunction with the ecological data base.

Subsequent years efforts will essentially be a reiterative process of additional field sampling, refinement of the image interpretations, and validation and fine tuning of the habitat capability models. The final products at the end of the fourth year will be a GIS based map depicting the locations of important habitats for injured species and a data base describing the ecological characteristics of those habitats; providing a valuable tool to direct recovery efforts and to assist in long-term monitoring.

Project Duration: 4 years.

Estimated Cost per Year: $750,000.

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
IDEAS FOR RESTORATION PROJECTS

Title of Project:

Vegetation and Stream Classification and Mapping of Western Prince William Sound

Justification:

Obtain baseline habitat information necessary to facilitate monitoring, maintenance and restoration of injured species. When the oil spill occurred in 1989 very little baseline information on Prince William Sound was available, a situation which still exists. By obtaining this information, restoration efforts may be more expeditious, and future planning more efficient.

Description of Project:

Goal: To complete upland and riparian plant community mapping of western Prince William Sound.
Objective: Complete initial cover type mapping of vegetation from aerial photo interpretation.
Objective: Ground truth and classify plant communities with cover type ap.
Objective: Transfer plant community information to a Geographical Information System database for easy retrieval and maintenance.
Location: The scope of this project would include upland and riparian habitats in western Prince William Sound under the jurisdiction of the Glacier Ranger District, Chugach National Forest.
Technical approach: Field methodologies currently being utilized in the USFS/USFWS cooperative marbeled murrelet study would be used in this expanded plant classification project.

Goal: To complete stream channel typing in western Prince William Sound.
Objective: Complete initial mapping of stream channel types from aerial photo interpretation.
Objective: Ground truth stream channel type map.
Objective: Transfer stream channel type information to a Geographical Information System database for easy retrieval and maintenance.
Location: The scope of this project would include streams in western Prince William Sound under the jurisdiction of the Glacier Ranger District, Chugach National Forest.
Technical approach: Field methodologies currently being utilized in the USFS/USFWS cooperative marbeled murrelet study would be used in this expanded plant classification project. The methodologies currently used for channel typing in all National Forests in Alaska will be used in this stream channel classification project.

Estimated Duration of Project:

Three years.

Estimated Cost per Year:

$276,000

Other Comments:

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

Title of Project:
Wetland Habitat Classification, Mapping and Assessment

Justification:

Almost all species injured in the 1989 oil spill rely on wetlands during some stage of their lifecycle. Numerous shorebirds, waterfowl and seabirds feed, stage or breed in these highly productive areas. Currently, Prince William Sound coastal wetlands remain unidentified and unmapped, severely hindering assessment of the scope of injury to dependent resources. Such baseline information is essential to proper maintenance and management of any ecosystem, and without which restoration activities are doomed to be haphazard and possibly ineffective.

Description of Project:

This project is closely tied to the Migratory Waterfowl and Shorebird Monitoring and Vegetation Classification and Mapping projects previously described.

Goal: To identify, classify and map coastal wetland habitat in western Prince William Sound.
Objective: Complete an initial wetland map based on aerial photo interpretation. (This would provide the base map for the aerial reconnaissance in the Waterfowl project.)
Objective: Conduct field review of all coastal wetlands larger that 2.5 acres, identifying plant communities and wetland type based on USFWS categories.
Objective; Transfer wetland plant community information to Geographical Information System database for easy retrieval and maintenance.
Location: The scope of this project would be limited to coastal wetland habitats in western Prince William Sound.
Technical approach: Methodologies being used for plant communities identification in the marbeled murrelet project would be expanded upon to allow complete identification and characterization of wetland habitats.

Estimated Duration of Project:
Two years.
Estimated Cost per Year:
$100,000

Other Comments:

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:

Geographical Information System Mapping of Natural Resource in Western Prince William Sound

Justification:

Injury assessment efforts have resulted in the gathering of extensive ecological information on the resources of western Prince William Sound. Electronic storing, maintenance and updating of such information greatly enhances its usefullness to managers.

Description of Project:

Goal: To transfer existing data (nest locations, critical habitat, breeding colonies) on injured species to a GIS database.

Estimated Duration of Project:

One year.

Estimated Cost per Year:

$75,000

Other Comments:

Name, Address, Telephone:

Charla Sterne
Wildlife Biologist
Glacier Ranger Station
PO Box 129
Girdwood, AK 99587
907-783-3242

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:

Communication system for oil spill program

Justification: (Link to Injured Resource or Service)

The Exxon Valdez Oil Spill resulted in a dramatic increase in the number of people and boats using the spill area, studing and monitoring the impacts of the spill. The start up of the restoration program will increase this usage resulting in an increased need for communication and a reliable safety net. Communications have been difficult and some what limited due to the avalible systems. Installation of a cellular phone system in the oil spill area would provide a safety net for the program and be avalible to the public for information and safety.

Description of Project:(e.g. goal(s), objectives, location, rationale, and technical approach)

Contract the installation of a cellular phone system for the oil spill area. The location of the facilities will depend on the area of coverage. Safety, support, and communication are the reasons for installing a system of this nature. An added benefit would be a public information number in the spill area that can provide the public with up to date information on the activities on-going in the restoration program and on site explanation of impacts.

Locations:

Location of the facilities to support this system would be dependant on area and percent reliable coverage. The overall area would be the oil spill area.

Estimated Duration of Project: **Installation would take 1 to 2 years**

Estimated Cost per Year: vary **depending** on the extent of coverage

Other Comments: Benefits would be for the life of the program

Name, Address Telephone:
Bruce Van Zee
Forest Supervisor
201 East 9th, Suite 206
Anchorage, AK 99501

Technical Contact:
Ken Holbrook, Fish Biologist
271-2819

Oil Spill restoration is a public process. Your ideas and suggestions will not be proprietary, and you will not be given any exclusive right or privilege to them.

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:

Oil Spill Restoration Support Services and Facilities

Justification: (Link to Injured Resource or Service)

As a result of the oil spill, support services and facilities have been in short supply in In the spill area of PWS. This has resulted in a great deal of lost time and added cost associated with rental houses and charter boats. There are no facilities avalible in PWS and other locations in the spill area.

Description of Project:(e.g. goal(s), objectives, location, rationale, and technical approach)

Objective: Construct one or two full service facilities in the oil spill area. these facilities will provide housing, labratory, fuel storage, wharehouse, cooking, and meeting areas to support oil spill restoration and monitoring activities. The facilities must serve from 30 to 60 people at one time. Additional facilities would be satalite facilities located near the project areas. These would normally consist of a cabin, that can be moved as the projects change or need dictates. Additional benefits will be public information and education. The benefit of this project would be to provide on site housing and reduce the need for high cost charter boats. Much of the work would be done out of skiffs dispatched from the central facility. Additional, much time would be saved by not having to return to cordova or some other full service site for support.

Locations: Location would be selected at a later date depending on the support needs and avalible land. I suggest potential sites on northern Knight Island and Green Island or Montague Island. Satalite facilities would be located in sites responsive to future restoration projects and monitoring needs.

Estimated Duration of Project: **Three years**

Estimated Cost per Year: Year#1-**$600**,000, Year#2-$4,700,000, year#3-$800,000 per facility and will vary for the satilite facilities from $10,000 to $100,000.

Other Comments:

Name, Address Telephone:
Bruce Van Zee
Forest Supervisor
201 East 9th, Suite 206
Anchorage, AK 99501

Technical Contact:
Ken Holbrook, Fish Biologist
271-2819

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Port Graham Proposals

Justification: (Link to Injured Resource or Service)

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

1) Easement Identification

2) Restoration of Windy Bay Mussel Beds

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

Patrick Norman, Pres
Port Graham Corp.
PO P.O.M
Port Graham AK 99603

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Exxon Valdez Trustee Council
645 G St.
Anchorage, Alaska 99501

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920612248

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Habitat Acquisition and Continuing research + prevention and monitoring.

Justification: (Link to Injured Resource or Service)

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

Habitat Acquisition - use 80% of funds
All other purposes - use 20%

Comment

Estimated Duration of Project:

Estimated Cost per Year:

Other Comments:

Name, Address, Telephone:

S. Douglas Miller PhD
National Wildlife Federation
750 W. Second Ave Suite 200
Anchorage, AK 99501
258-4800

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05

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: 5 Projects

Justification: (Link to Injured Resource or Service)

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

01) Habitat Acquisition — a Component

02) Restore Shorelines damaged by beach berm relocation

03) Institute program to annually clean garbage from oil spill impacted area beaches

04) Publish + distribute brochures on damaged species and ways to prevent additional stress.

05) Institute watchable wildlife survey program to give and receive information with Tourism and Recreation users.

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

Nancy Lethcoe, Pres.
~~Alaska Wilderness~~
Sailing Safaris
Alaska Wilderness
Recreation and Tourism
Assoc.

PO Box 1353
Valdez, AK 99686

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920615296-01 thru 10

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:
10 projects - Archaeology, Recreation

Justification: (Link to Injured Resource or Service)

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

01) Archaeological Restoration - Site Acquisition
02) Heritage Information Replacement
03) Public Education in Spill Area Archaeology
04) Archaeological Site Stewardship (Homer, Kodiak)
05) Archaeological Restoration - Regional Archaeological Planning
06) Marine Recreation Plan for Spill area
07) Public use Cabins in State Marine Parks
08) Acquisition of Important Recreation Lands
09) Endowment for Outdoor Recreation Management
10) Recreation Field Management and Monitoring

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:
Projects 01 - 05 Judith Bittner

Projects 06 - 10 Neil Johannsen or David Stephens

Both DNR

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01 thru 06

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Chenega Corporation Projects

Justification: (Link to Injured Resource or Service)

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

1) Restoration of Murre Beds
2) Restoration of Chenega Village Site
3) Chenega Bay Subsistence Restoration Project
4) Easement Identification
5) Chenega Chinook and Silver Salmon Release Program
6) Chenega Bay Subsistence Resource Project

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

Charles Totemoff
PO Box 0
Chenega Bay, AK

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:
3 projects - 2 Mussel Bed, 1 Kelp Regeneration

Justification: (Link to Injured Resource or Service)

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

1) Mussel Bed Treatment - use insoluble fertilizer
2) mussel Bed Treatment - use enzyme
3) Kelp regeneration - upper intertidal

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:
Martech - Gary Lawley
Martech USA, Inc
300 E. 54th Ave
Anchorage, AK 99518

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:
2 Projects - NOAA - HMRAD

Justification: (Link to Injured Resource or Service)

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

01) Natural Recovery of Oiled and Treated Shorelines

02) New Field Test of Bioremediation

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

Dr. Alan J. Mearns
NOAA HMRAD
7600 Sand Point Way NE
Seattle, WA
98115

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Exxon Valdez Trustee Council
645 G St.
Anchorage, Alaska 99501

Attn: 1993 Work Plan

PRINCE WILLIAM SOUND
SCIENCE CENTER
CORDOVA, ALASKA

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

June 15, 1992

Dave R. Gibbons, Ph.D.
Interim Administrative Director
Exxon Valdez Oil Spill Restoration Team
645 "G" Street
Anchorage, AK 99501

Dear Dr. Gibbons:

Enclosed please find 15 ideas to consider as project proposals for the Restoration Phase. Please note:

1) The proposal for a "Workshop to identify critical habitats. ." is a request for funding this year if monies are still available. As we discussed last month, this workshop is in the planning stages and scheduled to be held in October 1992. Funds received in 1993 could be used to assist the publication.

2) The proposal titled "Public-access Repository for Spill-related Geographic Information" has already been submitted directly to your office by Mr. Randy Hagenstein. I include it with our proposals because of our association with the project.

Thank you for this opportunity to contribute ideas.

Sincerely,

G L Thomas (ND)

G.L. Thomas, Ph.D.
Director

Enclosures

AGENDA
EXXON VALDEZ OIL SPILL SETTLEMENT
TRUSTEE COUNCIL

June 29, 1992

TRUSTEE COUNCIL MEMBERS:

MICHAEL A. BARTON
Regional Forester, Alaska Region
USDA Forest Service

CHARLES E. COLE
Attorney General
State of Alaska

CURTIS V. MCVEE
Special Assistant to the Secretary
U.S. Department of the Interior

STEVEN PENNOYER
Director, Alaska Region
National Marine Fisheries Service

CARL L. ROSIER
Commissioner
Alaska Department of Fish & Game

JOHN A. SANDOR
Commissioner
Alaska Department of Environmental Conservation

June 29,1992 @8:00am

1. 8:00-9:00 Public Comments

2. Status of the Public Participation Working Group - **Marty Rutherford**
   -Public nomination process
   -Public comment on designated seats

3. 1992 Draft Work Plan - **Byron Morris**
   -Review and analysis of public response
   -Approval of final 1992 Work Plan

4. Proposed Process for the Development of the 1993 Work Plan - **Jerome Montague**

5. Status of the Habitat Protection Working Group - **Dave Gibbons**

6. Status of Symposium - **Byron Morris**

7. EIS Options for Draft Restoration Plan - **Ken Rice**

8. August 3 Teleconference for final Budget Approval - **Dave Gibbons**

9. Financial Operating Procedures - **David Gentry**

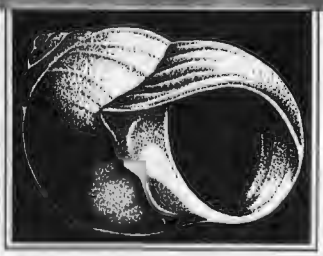
10. Trustee Council Executive Session
    -Working Group Membership
    -Public Advisory Group Members

11. 5:00-7:00 pm Public Comments

JUN 22 RECD

Document ID Number
92-022326

- A - 92 WPWG
- B - 93 WPWG
- C - EPWG
- D - PAG
- E - MISC.



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SCIENCE CENTER
CORDOVA, ALASKA

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

TO: Dave Gibbons
Interim Admin. Director
Exxon Valdez Oil Spill
Restoration Team
645 G Street
Anchorage, AK 99501

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Prince William Sound Science Center

Justification: (Link to Injured Resource or Service)

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

15 projects - abbreviated titles

✓01) Workshop on critical habitats PWS

✓02) Fund PWS Oil Spill Recovery Institute

03) Build PWS Science Center facility

✓04) Test ecosystem model

05) Develop video library of intertidal habitat

06) Experimental Designs and Statistical Procedures - software development

✓07) Characterization of nearshore bottom habitat / crit. habitat

✓08) Multi-agency / university ecosystem study of PWS.

09) Interactive public access to data in PWS Center GIS

10 - 15 (over)

→ over

Estimated Duration of Project:

Estimated Cost per Year:

Other Comments:

Note: Use Duplicate # 9206223 26 sub #6 of 01-15 and used form for this

Name, Address, Telephone:

Dr. G. L. Thomas
PO Box 705
Cordova, AK 99574

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10) Mapping streams, natural salmon spawning distributions @ PWS.

11) Natural resource library and approp services for Cordova area.

12) Build "Imaginarium"

13) Science & the Sound education program

14) Alaska Oil Spill Curriculum - rewrite, reprint

15) Hagenstein - duplicate of (9206081 91)

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Exxon Valdez Trustee Council
645 G St.
Anchorage, Alaska 99501

Attn: 1993 Work Plan

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JUN 15 REC'D

Document ID Number
92061S269
☐ A-92 WPWG
☑ B-93 WPWG
☐ C-RPWG
☐ D-PAG
☐ E-MISC.

June 15, 1992

Dave R. Gibbons, Ph.D.
Interim Administrative Director
Exxon Valdez Oil Spill Restoration Team
645 "G" Street
Anchorage, AK 99501

Dear Dr. Gibbons:

Enclosed please find 15 ideas to consider as project proposals for the Restoration Phase. Please note:

1) The proposal for a "Workshop to identify critical habitats. ." is a request for funding this year if monies are still available. As we discussed last month, this workshop is in the planning stages and scheduled to be held in October 1992. Funds received in 1993 could be used to assist the publication.

2) The proposal titled "Public-access Repository for Spill-related Geographic Information" has already been submitted directly to your office by Mr. Randy Hagenstein. I include it with our proposals because of our association with the project.

Thank you for this opportunity to contribute ideas.

Sincerely,

G.L. Thomas (ND)

G.L. Thomas, Ph.D.
Director

Enclosures

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: A Workshop to Identify Critical Habitats in Prince William Sound's Temperate Rainforests for Fish, Wildlife and Human Resources.

Justification: The 1989 oil spill's impacts on fish, wildlife and human resources are outlined in the Restoration Framework Vol. I document. Prince William Sound's forests are the most northerly extension of temperate rain forest in North America and provide critical habitat for fish and wildlife. Increased logging activities are planned in the region which may further aggravate the impacts already sustained by the fish and wildlife. The impacts of increased logging activities on the fish and wildlife are of paramount importance because of the commercial, recreational and subsistence demands for renewable fish and wildlife resources.

Description of Project: (e.g. goals(s), objectives, location, rationale and technical approach)

Goal - To define the scientific basis for demonstrating a biological impact of logging on fish and wildlife resources, the nature and magnitude of the impact and identifying information available or missing to answer these questions specifically related to Prince William Sound and the oil-impacted region.

Objectives - To examine evidence, or lack of, that logging practices are affecting the fish and wildlife resources in Prince William Sound and the oil-impacted region and, within this context, to discuss:

1) the definition, identification and mapping of critical habitat to exclude from logging efforts,
2) the modification of specific logging practices (i.e., buffer strips, road building, slash removal),
3) recommendations for future research and possible actions to protect fish and wildlife production in the region.

Methods - A workshop of international and national experts in the fields of forestry, fish and wildlife will be convened. The participants will prepare papers and bring information related to the workshop's goal and objectives. Participants will be divided into regional working groups on the second and third days of the workshop with an objective of each group producing a paper that provides a general overview of impacts of logging, the critical habitat that should be excluded from logging, the practices that should be instituted to protect fish and wildlife habitat and areas of action or non-action.

Workshop organizers will encourage participants to reach consensus on the status of this issue. However, in recognition of the complexity of this issue and the limited amount of synoptic information to evaluate it, differences of opinion which cannot be resolved will be noted and used to develop future research projects that will fill in the gaps in our base of knowledge.

Following the workshop, a publication will be compiled which will include a variety of the papers presented during the workshop and the group papers produced during the session. This publication will serve an important function in disseminating information to the public on the issue of critical habitats for fish and wildlife. The workshop and the publication will provide the Trustee Council with the most up-to-date information on this critical issue.

Estimated Duration of Project: Two years - Year 1 (1992): Planning and workshop
Year 2: Completion of publication

Estimated Cost per Year: $25,000 plus matching commitments from several private foundations and businesses.

Other Comments: Detailed proposal available upon request.

Name, Address, Telephone:

Dr. G.L. Thomas, Director
Nancy Bird, Administrative Coordinator
Prince William Sound Science Center
P.O. Box 705
Cordova, AK 99574
(907) 424-5800

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Provide full funding to the Prince William Sound Oil Spill Recovery Institute (Oil Spill Recovery Institute).

Justification: The Oil Spill Recovery Institute was established by the Oil Pollution Act of 1990 to carry-out long-term damage assessment of the EXXON VALDEZ oil spill and research and development of oil clean-up technologies in the arctic and subarctic.

Description of Project: Congress has authorized the federal government to spend $23 million over a 10-year period to operate the Oil Spill Recovery Institute. The Institute was established by the National Oceanographic and Atmospheric Administration in a cooperative agreement with the PWS Science Center, and the Advisory Board has been chosen, in accordance to the Oil Pollution Act of 1990. The Advisory Board includes representatives from the federal agencies, state agencies, Alaska Natives, citizens from the affected communities, the University of Alaska, and the Science Center. The Institute expects full funding from the Trustees in accordance with the authorization given in the Oil Pollution Act of 1990.

The Oil Pollution Act of 1990, provides the federal Trustees the necessary authorization to obligate $23 million of the criminal restitution settlement funds to support the Oil Spill Recovery Institute for a period of 10 years.

The Advisory Board anxiously awaits recognition and cooperation by the Trustees, and compliance with the Oil Spill Pollution Act of 1990.

Estimated Duration of Project: 10 years

Estimated costs per Year: $5 million year 1, $2 million in subsequent years, in accordance with the Oil Pollution Act of 1990.

Other comments: Copies of the Cooperative Agreement, Oil Pollution Act of 1990, and other information are available upon request.

Name, Address, Telephone:

Dr. G.L. Thomas, Director
Prince William Sound Science Center
P.O. Box 705
Cordova, AK 99574
(907) 424-5800 - FAX 424-5820

Dr. John Calder, Acting Chair of the Advisory Board
National Oceanic and Atmospheric Administration
1335 EW HWY R/PDC Room 4335
Silver Springs, Maryland 20910
(301) 713-2465, -2666 fax

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Provide funding from the Civil penalties to build a facility for the Prince William Sound Oil Spill Recovery Institute (Oil Spill Recovery Institute) in Cordova, AK.

Justification: The Oil Spill Recovery Institute was established by the Oil Pollution Act of 1990 to carry-out long-term damage assessment of the EXXON VALDEZ oil spill and research and development of oil clean-up technologies in the arctic and subarctic.

Description of Project: The Oil Pollution Act of 1990 did not authorize funding to build a permanent facility. Since the damage assessment and restoration may take longer than the 10 year funding period, and the building of a permanent facility would enhance the Institute's ability to raise continued support after 10 years, and the state has no other facility dedicated to conduct long-term oil spill research and development, it may be prudent to allocate funds from the joint civil penalty settlement to build a facility as opposed to leasing space from the Science Center.

Many of the researchers conducting damage assessment projects in the Sound used Science Center, Alaska Fish and Game, and other make-shift facilities to conduct carry-out field work, but the lack of adequate laboratory facilities required they take live (or otherwise) specimens out of the area (often out of state) for bioassay and analytical work. Many expressed disappointment that such facilities were not available in the Cordova area and that the quality of the research would be improved by the availability of local facilities. The Science Center has had discussions with other organizations in Cordova, Alaska Fish and Game, the Copper River Delta Institute, Department of Environmental Quality, the Forest Service, suggesting that such a facility would be widely supported and greatly enhance the local capability to conduct scientific investigation.

Other comments: A detailed proposal was prepared by McLellan & Copenhagen, Inc. (San Francisco), Minch Ritter Voelckers Architects (Juneau), and HMS, Inc. (Cost Estimators - Anchorage) and is available upon request.

Name, Address, Telephone:

Dr. G.L. Thomas, Director
Prince William Sound Science Center
P.O. Box 705
Cordova, AK 99574
(907) 424-5800 - FAX 424-5820

Dr. John Calder, Acting Chair of the Advisory Board
National Oceanic and Atmospheric Administration
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Silver Springs, Maryland 20910
(301) 713-2465, -2666 fax

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Testing of the Patch-response/Patch dependence hypothesis - the testing of an ecosystem model.

Justification: Patchiness of nekton is a critical aspect to the survival of its predators. Nekton patchiness is primarily a function of the available light. The direct affect of an oil spill is to reduce the available light which affects patchiness and survival of its predators. This damage was not assessed for lack of a representative model.

Description of Project: Although there is limited understanding of how physical processes, both direct and indirect, influence the success of individual animals in the sea (GLOBEC 1991), it has been long recognized that the phenomenon of "patchiness" of prey in the sea explains the basis for survival of pelagic marine organisms, and it is now believed that herein lies the key to understanding more about feeding, reproduction and survivorship (Hunter and Thomas 1973). Given the importance of "patchiness," I propose that the approach to advancing our understanding of marine ecosystems is to study: (1) how the distribution of animals in the sea respond to ocean physics, or what I call the "patch-response hypothesis," and (2) how predators depend on patch configurations, or what I have termed the "patch-dependence hypothesis."

The "patch-response" and "patch-dependence" hypotheses are ecologically linked phenomenon. Hypothetically, patch-response can be described as: good-weather/big-patches, versus bad-weather/small-patch, or possibly no-patch. For instance, during mild weather patterns (periods of time with a low frequency and severity of storms), large patches of micro- and macrozooplankton have time to form. In contrast, in severe weather patterns, patches are dispersed by the physical forces created by storms making patches either smaller or nonexistent. In terms of the oil spill impact you would model the areas under the canopy of oil as bad years, and test to see if the patches at the edge of the spill were artificially enhanced by horizontal migration.

Hypothetically, patch-dependence can be described as: big-patches promotes fast-growth and high-survival, versus small-patches yields slow-growth and moderate-survival, and where there are no-patches there is no survival. Thus, I advance two ecologically linked hypotheses, that are both testable.

These hypotheses are testable by the fact that patch characteristics of length , width, depth, volume, density, and distribution are all measurable with multi-frequency acoustics and line transect theory. By collecting the quasi-continuous acoustic measurements to provide the large scale measures of the patches, simultaneous with water quality indices and GPS measures of location and time, the hypotheses are testable by collecting a time series of transects through the study area and monitoring weather conditions. A distinct advantage of having the large scale distribution of patches is that it enables optimal sampling of the patches for biological information with the traditional discrete sampling techniques that are always questioned as to their representativeness. Towed video systems are replacing some discrete "ground truthing" techniques, but so are the development of discriminate functions to classify acoustic targets to species.

Estimated Duration of Project: 10 years

Estimated costs per Year: $ 487,632

Name, Address, Telephone:

Dr. G.L. Thomas, Director
Prince William Sound Science Center
P.O. Box 705
Cordova, AK 99574
(907) 424-5800 - FAX 424-5820

Dr. R.T. Cooney, Professor
Institute of Marine Science
University of Alaska Fairbanks
Fairbanks, Alaska
(907) 474-7407

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Development of a video library of intertidal habitat and biota to assess the magnitude of the oil spill impact and determine long-term recovery.

Justification: The development of a video library of the intertidal habitat in Prince William Sound would be linked to damaged resources and provide a service to continued damage assessment and future restoration projects.

Description of Project: The difficulty in obtaining large-scale information to classify and map intertidal habitat has been overcome with the use of geo-time coded video recorders. Just as satellites and aerial photography provide maps of information on terrestrial habitats, geo-time coded video can be used to develop libraries of shoreline habitat and the biota for specific analysis or post-processing assessments.

The quantification of the intertidal substrate and classifying substrate by testing the "substrate-dependence hypothesis" is directly applicable to the long-term assessment of the oil spill and evaluation of future spill impacts.

I propose to video-scan intertidal areas of Prince William Sound to develop an optical record of the type and quality of intertidal habitat and organisms present. Video-scanning will be systematically conducted to cover the entire shoreline of Prince William Sound and optimally placed subsamples will be collected for biological information by zooming in a standard quadrat. This video library can be poststratified and processed using multi-media and digitizing software to create highly accurate maps of intertidal habitat and stock assessment of organisms. However, I propose only to analyze large scale data for this task, and not process the subsample information. This data will be available for processing at a future date if needed for damage or restoration assessment.

Other comments: The Science Center would work cooperatively with University of Alaska Fairbanks to produce a testable intertidal model for Prince William Sound. Intertidal habitat maps will be generated with the Center's GIS facility. A detailed proposal on the model and field testing procedures are available from Dr. G.L. Thomas at the Science Center.

Estimated Duration of Project: 10 years

Estimated costs per Year: $155,111

Name, Address, Telephone:

Dr. G.L. Thomas, Director
Prince William Sound Science Center
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Cordova, AK 99574
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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Experimental Designs and Statistical Procedures for damage for oil spill cleanup and restoration projects.

Justification: Damage assessment and restoration data are being stored in geographic information systems which have limited statistical procedures developed for their analysis. The development of statistical software for analysis would provide a service to continued damage assessment and restoration activities.

Description of Project: The collection of quasi-continuous measurements on the abundance and distribution of fish and wildlife assemblages using optical and acoustical methods have the potential to allow for a more representative analysis of environmental impacts, such as oil spill impacts. The gradients provided by quasi-continuous data eliminates the need for spatially limited control sites, such as used in the modified before-after-control-impact (BACI) experimental design.

We propose to develop an experimental design that uses the before and after comparison, but avoids the pitfalls of controls by examining the test statistic through its natural environment, or the before-after, natural-design, assessment of impact damage BANDAID). Test statistic gradients allow for trend detection with distance from the site of impact and the geographical information system allows analysis in real space. By stratifying affected from the unaffected or natural areas, and defining the independent sample unit size via auto-correlation techniques, computer-intensive, natural-distribution, resampling procedures can be used to test specific hypotheses concerning damage and restoration of habitat and organisms, or subsets thereof. Simulations with BANDAID will allow for developing impact assessment plans for different spill scenarios.

The estimation methods we plan to employ are Kriging and maximum likelihood estimation. Both have been used before for the analysis of geographic information system data, and Crittenden (1989) and others have employed kriging for the analysis of acoustic data on fish numbers. The kriging methodology is gaining acceptance in field and Lunetta et al. (1991) reviewed the current methods for analyzing geographic environmental data, and strongly advise their use.

Estimated Duration of Project: 3 years

Estimated costs per Year: $77,394

Other comments: The Science Center would work cooperatively with Dr. Robert Crittenden at Simon Fraser University to produce an interactive experimental design to test GIS data for oil spill impact. A detailed proposal on the experimental design of this and field testing procedures are available from Dr. G.L. Thomas at the Science Center.

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Characterization of nearshore bottom habitat in the PWS and its classification as critical habitat to marine species.

Justification: This work is linked with injured resources and will provide a service.

Description of Project: Many fish species reside too close to rough bottoms to be monitored for their stock size. In the absence of assessment information, management loses its ability to protect the resource from over-exploitation, or in this case assess environmental impacts of an oil spill. Theoretical models for estimating fish stocks seldom consider habitat parameters, yet the literature links many demersal fishes to specific bottom habitats.

For many bottom fishes that are territorial, it is generally believed that maximum densities can be determined behaviorally. This "substrate-dependence hypothesis" may be the key to understanding more about feeding, reproduction and survivorship of near-bottom fishes and possibly invertebrates. Given the importance of knowing the distribution and amount of bottom habitat, I propose that the approach to advancing our understanding of demersal fish is to develop: (1) highly accurate maps of the near-shore bottom types, conduct extensive "bottom habitat mapping," and to (2) study how animals depend on specific bottom habitats for growth and survival, or test what I have termed the "substrate-dependence hypothesis."

The use of acoustic techniques to study the geological features and makeup of the ocean bottom is well established, (Hamilton 1980). This process is often called "provincing," that is the ocean bottom is divided into acoustic scattering classes that have naval and commercial applications. Both organic depositions from biological activity, and inorganic (lithograph) depositions, that are transported by river outflows and glacial erosion, modify the acoustic reflectivity of the seabed. For example, Jackson and Nesbitt (1988) have observed a significant reduction in acoustic reflection from the bottom of biologically active marine waters. Here bioturbation, or the process of stirring up organic matter by benthic organisms, "softens" the interface between the water column and bottom substrate resulting in a decrease in acoustic reflection. Other details of the bottom, such as the degree of homogeneity of the bottom material can be inferred from the structure of the bottom echoes. For example, the first part of the acoustic echo from the bottom is caused by the water-bottom interface, with the latter portions of the echo caused by scattering from elements within the bottom substrate.

I propose to develop algorithms to interpret acoustic returns or echoes from the bottom to predict bottom substrate type. The focus of this work will be the classifying of the surface sediments that compose the top 1 m or less of the seabed which are of primary interest to the biological resources and environmental assessment community. This task focuses on the use of acoustic backscattering information from the bottom substrate, structure, and vegetation in the nearshore marine environment in order to classify and quantify habitats that are important to fish and invertebrates.

Estimated Duration of Project: 5 years

Estimated costs per Year: $237,400 first year, $174,000 subsequent years.

Other comments: This project will be conducted in cooperation with Dr. Peter Dahl at the Applied Physics Laboratory in Seattle, the Alaska Dept. of Fish & Game, and the Auke Bay Laboratory, National Marine Fisheries Service.

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: A multi-agency/university ecosystem study of Prince William Sound

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Justification: The need for testable, functional response models of ecosystem processes in Prince William Sound were identified as necessary to determine impacts of the oil spill in the 1990 conference on research in the Prince William Sound, the 1991 workshop on Hatchery and Wild Salmon, and by the oil spill damage assessment program.

Description of the Project:

There is a need for more comprehensive, large scale, high resolution, and synoptic information than is available to truly understand the oil spill impacts on the ecosystem. This view is corroborated by the National Science Foundation GLOBEC reports on determining the impact of climate change on ocean ecosystems (1991).

The development of ecosystem models requires the use of many different measurement tools which have the power to provide large-scale and high-resolution information which is quasi-continuous in space, synoptic in time, rapid, and cost-effective. The accepted measurement technologies for such a task are optical and acoustical data acquisition systems.

We propose the use of satellite, aerial, and underwater acoustic-optical sampling to map habitats, stationary resources, and mobile resource to determine their response to environmental changes. Data will be fused into a GIS using geo-time coding information.

The research team is multi-organizational:

- Dr. G.L. Thomas (Director, acoustics, Science Center),
- Dr. Ted Cooney (Professor, biological oceanographer, University of Alaska Fairbanks),
- Dr. Larry Pank (M. Mammals and Birds, USFWS, Anchorage),
- Dr. Douglas Eggers (population models, ADF&G),
- Auke Bay Laboratory, NMFS, Marine Resources, Juneau,
- U.S. Forest Service, coastal watersheds, Juneau.

Estimated Duration of Project: 9 years

Estimated costs per Year: $6,000,000 ($1,000,000 each organization)

Other comments: The Science Center, as an independent non-profit, will take the lead, but all parties will participate in the modeling.

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Dr. R.T. Cooney, Professor
Institute of Marine Science
University of Alaska Fairbanks
Fairbanks, Alaska
(907) 474-7407

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title: Interactive public access to oil spill and related environmental data in the Prince William Sound Science Center geographic information system.

Justification: Continued damage assessment and restoration projects conducted in the Cordova area need geographic information system support.

Description of Project: Use a microwave communication system between the Science Center and the Alaska Fish and Game, Copper River Delta Institute, Prince William Sound Aquaculture Corporation to allow access of the Science Center geographic information system. The Science Center is using ARC/INFO which can be accessed using ArcView software from satellite personal computers of either IBM or Macintosh format.

Estimated Duration of Project: 1 year

Estimated costs per Year: $80,000

Other comments: This project will be conducted in cooperation with Mr. Sam Sharr and Mr. Wayne Donaldson at Alaska Fish and Game, Dr. Mary Anne Bishop at the Copper River Delta Institute, Mr. Jeff Olsen at the Prince William Sound Aquaculture Corporation, Mr. Randy Hagenstein, Science Center consultant.

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title: Mapping the streams and natural salmon spawning distributions in Prince William Sound.

Justification: Continued damage assessment and restoration projects conducted in the Cordova area need geographic information system support. Natural spawning populations of salmon were negatively impacted by the oil spill and the mapping of the natural spawning streams and escapements over the Sound is needed for monitoring damage assessment and evaluating restoration. This task was also identified as an important step in understanding environmental impacts on wild fish in the 1991 Hatchery-Wild fish workshop co-sponsored by the University of Alaska-Juneau and the Prince William Sound Science Center.

Description of Project: Develop maps of the spawning distribution and escapements of wild salmon in Prince William Sound using ARC/INFO software.

Estimated Duration of Project: 5 years

Estimated costs per Year: $90,000

Other comments: This project will be conducted in cooperation with Mr. Sam Sharr and Mr. Wayne Donaldson at Alaska Fish and Game, Mr. Jeff Olsen at the Prince William Sound Aquaculture Corporation, and Mr. Randy Hagenstein, Science Center consultant.

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title: Establishment of a natural resource library and computer support technical service in Cordova to assist the management and research of oil spill damaged natural resources.

Justification: Needed for researchers in the Cordova area to carry-out damage assessment and restoration activities.

Description of Project: Build a natural sciences library of relevant journals and books to support local researchers and managers and hire a full-time computer/librarian to provide technical support. About 100 researchers, managers, and teachers work in the Cordova area with the responsibility to conduct projects on renewable natural resources. A science library and reading room is desperately needed to improve the quality of the research and management responsibilities. The continuation of damage assessment and startup of restoration projects would be greatly enhanced by the development of a library with current periodicals on timber, fish and wildlife subjects, and a full-time a computer support/librarian to provide needed technical support.

Estimated Duration of Project: 9 years

Estimated costs per Year: First year $450,000, subsequent years $100,000.

Other comments: This project will be conducted in cooperation with Mr. Sam Sharr and Mr. Wayne Donaldson at Alaska Fish and Game, Dr. Mary Anne Bishop at the Copper River Delta Institute, Mr. Jeff Olsen at the Prince William Sound Aquaculture Corporation, Mr. Randy Hagenstein, Science Center consultant.

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Cordova's Mini Imaginarium

Justification: Service and education -- To understand the impacts of the EXXON VALDEZ oil spill and ongoing activities to restore the damage.

Description of Project: (e.g. goals(s), objectives, location, rationale and technical approach)

Everyone loves "hands-on" experiences. The best possible way to help someone learn is to provide them with an experience they can see, hear, smell and feel. The oil spill had a tremendous impact upon Prince William Sound and its communities. A mini-imaginarium in Cordova would provide the perfect means to help residents and visitors, young and old, learn more about the Sound and the impacts of the oil spill.

The mini-imaginarium would be modelled after the very successful Anchorage Imaginarium. Realistic displays and hands-on activities exploring our abundant and diverse wildlife, varied habitats, oil spills and other hazarouds waste problems, impacts, response mechanisms, clean-up technology, energy conservation, among others, would be exhibited.

The project would be completed over a period of two years. The first year would be dedicated to planning which would include building plans and renovations. The second year would be dedicated to creating exhibits and interpretive displays, acquiring educational materials and hiring and training staff.

The mini-imaginarium, potentially located on the docks of Cordova next to the Prince William Sound Science Center, would be a first-rate creative learning environment providing valuable experiences in oil-related areas, encouraging a better understanding of Prince William Sound and promoting educated decision-making for all ages.

Estimated Duration of Project: Two years for planning and set-up; ongoing support will be sought from other funding sources.

Estimated Cost per Year: $62,589 each year

Other Comments: A cooperative agreement is being established with the U.S. Forest Service, Chugach Ranger District, acknowledging 1) the need for an imaginarium/environmental education center, and 2) the willingness of both parties to work together to fulfill this need. Negotiations are underway for the use of a Forest Service warehouse as the basic structure.

More detailed information is available from the Science Center's Education Coordinator, Beth Trowbridge.

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Beth Trowbridge, Education Coordinator
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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Science of the Sound education program

Justification: Service and education -- To understand the impacts of the EXXON VALDEZ oil spill and ongoing activities to restore the damage.

Description of Project: (e.g. goals(s), objectives, location, rationale and technical approach)

Cordova's physical location provides tremendous opportunities for learning about both terrestrial and marine ecosystems. There are few places left in the world that can boast of such a variety of pristine habitats. A major shock to the ecosystem occurred in 1989 when the Exxon Valdez spilled nearly 11 million gallons of crude oil into Prince William Sound. The spill affected hundreds of miles of marine waters and beaches and severely impacted fish, seabird, waterfowl and marine mammal populations. This oil spill dramatically reinforced the benefits of pollution prevention and oil spill related education.

Goals for the *Science of the Sound* environmental education program are to: 1) foster a better understanding of the local environment through hands-on learning, 2) improve the science education curriculum available to students, 3) establish a community science resource room in a central location providing easy access for the general public, teachers and students to science education books, interactive displays and multi-media materials, 4) provide a forum where residents and visiting scientists can share knowledge with students and the general public, 5) building partnerships with local agencies, and 6) serve as a pilot community environmental education program, particularly for other coastal towns in Prince William Sound and the oil-spill impacted region. The *Science of the Sound* program will consist of three major activities: 1) The After-school Science Club, 2) the Science Resource Room/Adopt-a-Scientist program and 3) an Evening Science Lecture Series.

Estimated Duration of Project: 10 years

Estimated Cost per Year: $52,546

Other Comments: The After-School Science Club was piloted during 1991-92 school year with great success. Additional funding is needed to continue into the next school year. The Science Resource Room and Adopt-a-Scientist program has been in the planning stages and has wide, strong support from lthe local school district and teachers. The Evening Science Lecture Series was successfully run during 1990 but needs additional funding to continue. More detailed descriptions of these programs can be obtained from the Prince William Sound Science Center.

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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Alaska Oil Spill Curriculum Rewrite and Reprint

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Justification: Service and education -- To understand the impacts of the EXXON VALDEZ oil spill and ongoing activities to restore the damage.

Description of Project: (e.g. goals(s), objectives, location, rationale and technical approach)

The goal of this project is to: 1) complete a revision for each of the four sections of the Alaska Oil Spill Curriculum (pre-school, Kindergarten-3rd grade, 4th-6th grade, and 7th-12th grade) using evaluations received and comments from workshop attendees and instructors; and 2) provide a series of teacher-training workshops in key locations in Prince William Sound, Alaska and the Lower-48 to give guidance on usage of the curriculum materials.

In order to be truly effective, the pilot curriculum was designed to be tested in the classroom, then revised based on teachers' responses and updated to include current relevant events. This curriculum was written by a group of concerned educators in 1989-90 and has been distributed nationally. Evaluation forms have been received from some of the users and will be reviewed by the writing team. We propose the project to also include a series of workshops will be held during the first year to gather more specific input for the revision. These comments will be reviewed with the evaluation forms and improvements to the curriculum will be refined. Once revised, the curriculum will be reprinted and distributed nationally.

Educators throughout Alaska, the Lower-48, and even internationally, have requested copies of this curriculum. The lesson plans emphasize both prevention measures and energy conservation. The curriculum is accompanied by two videos and other background materials.

A rewrite is absolutely critical to ensure that educators have the best possible tool to help our future decision-makers understand oil-related issues and concerns.

Estimated Duration of Project: 2 years

Estimated Cost per Year: $49,500

Other Comments: During the spring of 1990, the Prince William Sound Science Center, in cooperation with the Prince William Sound Community College, published the pilot curriculum. The curriculum includes hands-on activities presented in an easy-to-read, easy-to-use format.

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Randall H. Hagenstein
P.O. Box 100358
Anchorage, AK 99510-0358
(907) 561-2755

6 June 1992

Dr. Dave Gibbons
Interim Administrative Director
Exxon Valdez Oil Spill Restoration Team
645 G Street
Anchorage, Alaska 99501

Dear Dr. Gibbons:

I have enclosed an "Idea for Restoration" in response to your request mailed in May 1992. The proposed project includes ideas for providing technical assistance in analysis of GIS datasets and responding to the long-term needs for archiving, retrieving, and providing public access to these datasets.

As you may know, the Prince William Sound Science Center, Conservation International and Ecotrust have been jointly developing a GIS database and capabilities for the greater Prince William Sound ecosystem. The combined database and capabilities that we have assembled over the past 18 months can be a strong asset for the Trustees and Restoration Team to draw from and build on. I have briefly discussed the possibility of participating in the restoration effort with Mark Broderson and Jim Slocomb.

I look forward to the chance to discuss opportunities for collaboration. Do not hesitate to call if you would like additional information on the GIS project.

Sincerely,

Randall Hagenstein
GIS Development Specialist

cc: Mark Broderson
Gary Thomas, PWS Science Center
Spencer Beebe, Arthur Dye, Ecotrust

encl: Idea for Restoration

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

Title of Project: Public-access Repository for Spill-related Geographic Information

Justification:

Management of geographic information system (GIS) data related to the Exxon Valdez oil spill has been handled by a number of different state and federal agencies. As we move into the restoration phase of the post-spill era, the question of how to store, index, retrieve, and provide access to these databases looms. At the same time, most of the agencies responsible for managing spill-related GIS data are scaling back efforts, reducing staffing levels, and shifting resources into other areas. The users of these databases are also shifting as we move from damage assessment to restoration; increasingly, the Trustees Council and Restoration Planning staff, non-agency organizations such as the Regional Citizens Advisory Council and the Oil Spill Recovery Institute, and the general public will have a need to have access to GIS data and capabilities. Further, the recent move to release damage assessment data has guaranteed a demand for data without establishing a mechanism for providing access to much of this data. In summary, spill-related GIS data is currently managed in scattered locations, maintaining these scattered and overlapping databases is difficult, and issues of public access to these databases has not been resolved. This proposal provides a mechanism to address these problems and creates a bridge between the Trustees and the public with respect to spill-related GIS databases.

Description of Project:

The Prince William Sound Science Center, Conservation International, and Ecotrust have jointly developed a geographic database and GIS capacity based in Anchorage. Data from a variety of agency sources have been integrated into this combined database for Prince William Sound. We propose to use this database as a foundation for continuing to combine data from various agency sources and to provide access to government agencies, researchers, educational organizations, community groups, and others.

Specifically, we recommend establishment of a GIS data repository for geographic data generated by or in support of the response, damage assessment, and restoration phases of work following the wreck of the Exxon Valdez. The data repository will exist outside of and in addition to the GIS databases related to the spill currently held by the various agencies. This is not meant to replace GIS programs at various government agencies, but to provide a general and long-term repository of data for planning, research, and educational purposes. Such a GIS data repository will:

- o provide a centralized location for archiving, managing, and using GIS data currently held by numerous state and federal agencies;

- o ensure long-term management of these datasets in an environment that is not constrained by the whims of agency funding or philosophy;
- o create a channel of access to these datasets for various organizations, researchers, and the public; and
- o provide technical services and products for those groups that do not have the technical expertise to effectively access and use the oil spill databases.

The Prince William Sound GIS already contains many of the GIS databases related to the spill that were not constrained by litigation sensitivity. Additional datasets within the Sound have also been compiled into the database over the past 18 months from a variety of agency sources. This proposal will allow the Trustees to capitalize on this considerable investment in data acquisition and processing.

The staff and facilities of the Prince William Sound GIS could also be used by the GIS staff of the Restoration Planning Group for technical assistance, data sharing, and cooperative projects as need dictates. This cooperation has already been occurring on a limited and informal basis. A more formal relationship would give the Restoration Planning Group the flexibility to draw on additional GIS resources for specific projects in a cooperative environment.

Estimated Duration of Project:

This proposal recommends creation of a permanent means for data archiving and access. The project would receive support from the Oil Spill Trustees throughout the duration of the restoration effort.

Estimated Cost per Year:

First year funding needs are estimated at $100,000 with allocations of $50,000 per year for subsequent years.

Other Comments:

We are very interested in working with the Trustees to seek additional sources of funds to build on our existing effort to build a comprehensive GIS database for Prince William Sound.

Submitted by:

Prince William Sound GIS Project
on behalf of the Prince William Sound
Science Center, Conservation
International, and Ecotrust

Contact:

Randall Hagenstein
P.O. Box 100358
Anchorage, AK 99510
(907) 561-2755

92061 5286-01

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Hydropower Projects and Intertie - 4 projects

Justification: (Link to Injured Resource or Service)

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

1) Silver Lake Hydropower Project
2) Silver Lake Fish Hatchery
3) Power Creek Hydropower Project
4) Silver Lake to Ellamar to Tatitlek underwater Intertie

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

Thom Fischer
Whitewater Engineering
1050 Larrabee Ave
Suite 104-107
Bellingham WA
98225

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Exxon Valdez Trustee Council
645 G St.
Anchorage, Alaska 99501

Attn: 1993 Work Plan

WHITEWATER ENGINEERING CORP.

1050 LARRABEE AVE, SUITE 104-707
BELLINGHAM, WA. 98225
Ph (206) 733-3008, FAX (206) 733-3056

JUN 15 REC'D

DATE: June 15, 1992

FROM: Thom A. Fischer, P.E.

TO: Dave R. Gibbons, PhD

COMPANY: Exxon Valdez Oil Spill Restoration Team

PHONE No: 907-278-8012

NOTE: proposals for restoration projects

NUMBER OF PAGES INCLUDING THIS ONE: 5

RECEIVER'S FAX NUMBER: 1-907-276-7178

United States Department of Agriculture | Forest Service | Chugach National Forest | 201 E. 9th Ave. Suite 206 Anchorage, AK 99501

Reply to: 1900

Date: June 15, 1992

Exxon Valdez Oil Spill Trustee Council
645 "G" Street
Anchorage, Alaska 99501

Attn: Ideas For Restoration Projects

Dear Trustee Council:

Thank you for this opportunity to present Ideas For Restoration Projects for the 1993 work season. The Chugach National Forest staff has consolidated our ideas for presentation under one cover (see enclosures). We understand that each project idea will be evaluated on it's own merit and that we have no proprietary ownership in them. These ideas are all within the management responsibilities of the Chugach National Forest. Other agencies proposing similar projects for National Forest lands need to consider the Forest Service as the lead agency in a cooperative project.

These ideas represent our best shot at the resource needs of the Chugach National Forest. Many of these ideas have application to the entire oil spill area, but our emphasis has been on the resources of the Chugach National Forest. We are more familiar with the management needs of the area and we have primary responsibilities for the National Forest. Other agencies have the expertise in the remainder of the region and with the other resources.

We are interested in being significantly involved with the restoration program. It will be vital during the upcoming restoration program that management responsibilities of the land owner be considered in assignment of project management. Also, coordination and cooperation of all lead agencies in the gathering and sharing of information will be essential to accomplishing the best job. We must all work to insure that our management skills and knowledge be shared so that the resource and the public receives the utmost consideration and benefit of the projects that are selected for implementation.

If additional information or clarification on any of our ideas is needed please contact Ken Holbrook at 271-2819.

Sincerely,

BRUCE VAN ZEE
Forest Supervisor

Enclosures

92061S729

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATIO[N PROJECTS]

3 national parks proposals missing

Title of Project: Kodiak Project (

Justification: (Link to Injured Resource or Service)

Description of Project: (e.g. goal(s), objectives, location, ra[t...]

1) Red Lake Salmon Restoration
2) Red Lake Mitigation for Re[...]
3) Weir / Conservation Lane [...]
4) Coal Creek Pink Salmon Restoration
5) Horse Marine Creek Pink Salmon Restoration
6) Waterfall Creek Pink Salmon Restoration
7) Pink Creek Pink Salmon Restoration
8) Habitat Acquisition - No. Afognak Island
9) Kodiak Bear Refuge Stream Mouth Inholdings Aquisition
10) Ayakulik River Salmon Escapement Evaluation

~~[illegible]~~ (next page)

Estimated Duration of Project:

Estimated Cost per Year:

Other Comments:

Name, Address, Telephone:

Jerome Selby for others.

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Exxon Valdez Trustee Council
645 G St.
Anchorage, Alaska 99501

Attn: 1993 Work Plan

9206.15729

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Kodiak Project Proposals

Justification: (Link to Injured Resource or Service)

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

11) Organic Pollution Lawsuit

12) Habitat Acq. - Kodiak Area

13) Bald Eagle productivity survey

14) Sea Otter Population Survey

15) Breeding Requirements - Status Harlequin Ducks - Kodiak

16) Bald Eagle Nesting Surveys - Alaska Peninsula

17) Removal of Introduced Foxes

18) Reduce Disturbance from Marine Activities

19) Monitor Rate of Recovery Bivalves

20) Acquisition of Inholdings - Shuyak

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

Oil spill restoration is a public process. Your ideas and suggestions will not be proprietary, and you will not be given any exclusive right or privilege to them.

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Exxon Valdez Trustee Council
645 G St.
Anchorage, Alaska 99501

Attn: 1993 Work Plan

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Kodiak Project Proposals

Justification: (Link to Injured Resource or Service)

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

21) Acquisition of Recreational Sites on Kodiak Road System

22) Monitoring Sites - collector boards and Lagoons

23) Prevention and Response - Villages, Kitoi Bay Hatchery, Offices

24) ~~Start~~ Identifying early marine environmental parameters - Kitoi Bay, Kodiak

25) 13 Species Commercial Species assessment

26) New Orleans Fisheries Research Center

27) Archaeological Outreach - curator position

28) Existing Museum, Cultural Center

29) Enhancement of Pacific Herring

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

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FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Kodiak Project Proposals

Justification: (Link to Injured Resource or Service)

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

30) assessment and Quality Assurance of Shellfish Resources

31) Archaeological Site Inventory, Assessment

32) Integrated Public Information + Education Program - Kodiak College

33) Kodiak Island Borough - Endowment fund to support restoration activities

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

_____

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JUN 10 REC'D

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES

WALTER J. HICKEL,
GOVERNOR

RAPIFAX TRANSMITTAL SHEET

333 RASPBERRY ROAD
ANCHORAGE, ALASKA 99518-1599
FAX (907) 344-9238

To: EVOS RESTORATION TEAM Date: 6/10/92

276-7178 (FAX) No. Pages 7
(include this page)

From: TIM BAKER (267-2240 Phone)

ADF&G - COMMERCIAL FISHERIES

Message: IDEAS FOR RESTORATION PROJECTS.
(WILL BE MAILING ORIGINALS)

IF THERE ARE ANY PROBLEMS OR QUESTIONS,
Please call me.

Thanks,
Tim Baker

Document ID Number
92060231
- [ ] A-92 WPWG
- [x] B-93 WPWG
- [ ] C-RPWG
- [ ] D-PAG
- [ ] E-MISC.

920610231-01
-02
-03
-04
-05
-06

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Herring Projects (5) Clam Project (1)

Justification: (Link to Injured Resource or Service)

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

920610231-01) Six projects

01) PWS Herring Spawn Deposition Survey

02) PWS Herring Egg Loss Survey

03) Genetic Stock Identification PWS

04) PWS Herring Tagging feasibility Study

05) Larval Herring Age and growth PWS using otoliths.

06) Monitoring - Recruitment of Littleneck clams

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

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645 G St.
Anchorage, Alaska 99501

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92061022 9-01
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EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: 4 Projects

Justification: (Link to Injured Resource or Service)

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

1) Fucus Restoration Feasibility Study / 2 years - $70,000/annual

2) Fucus Recovery in Upper Intertidal Zones (NRDA continuation) / 2 years - $160,000/annual

3) Coastal Habitat Injury Assessment — Intertidal Algae / one year $620,000

4) Remote monitoring of Intertidal Recovery at affected Sites one year / $90,000

Estimated Duration of Project: 1+2 - 2 years, 3+4 - 1 year

Estimated Cost per Year:

Other Comments:

Name, Address, Telephone:

Dr. Michael S. Stekoll
Juneau Center for Fisheries and Ocean Sciences
Leg A Fbx School of Fisheries and Ocean Sciences
11120 Glacier Hiway
Juneau, AK 99801

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645 G St.
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Juneau Center for Fisheries and Ocean Sciences

School of Fisheries and Ocean Sciences
University of Alaska Fairbanks
11120 Glacier Highway
Juneau, Alaska 99801

(907) 789-4441 Office
(907) 789-4447 FAX

June 04, 1992

Dave Gibbons
Interim Administrative Director
Exxon Valdez Oil Spill Restoration Team
645 G Street
Anchorage, AK 99501

Dear Dr. Gibbons,

Enclosed are four proposed suggestions for restoration projects. Two of these are new proposals and two are for continuation of existing projects. One of the continuations is the NRDA Coastal Habitat Project. It is unclear to me whether we needed to submit this proposal to close out this project, but I included it just in case. Although I have submitted these as stand alone projects, I obviously would continue to cooperate with Ray Highsmith and others to economize budgets and to coordinate the presentation and synthesis of results.

Thank you for considering these proposals.

Sincerely,

Mike Stekoll

Dr. Michael S. Stekoll
Professor

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Dave Gibbons
Interim Administrative Director
Exxon Valdez Oil Spill Restoration Team
645 G Street
Anchorage, AK 99501

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B-93 WPWG
C- RPWG
D- PAG
E- MISC.

920601058-
(01-12)

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Projects submitted through Jerome Selby - Kodiak Borough

Justification: (Link to Injured Resource or Service)

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)

Dr. Robert S. Otto - ~~national~~ NOAA - Kodiak

01) Select critical sites for long term baseline data collection

02) Set up revolving fund for paying for baseline sampling and analysis

03) Support seawater research facility (NOAA suggestion)

04) analyze NRDA samples which were left un-analyzed due to time pressures

05) Sockeye Salmon Escapement Evaluation - Ayakulik River

06) Uganik River Fish counting weir

07) Use + Productivity of Bald Eagle Nest Sites - Kodiak area

08) Sea Otters in Kodiak Archipelago - Population Status/Trends

09) Native museum and culture center - Kodiak

over →

Estimated Duration of Project:

Estimated Cost per Year:

Other Comments:

Name, Address, Telephone:

Jerome Selby
Kodiak Island Borough
710 Mill Bay Rd.
Kodiak, AK 99615

Oil spill restoration is a public process. Your ideas and suggestions will not be proprietary, and you will not be given any exclusive right or privilege to them.

10) Land exchange Shuyak Island for land on Kodiak road system

11) Acquisition of recreational sites on Kodiak Road System

12) Public education / interpretation of archaeological resources in State ... (14 sites named)

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Anchorage, Alaska 99501

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Correspondence QA report

06/22/92
11:29:51
1

doc_id	lastname	firstname	company	street	city	st	zipcode	groups
920514001	Matkin	Craig	North Gulf Oceanic Society	P.O. Box 15244	Homer	AK	99603	B
920514004	Cooney	R. Ted	Institute of Marine Science UAF	University of Alaska Fairbanks	Fairbanks	AK	99775-1080	B
920514005	Matkin	Craig	None	P.O. Box 15244	Homer	Ak	99603	B
920514006	Hetrick	Jeff	Alaska AquaFarm	P.O. Box 7	Moose Pass	AK	99631	B
920514007	West	William	None	138 West Marydale Drive	Soldotna	AK	99669	B
920514008	Karcz	Steve	OSEI	P.O. Box 190151	Anchorage	AK	99519	AB
920514009	Wiley	Mike & Arlene	Seward Waterfront Lodging	550 Railway	Seward	AK	99664	B
920514010	van den Berg	David	None	2682 Gold Hill Road	Fairbanks	AK	99709	AB
920514011	Chenier	Robert	None	P.O. Box 39055	Ninilchik	AK	99639	AB
920514012	None	None	Friends of the Earth Northwest Office	4512 University Way NE	Seattle	WA	98105	B
920514013	Wickstrom	Gordon	None	P.O. Box 1795	Seward	AK	99664	B
920514014	Bronson	Michael	None	P.O. Box 2176	Palmer	AK	99645	AB
920515016	Jackson	Paul	The North Pacific Rim	3300 C Street	Anchorage	AK	99503	B
920526017	Nowicki	Mitchell	None	P.O. Box 2232	Cordove	AK	99574	AB
920526019	Provenzo	Therese	None	5000 N. Tonawanda Creek Road	N. Tonawanda	NY	14120-9536	AB
920526024	Frick	Cindy	None	12247 Crested Butte Drive	Eagle River	AK	99567	AB
920526026	Powell	Amy	None	P.O. Box 2285	Kodiak	AK	99615	AB
920526029	McKay	Peter	None	P. O. Box 8168	Nikiski	AK	99635	AB
920526031	Dekin	Albert	State University of New York	P. O. Box 6000	Binghamton	NY	13902-6000	B

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2

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920526033	Matkin	Olga and Craig	The North Gulf Oceanic Society	P. O. Box 15244	Homer	AK	99603	B
920526035	Olson	Marcus	None	Box 185	Barrett	MN	56311	AB
920526036	Booher	Sam	None	4387 Roswell Rd.	Augusta	GA	30907	AB
920526037	Jennings	Linda	None	4833 Maury Lane	Alexandria	VA	22304	AB
920526038	Murray	Remie	None	P.O. Box 2181	Kodiak	AK	99615	AB
920526039	Royer	Thomas	University of Alaska, Fairbanks	None	Fairbanks	AK	99775-1080	B
920527041	Moyer	Mike	None	5178 Shoreline Drive	Ketchikan	AK	99901	B
920527042	Paul	A.J.	University of Alaska, Fairbanks	None	P.O. Box 730	AK	99664	B
920528044	Holliday	G.H.	None	P.O. Box 1080	Tomball	TX	77377	B
920528045	Carlisle	Kelly	Mayor City of Whittier	P.O. Box 731	Whittier	AK	99693	AB
920601049	Redman	Wendy	University of Alaska Statewide System	None	Fairbanks	AK	99775	B
920601050	Griffin	Doug	Mayor City of Valdez	P.O. Box 307	Valdez	AK	99686	AB
920601051	Blackett	Roger	Kodiak St. Prks Citizen's Advisory Board	S.R. 3800	Kodiak	AK	99615	B
920601052	Walker	William	Hughes Thorsness Gantz Powell & Brundin	509 West Third Avenue	Anchorage	AK	99501-2273	AB
920601053	McMullin	John	PWS/Copper Rvr Reg. Salmon Planning Team	P.O. Box 1110	Cordova	AK	99574	AB
920601054	Jarrel	Gordon	University of Alaska Museum	907 Yudon drive	Fairbanks	AK	99775-1200	B
920601055	Harris	John	Mayor City of Valdez	None	Valdez	AK	99686	AB
920601056	Weaverling	Charles	Mayor City of Cordova	602 Railroad Avenue	Cordova	AK	99574	AB
920601057	Weaverling	Charles	Mayor City of Cordova	None	Cordova	AK	99574	BD

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doc_id	lastname	firstname	company	street	city	st	zipcode	groups
920601058	Otto	Robert	NOAA-Alaska Fisheries Science Center	P.O. Box 1638	Kodiak	AK	99615	AB
920601059	Rusher	Jerry	Rusher's Services	hC 33 box 2866	Wasilla	AK	99687	B
920601061	Rusher	Jerry	Rusher's Services	HC 33 Box 2866	Wasilla	AK	99687	B
920601062	Rusher	Jerry	Rusher's Services	HC 33 Box 2866	Wasilla	AK	99687	B
920601063	Rusher	Jerry	Rusher's Services	HC 33 Box 2866	Wasilla	AK	99687	B
920601064	Winchester	James	KCHU Radio	P.O. Box 467	Valdez	AK	99686	B
920601065	Redman	Wendy	University of Alaska Statewide Systems	910 Yukon Drive	Fairbanks	AK	99775-5560	B
920601066	Davis & Cronin	Steven & Matthew	LGL Alaska Research Associates, Inc.	Suite 101, 4175 Tudor Center Drive	Anchorage	Ak	99508	B
920601067	Cline	Dave	National Audubon Society	308 G Street, Suite 219	Anchorage	AK	99501	B
920601068	Gardner	Dale	None	P.O. Box 2-2712	Juneau	AK	99802	AB
920601070	Kuizenga	Marin	None	P.O. Box 84425	Fairbanks	AK	99708	AB
920601071	Brookman	Gerald	None	715 Muir Avenue	Kenai	AK	99611	ABCD
920601072	Bisco	Jack	None	P.O. Box 42 Torrey Hill Road	Turner	ME	04282	ABC
920601073	Brunetti	David	None	102 Arthur's Way	Pascoag	RI	02859	ABCD
920602079	Bishop & Baker	Mary Anne & Cal	Copper River Delta Institute	P.O. Box 1460	Cordova	AK	99574	ABC
920602081	Charlesdottir	Nancy	None	Box KKB	Kodiak	AK	99697	AB
920602082	Hillstrand	Nancy	None	P.O. Box 674	Homer	AK	99603	AB
920602083	Rott	Frank	None	Box 1428	Homer	AK	99603	AB

Correspondence QA report

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4

doc_id	lastname	firstname	company	street	city	st	zipcode	groups
920602084	Lethcoe	Nancy	Ak Wilderness Recreation & Tourism Assoc	P.O. Box 1353	Valdez	AK	99686	ABC
920602085	Janka	David	Prince William Sound Conservation Allian	P.O. Box 1697	Valdez	AK	99686	ABC
920602086	Leo	Roger	Telegram & Gazette	P.O. Box 324	Princeton	MA	01541	BC
920602087	Faust	Nina	None	P.O. Box 2994	Homer	AK	99603	AB
920602088	Brainard	Jessica	None	P.O. Box 2784	Homer	AK	99603	AB
920602089	Osborn	Velva	None	1434 Franklinst	Iowa City	IA	52240	AB
920602090	Latimer	Jim	None	Box 3937	Soldotna	AK	99669	AB
920603092	Harrison	Craig	Pacific Seabird Group	4001 N. 9th Street #1801	Arlington	VA	22203	ABC
920603093	Kroll	Henry	None	P.O. Box 181	Seldovia	AK	99663	AB
920603094	Sturgulewski	Arliss	Alaska State Legislature	3111 C Street, #550	Anchorage	AK	99503	ABC
920603095	Strasenburgh	John	None	P.O. Box 100171	Anchorage	AK	99510	ABC
920603096	Nowicki	Mitchell	None	P.O. Box 2232	Cordova	AK	99574	AB
920604101	Komisar	Jerome	University of Alaska	202 Butrovich Bldg.	Fairbanks	AK	99775-5560	ABC
920604104	Ott	Riki	Oil Reform Alliance	211 4th Street, Suite 112	Juneau	AK	99801	ABC
920604105	Phipps	Alan	Alaska Center for the Enviornment	519 West 8th. #201	Anchorage	AK	99501	ABC
920604106	Sargent	Neil	None	303 Wilson Street	Kodiak	AK	99615	ABC
910604107	Tschersich	Hans	None	1423 Baranof St.	Kodiak	AK	99615	ABD
920604109	Booher	Sam	None	4387 Roswell Rd.	Augusta	GA	30907	ABCE

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920604110	Kozie, Routa, Preller	Karen, Bill, Cindi	None	344-99573	Copper Center	AK	99573	ABD
920604113	Morgan	Esther	Arizona State University	None	Tempe	AZ	85287	ABC
920604114	Tileston	Jules	None	4780 Cambridge Way	Anchorage	AK	99503	ABC
920604115	Joyce	Timothy	None	P.O. Box KKB, Kitoi Bay	Kodiak	AK	99697-0020	AB
920604117	Miller	Pamela	The Wilderness Society	430 West 7th Ave.	Anchorage	AK	99501	BCD
920604118	Thomas	Gary	Prince William Sound Science Center	P.O. Box 705	Cordova	AK	99574	BC
920605121	Scott	Joe	None	233 Weaver Road	Bainbridge Island	WA	98110	BC
920605122	Copeland	Tom	None	Box 2338	Cordova	AK	99574	B
920605123	Murphy	Joyce	None	12531 Old Seward Highway	Anchorage	AK	99515	B
920605124	Ehret	Jim	None	6311 DeBarr Road, #403	Anchorage	AK	99504	B
920605126	Rock	Karen	None	2608 Lingonberry Lane, Apt. A	Fairbanks	AK	99709	AB
920605127	Hammer	Rebecca	None	P.O. Box 905	Slana	AK	99586	ABC
920605128	Schmidt	Dana	Fred Div., ADF&G	34828 Kalifornsky Beach Rd., Suite B	Soldotna	AK	99669-3150	B
920605129	Grisco	Mary	National Parks and Conservation Assn.	P.O. Box 202045	Anchorage	AK	99520	AB
920605131	Ohlinger	Philip	None	17928 Meadow Creek Drive	Eagle River	AK	99577	B
920605132	Unterberg	John	None	HC04 Box 9026-C	Palmer	AK	99645	B
920605133	Whitmore	Katy	None	14932 East Lake Ridge	Eagle River	AK	99577	B
920605134	Brock	Irvin	None	P.O. Box 5267	Ft. Richardson	AK	99505	B
920605135	Thomas	Loren	None	HC03 Box 8364-Y	Palmer	AK	99645	B

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doc_id	lastname	firstname	company	street	city	st	zipcode	groups
920605136	Feiler	Linda	None	Box 148	Anchor Point	AK	99556	B
920605137	Dunham	Willard	Seward Marine Center	P.O. Box 730	Seward	AK	99664	B
920511138	Kitagawa	Judy	None	P.O. Box 1451	Valdez	AK	99686	B
920608184	Simonson	Bruce	ADF&G	P.O. Box 25526	Juneau	AK	99802-5526	B
920608185	Tarbox	Kenneth	ADF&G	34828 Kalifornsky Beach Road, Suite B	Soldotna	AK	99669-3150	B
920608190	Nowicki	Mitchell	None	P.O. Box 2232	Cordova	AK	99574	AB
920608191	Hagenstein	Randall	Prince William Sound Science Center	P.O. Box 100358	Anchorage	AK	99510-0358	AB
920608192	Eilers	Stan	None	5070 Northridge Pt SE	Cedar Rapids	IA	52403	AB
920608194	Bowman	Timothy	None	P.O. Box 768	Cordova	AK	99574	BC
920608199	None	None	City of Valdez	None	Valdez	AK		AB
920608200	Harrison	Craig	Pacific Seabird Group	4001 North 9th Street #1801	Arlington	VA	22203	ABC
920608201	Grames	JOhn	None	P.O. Box 100827	Anchorage	AK	99510	B
920608202	Olito	Carmen	None	P.O. Box 111486	Anchorage	AK	99511	B
920608203	Ferguson	Joe	None	7760 N. Douglas	Juneau	AK	99801	B
920608204	Lusco	Robert	Ft. Richardson Hatchery	P.O. Box 5156	Ft. Richardson	AK	99505	B
920609215	Carpenter	Erich	None	3007 Arctic Blvd. #63	Anchorage	AK	99503	B
920609217	Elvsaas	Fred	Seldovia Native Association, Inc.	P.O. Drawer L	Seldovia	AK	99663	AB
920609218	Daehler	Marcia	None	220 Connolly	West Lafayette	IN	47906	B
920609219	Smith	Thomas	None	PO BOX 2484	Seward	AK	99664	B

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doc_id	lastname	firstname	company	street	city	st	zipcode	groups
920609221	Barry	Donald	World Wildlife Fund	1250 Twenthy-Fourth St., NW	Washington	DC	20037-1175	BC
920610223	Vining	Ivan	ADF&G, Commercial Fisheries	333 Raspberry Road	Anchorage	AK	99518	B
920610224	Vining	Ivan	ADF&G, Commercial Fisheries	333 Raspberry Road	Anchorage	AK	99518	B
920610225	Graham	Marnie	Volunteer PWS Conservation Alliance	P.O. Box 3224	Valdez	AK	99686	B
920610227	Graham	Marnie	PWS Conservation Alliance	P.O. Box 3224	Valdez	AK	99686	B
920610228	Highsmith	Ray	UAA, Institute of Marine Science	None	Fairbanks	AK	99775-1080	B
920610230	Dean	Thomas	Coastal Resources Associates	2270 Camino Vida Roble, Suite L	Carlsbad	CA	92009	B
920610231	Biggs	Evelyn	ADF&G	Box 669	Cordova	AK	99574-0669	B
920611233	Podolsky	Richard	None	234 West 56th Street #20N	New York	NY	10019-4330	B
920611234	Kocan	Richard	Univ. of Washington	None	Seattle	WA	98195	B
920612235	Parker	Lisa	Regional Citizens Advisory Council	11355 Frontage Road, Suite 228	Kenai	AK	99611	B
920612236	Deysher	Larry	Coastal Resources Associates	2270-1 Camino Vida Roble	Carlsbad	CA	92009	B
920612237	Lethcoe	Nancy	Alaska Wilderness Recreation & Tourism	P.O. Box 1535	Valdez	AK	99686	B
920610239	Stekoll	Michael	UAA, School of Fisheries & Ocean Science	11120 Glacier Highway	Juneau	AK	99801	B
920612239	Kassahn	Nancy	None	Box 1246	Cordova	AK	99574	B
920612240	Merchant	Ginger	National Wildlife Refuge Association	10824 Fox Hunt Lane	Potomac	MD	20854	B
920612241	Murphy	Linda	None	Box 843	Seward	AK	99664	B
920612242	Rolland	Richard	Chugachmiut	3300 C Street	Anchorage	AK	99503	B

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8

doc_id	lastname	firstname	company	street	city	st	zipcode	groups
920612243	Chisholm	Brad	None	Box 1585	Homer	AK	99603	B
920612244	Cooney	Robert	Institute of Marine Sciences	University of Alaska Fairbanks	Fairbanks	AK	99775-1080	B
920612246	Weiland	Anne	Kachemak Bay Citizens Coalition	Box 1395	Homer	AK	99603	B
920615247	Davis	Randall	Internationa Wildlife Research	Texas A&M University	Galveston	TX	77553	B
920612248	Miller	S. Douglas	National Wildlife Federation	750 West Second Ave., Suite 200	Anchorage	AK	99501	B
920615249	Arruda	David	Cordova Fly-Fishers	P.O. Box 1768	Cordova	AK	99574	B
920612250	West	George	None	P.O. Box 841	Homer	AK	99603	B
920615251	Rodgers	Harry	Valdez City Schools	P.O. Box 398	Valdez	AK	99686	B
920615252	Walker	William	City of Valdez	P.O. Box 307	Valdez	AK	99686	b
920615253	Walker	William	City of Valdez	P.O. Box 307	Valdez	AK	99686	B
920615254	Walker	William	City of Valdez	P.O. box 307	Valdez	AK	99686	B
920615255	Burke	Don	Bio-tech Services	5611 Silverado Way - Suite C	Anchorage	AK	99518	BE
920615256	Walker	William	City Attorney - City of Valdez	P.O. Box 307	Valdez	AK	99686	B
920615257	Pagano	Frank	Koniag, Inc.	4300 B Street, Suite 407	Anchorage	AK	99503	B
920615258	Rice	Stanley	NOAA/NMFS Auke Bay Fisheries Lab	11305 Glacier Highway	Juneau	AK	99801-8626	B
920615259	O'Clair	Charles	Auke Bay Biological Laboratory	11305 Glacier Highway	Juneau	AK	99801	B
920615260	Koski	K.V.	NMFS Auke Bay Laboratory	11305 Glacier Highway	Juneau	AK	99801-8626	B
920615261	Dahlheim, Loughlin	Marilyn, Thomas	NMFS-NMML	7600 Sand Point Way N. E.	Seattle	WA	98115	B
920615262	None	None	NOAA-NMFS, OSDA&RO	P.O. Box 210029	Auke Bay	AK	99821	B

Correspondence QA report

06/22/92
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doc_id	lastname	firstname	company	street	city	st	zipcode	groups
920615263	Varanasi, Collier	Usha, Tracy	NOAA-NMFS, N.W. Fisheries Science Center	2725 Montlake Blvd. E.	Seattle	WA	98112	B
920615264	Mearns	Alan	NOAA-HMRAD	7600 Sand Point Way N.E.	Seattle	WA	98115	B
920615265	Shigenaka	Gary	NOAA-HMRAD	7600 Sand Point Way N. E	Seattle	WA	98115	B
920615266	Page	Clayton	SBP Technologies, Inc.	2155-D West Park Court	Stone Mountain	GA	30087	B
920615269	Thomas	G.L.	PWS Science Center	P.O. Box 705	Cordova	AK	99574	B
920615270	Chmielewski	Tasha	Chugach Regional Resources Commission	3300 C Street	Anchorage	AK	99503	B
920615271	Page	Clayton	SBP Technologies, Inc.	2155-D West Park Court	Stone Mountain	GA	30087	B
920615272	Sturgulewski	Arliss	Alaska State Legislature-Senate	3111 C Street, Suite 550	Anchorage	AK	99503	B
920615273	McVee	Curtis	Department of the Interior	1689 C Street, Suite 100	Anchorage	AK	99501-5151	B
920615274	Totemoff	Philip	Chenega Bay I.R.A. Council	3300 C Street	Anchorage	AK	99503	B
920615275	Parker	Lisa	Cook Inlet RCAC	11355 Frontage Road, Suite 228	Kenai	AK	99611	B
920615276	Dunham	Beverly	None	P.O. Box 27	Seward	AK	99664	B
920615277	Dunham	Meggin	None	P.O. Box 1595	Seward	AK	99664	B
920615279	Selby	Jerome	Borough Mayor, Kodiak Island Borough	710 Mill Bay Road	Kodiak	AK	99615-6340	B
920615281	Swartz	Karen, Robert	None	P.O. Box 172	Seward	AK	99664	B
920615282	Grimes	Deanna	None	P.O. Box 2351	Seward	AK	99664	B
920615283	Dieckgraeff	Frank	None	HCR64 Box 300	Seward	AK	99664	B
920612285	DiCostanzo, Rice	Carmine, Stanley	ADF&G, NOAA-NMFS-AFC-ABL	POB 25526	Juneau	AK	99802-5526	B

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920615286	Fischer	Thom	Whitewater Engineering Corp.	1050 Larrabee Ave, Suite 104-707	Bellingham	WA	98225	B
920615287	Kehrer	Peg	ADF&G	P.O. Box 3-2000	Juneau	AK	99802-2000	B
920615288	Christiansen	Emil	Old Harbor Native Corp.	P.O. Box 71	Old Harbor	AK	99643	B
920615289	Viteri	Alex	ADEC	410 Willoughby Ave.	Juneau	AK	99801-1795	B
920615290	Bruce	David	ADEC-EVOS Project	410 Willoughby Ave., Suite 105	Juneau	AK	99801-1795	B
920615291	Norman	Patrick	Port Graham Corporation	P.O. Box P.G.M.	Port Graham	AK	99603	B
920615292	Gates	Christopher	City of Seward	P.O. Box 167	Seward	AK	99664	B
920615293	Phipps	Alan	Ak Center for the Environment	519 W. 8th Ave. #201	Anchorage	AK	99501	B
920615294	Evanoff	Gail	Chenega Corporation	P.O. Box 8060	Chenega Bay	AK	99574-8060	B
920615295	Carmichael	James	Afognak Native Corporation	214 W. Rezanof	Kodiak	AK	99615	B
920615296	Bittner	Judith	ADNR	P.O. Box 107001	Anchorage	AK	99510-7001	B
920615297	Bechtol	Bill	ADF&G	3298 Douglas Street	Homer	AK	99603	B
920615298	Van Zee	Bruce	USDA-Forest Service	201 E. 9th Ave., Suite 206	Anchorage	AK	99501	B
920615299	Bishop	M.A.	USDA-Forest Service	P.O. Box 1460	Cordova	AK	99574	B
920614300	Derenoff	Margie	Kodiak Area Native Association	402 Center Avenue	Kodiak	AK	99615	B
920616304	Dieckgraeff	Barbara	Nnoe	HCR 64 Box 300	Seward	AK	99664	B
920616305	Tarbox	Jeanne	None	19744 Meadow Creek Drive	Eagle River	AK	99577	B
920616307	DeVogelaere, Foster	Andrew, Michael	Moss Landing Marine Laboratories	P.O. Box 450	Moss Landing	CA	95039	B

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920616308	STevens	Alexander	None	5711 NE 77th Street	Seattle	WA	98115	B
920616309	Dreckgraeff	Tammy	None	7917 Cranberry, Apt, B	Anchorage	AK	99502	B
920616310	French	John	UOA-Fishery Industrial Technology Center	900 Trident Way	Kodiak	AK	99615	B
920617312	Collins	V.E. (Rick)	President-Valdez Chamber of Commerce	P.O. Box 512	Valdez	AK	99686	B
920617313	Totemoff	Philip	Chenega Bay I.R.A. Council	3300 C Street	Anchorage	AK	99503	B
920617314	Muehling	Eric	None	801 Barnette Street	Fairbanks	AK	99701	B
920618315	McCarron	Suzanne	ADF&G	333 Raspberry Road	Anchorage	AK	99518	B
920618316	None	None	Martech USA, Inc.	300 E. 54th Ave.	Anchorage	AK	99518	B
920618318	Pagano	Frank	Koniag, Inc.	4300 B Street, Suite 407	Anchorage	AK	99503	B
920618319	Sturgulewski	Arliss	Ak State Legislature-Senate	3111 C Street, Suite 550	Anchorage	AK	99503	B
920619320	Sinker	Mary	None	32125 Brandstrom Road	Stanwood	WA	98292	B
920619321	Helle	John	None	2427 O'Day Drive	Juneau	AK	99801	B
920619323	Pagano	Frank	Koniag, Inc.	4300 B Street, Suite 407	Anchorage	AK	99503	B