Comment.
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CITY OF VALDEZ
TESTIMONY ON THE EXXON VALDEZ OIL SPILL TRUSTEES
RESTORATION FRAMEWORK

May 11, 1992, Valdez, Alaska

The City of Valdez appreciates the opportunity to formally comment on the April 1992 Restoration Framework prepared by the Exxon Valdez Oil Spill Trustee Council. The City of Valdez has followed, with great interest, the negotiation and settlement of the Exxon Valdez litigation and the establishment of the Trustee Council and the mechanism to distribute money from the Exxon Valdez Trust Account.

It is clear that the issues that the Council must address are complex and contentious. The creation of a process to simplify this complexity and frame the issues so that they may be addressed in an expeditious way is a laudable goal. However, the City of Valdez sees two things happening as this process marches forward that deviates from what it believes to be the original intent of the Exxon settlement.

First, there is both a focusing and spreading of issues that is taking place simultaneously. On the one hand, we see restoration being focused primarily in the areas of habitat replacement and near-shore restoration. But simultaneously, discussions are taking place regarding timber purchases and other types of "acquisition of equivalent resources" far from those areas

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most severely affected within Prince William Sound. The City of Valdez believes, first and foremost, that the acquisition of equivalent resources be done judiciously and in areas most directly affected by the oil spill and its damaging effects. The City of Valdez sees the Trust Settlement monies being used as a grab-bag of funds to address logging versus conservation issues far away from the oil spill site. This must be contrary to the original intent of the settlement.

The Valdez City Council unanimously passed Resolution #92-45 at its April 20, 1992 meeting. This Resolution addressed the expenditure of funds under House Bill 411, which is before the Alaska State Legislature. House Bill 411 addressed the appropriation of funds from the Exxon Criminal Plea Agreement. Many of the concerns the City of Valdez expressed with regard to House Bill 411 can also be applied to the scoping work being done by the Exxon Valdez Oil Spill Trustee Council. The City believes that the definition of restoration, which includes "restoration, replacement, and enhancement of affected resources, acquisition of equivalent resources and services; and long-term environmental monitoring and research programs directed to the prevention, containment, clean-up, and amelioration of oil spills," is weighted almost entirely toward a very narrow definition of restoration and focuses on the replacement and acquisition of resources.

Based on the language from this Resolution, which I would like to provide to you for your record, the City of Valdez believes that funding from all Exxon Settlement funds should be based on a relationship between the area of greatest impact from the oil spill

combined in close proximity to how those members vote in local elections. If the Exxon Trustee Council wants to have a fair and democratic process for the consideration of how Exxon trust funds should be spent, it must rely more, if not exclusively, on local government positions. Much of what the Exxon Trustee Council is trying to replicate, in terms of bringing together interest groups, is carried out on a daily basis by the local governments of Prince William Sound, the Kenai Peninsula, and Kodiak. If the Exxon Trustee Council wants to come to a consensus, or at least a fairly derived decision, on funding, governmental structures that are already in place and have been in place for 90 years or more should be used. Local government is here for the long haul.

And why haven't local governments been more involved? This, I believe, is an interesting dilemma. Speaking for Valdez, we have been inundated with new demands following the Exxon Valdez oil spill. The City is active in the Regional Citizens Advisory Council that was established for Prince William Sound. The City spends thousands of dollars each month to participate in this process. The City of Valdez follows, with interest, the proposals for advanced rule making under the Oil Pollution Act of 1990 being put out by the U.S. Coast Guard. The City spends time and dollars monitoring legislation, like House Bill 411. And finally, we seek, as best we can, to track the arcane process of establishing criteria for the use of Exxon settlement funds. State and Federal agencies have been reimbursed from settlement funds for work they have done, but the same cannot be said for local governments. But cities, because they are broad based constituents and provide

numerous services to a wide array of individuals, businesses, and interests, have other things to worry about. Snow needs to be plowed, sewage needs to be treated and disposed of, trash needs to be hauled, and a hundred and one other local government services must be provided. Because we represent a shot-gun approach and not a rifle shot, local governments have not been able to bore into the "Exxon Valdez process" like single-minded environmental, timber, Native land, and tourism groups or individuals.

If I were on the Trustee Council, or a staff to the Council, I might ask why this is the case. Believe me, it's not because local governments do not care; it is because we have been impacted by the Exxon Valdez spill and its bureaucratic aftermath and yet we must live within budgets that have been stretched or severely damaged because of incidents arising from the Exxon Valdez oil spill.

Local governments deserve to be heard. I believe they deserve to be fully considered for projects that will assist in restoration, replacement, enhancement, or rehabilitation of natural resources. Local governments will surely be affected by the expenditure of funding in the oil spill affected region and they will be impacted much more than special interest groups.

There is a saying among Old Town Valdez residents that they survived the 1964 earthquake, but they did not know if they were going to be able to survive the well intended, but "string attached" assistance from the Federal and State government that followed. Local governments rode out the largest oil spill in U.S. history, but now comes the assistance with more complexity and

strings than earthquake survivors would ever dare image and endure.

This is not to say we do not want the assistance, but local governments are different and recognize both edges of the sword. The infusion of dollars during the oil spill, the expenditure of restoration and enhancement funds will represent the unnatural expenditure of funds, a false economic development, if you will, which may displace jobs and impact local economies in many unforeseen and unknown ways. As a government, we must address issues that special interests do not even think about. That alone makes us different enough to demand more recognition in the advisory process.

Local governments are a natural resource, as are the people that they represent. Local governments could and should be partners with the Trustees in representing their respective governments. Combining special interest groups into a public advisory group based on something less than elected representation seems very unusual. The process could be assisted a great deal by forming a broad-based group that already represents the special interests listed. Let local governments work among themselves, as representatives (and surely they are through the electoral process) with the issues which this group must address. The process seems complex enough without re-inventing a group that already exists in the form of the State's local governments; governments that have been afforded broad powers under the Alaska State Constitution and Title 29 of the Alaska Statutes. Tribal governments should be afforded the same recognition. A process relying on special interest groups, which are not elected and may not even represent

the best interests of the State of Alaska, much less Prince William Sound, is a process that is flawed from its very beginning. The City of Valdez will be happy to participate in the public advisory group process, but our voice, the voice of 4500 people, will be drowned out by organizations that represent far fewer because their aims are much narrower. That concludes my formal comments. The City is working on more specific comments, which it will pass on to you soon. I will be happy to answer any questions you may have.

ID # 9205 11199

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- ✓ Affiliation
- — Costs

✓ Category Comment

Lead Agency

Cooperating Agency(ies)

Y N Passed initial screening criteria

RANKING H M L Rank Within Categories

H M L Rank Overall

Project Number - if assigned

Comment

National Parks

PO Box 202045
Anchorage, AK 99520
June 3, 1992

Document ID Number
920605129
☑ A-92 WPWG
☑ B-93 WPWG
☐ C-RPWG
☐ D-PAG
☐ E-MISC.

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

Re: Volume 11
1992 Draft Work Plan

Dear Mr. Gibbons,

I am writing on behalf of the National Parks and Conservation Association (NPCA), America's only national, non-profit citizens organization that focuses on park concerns. Our over 285,000 members nationally, including over 2,300 in Alaska, promote the protection, preservation and public understanding of our Nation's national park system through diverse activities. NPCA appreciates this opportunity to comment.

NPCA notes that the long-promised studies were not released until Monday, June 1st. Comments for this document are due Thursday, June 4th. The Exxon-Valdez oil spill touched lands and waters belonging to all Americans. Yet, the actions of the Trustees regarding the studies precludes nearly all living outside of Alaska from reviewing public information. Certainly such a short timeline makes it nearly impossible for those in Alaska to review these newly released studies before the comment deadline. The continued withholding of economic studies keeps the public from understanding. How is the public to offer informed comments about their resources? This withholding of information, printing few copies of documents and short timelines need to stop. The public expects to participate fully and with full information in the decision making process for restoration of their damaged resources.

In general, this Draft Work Plan is quite biased toward studies and activities focused on commercial and sport fish species. Additionally, this Plan is biased toward management and manipulation activities, not habitat protection and acquisition. As stated in our comments for the Restoration Framework document,

no 1993 comment

NPCA recommends that habitat protection and acquisition be given concurrent consideration in the restoration process. NPCA also shares concerns about funding closeouts of studies. All closeouts need to justify future use of that particular study before funding is allocated.

NPCA reminds the Trustees that natural resources damaged include far more than fish. In particular, NPCA does not support Restoration Project #113, Red Lake Sockeye Salmon Restoration. This project sounds much like the one at Tustamena Lake, Kenai Wildlife Refuge. Restocking a wild lake with hatchery salmon creates more problems and does not provide the commercial fish expected. Quite frankly, NPCA generally does not support using settlement money for habitat manipulation for the benefit of commercial users. This project needs to be shelved.

Fish/Shellfish Study #27, Sockeye Salmon Overescapement is also of concern as it ties to the above mentioned project. While studying and monitoring are of value, NPCA remains concerned about the focus on commercial fish.

NPCA is pleased to see projects focused on cultural/archeological resources, Archeology Study # 1, Archeological Survey and Restoration Project #104A, Archeological Resources Protection: Site Stewardship. NPCA however is quite amazed to find that the National Park Service is not involved in the either of these projects. NPCA wants to know why. It is our understanding that many of the sites damaged are under the jurisdiction of the National Park Service. Not funding a agency does not preclude that agency's legal responsibilities for management of public resources. For the Trustees to ignore or even choose to not fund a particular agency's involvement, does not lessen the Trustees' legal responsibilities for restoration of all public resources that were and continue to be damaged.

In addition, Restoration Project #92, Geographic Information System Technical Support, does not list the National Park Service. Over 900 miles of national park coastline were effected by the oil spill and wildlife, wilderness and other resources were and continue to be damaged. Again, NPCA wants to know why the National Park Service is not listed with this project. The NPS must be included and allocated adequate funding.

NPCA does not support Restoration Project #102, Coastal Habitat Restoration because there is no information provided. NPCA is concerned about funding projects without sufficient and adequate information provided from which to make a reasoned decision.

NPCA understands that some projects were put on hold and may be

discussed later this spring. NPCA is concerned about the timelines for public participation in project choice and funding decisions. The Trustees need to establish clear, published guidelines (with timelines) for project selection, review and funding. NPCA reminds the Trustees that the public outside of the State of Alaska expects their participation to be meaningful.

Thank you for your consideration of our comments. I look forward to a timely response to my questions regarding the involvement of the National Park Service. If I can provide additional information, please let me know.

Sincerely,

Mary Grisco
Alaska Regional Director

Comments

Alaska Research Associates, Inc.

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Anchorage, Alaska 99508
(907) 562-3339
FAX: (907) 562-7223

April 22, 1992

EXXON Valdez Trustees
645 G Street
Anchorage, Alaska 99501

As you are undoubtedly aware, new techniques in molecular genetics are being developed at a very rapid rate. These are resulting in great advances in medicine, agriculture, animal science, and evolutionary biology. These techniques are also becoming widespread in natural resource management and associated research. Perhaps the best known examples are the application of protein electrophoresis to the study of genetic stock identification in fish and various protein and DNA analyses to understand the genetic relationships of populations and species for classification.

LGL has developed modern genetic techniques for application to fish and wildlife research including mitochondrial DNA (mtDNA) and nuclear DNA analyses with new DNA amplification techniques. We have done projects on salmonid and marine mammal stock identification for private industry, the U. S. Fish and Wildlife Service Alaska Research Center, and the National Marine Fisheries Service. Projects are now being completed and manuscripts prepared on the population genetics of Arctic cisco, chinook salmon, chum salmon, sea otters, walrus, and sea lions. Other projects underway include identification of the sex of polar bears from a tissue sample, and population genetics of white-fronted geese.

LGL has recently expanded the genetics division to include the state of the art in automated DNA sequencing services and toxicological genetics. We have the capability to analyze mtDNA and nuclear DNA variation. These analyses include a wide spectrum of applications from higher level taxonomic studies to family level analysis of DNA fingerprints.

It is clear that genetics technology is increasing at such a rate that individual labs have a hard time keeping up. For example, LGL recently expanded to include state of the art automated sequencing services. This required an investment of over $150,000 for equipment and the additional

expanded to include state of the art automated sequencing services. This required an investment of over $150,000 for equipment and the additional cost of a full time researcher. Similar investments are needed for genetic toxicology research.

We would like you and your research staff to be aware of LGL's capability and desire to conduct such analyses either in a development or production mode. There is no need for your agency to invest in technologies that change very quickly, require personnel with specific expertise, and are very expensive to outfit. We can provide the service for you.

We understand the research interests of your staff and suggest we can serve as a service lab. Fish and wildlife agencies often employ contractors for other types of analyses such as blood work or disease or heavy metals diagnosis. In a similar way we can provide genetic analysis. Of course, we have no interest in making management policy. However, we can provide as much interpretation as is desired, both of the raw genetic data, and the implications for population biology and resource management.

One of LGL's strongest points is that our geneticists are very current and have published several papers in the use of DNA data in ecological and population studies. This includes a strong background in contemporary taxonomy and gene flow concepts. These of course are key topics in stock identification, endangered species, biodiversity, and conservation biology issues.

Attached are our corporate and individual resumes. We will welcome the opportunity to discuss potential projects with you or your staffs. Thank you for your consideration.

Sincerely,
LGL ALASKA RESEARCH ASSOCIATES, INC.

Steven K. Davis
Fishery Biologist

Matthew A. Cronin, Ph.D
Geneticist

Enclosures

MAC:ekb

STEVEN K. DAVIS
Director, Resource Management Division

EDUCATION

1981	M.S. Fishery Science, College of Fisheries, University of Washington, Seattle, Washington.
1976	B.S. Biology, University of Puget Sound, Tacoma, Washington

PROFESSIONAL EXPERIENCE

1991 - Present

Director, Resource Management Division, LGL Alaska Research Associates, Inc. Responsible for organization and development of a resource management program within the firm dedicated to solving fisheries and other natural resource management problems.

Serve as project manager, overseeing design, analysis, and report preparation. Also serve as senior biologist and as liaison between government agencies and the fishing industry.

Responsible for business development in fisheries science, environmental assessment, commercial fishery management analysis, and other areas of LGL's overall corporate capabilities.

1988-1991

Deputy Director, North Pacific Fishery Management Council, Anchorage, Alaska, supervising development of fishery management plans and their amendments. Responsible for internal operations of Council's 11-person staff and administrative budget. Principle manager of research projects utilizing inter and intra agency support personnel.

Contract monitor for programmatic research and supervised budget preparation and grant submissions. Prepared discussion papers on a variety of resource management issues. Served as principal interagency and industry coordinator, representing Council at scientific conferences, industry meetings, and press interviews.

Principal staff advisor to Advisory Panel and Scientific and Statistical Committee. Responsible for organization and development of agenda material for Council, Advisory Panel, and Scientific and Statistical Committee meetings.

Responsible for monitoring legislative proceedings at both Congressional and State levels and served as consultant to legislators and their assistants.

Supervised preparation and dissemination of news releases on Council meetings, hearing notices, and other appropriate information and releases regarding Council activities.

1981-1988 Fishery Biologist/Plan Coordinator, North Pacific Fishery Management Council, Anchorage, Alaska, worked with biologists and economists in the identification and analysis of issues pertaining to fishery management plan development and their amendments.

Described and presented issues pertaining to the fisheries which the Council manages and contributed to the development of issue or position papers to assist the Council in the formation of fisheries and public policy.

Prepared biological, economic, social, environmental, statistical, and/or regulatory impact analyses and studies for use in the development and amendment of management plans.

Conducted critical reviews of other analyses and public processes developed in support of plans. Coordinated, as assigned, plan development or amendment activities with Council and its panels. Served as liaison between North Pacific Fishery Management Council and other agencies with which it cooperates, including tNational Marine Fisheries Service, Alaska Fisheries Science Center, Alaska Department of Fish and Game, other Council staffs, and International Pacific Halibut Commission. Also served as spokesman for the staff in discussions with Council, its committees, and the public on matters relating to impacts of proposed fishery management regulations.

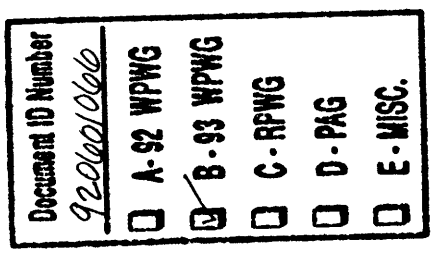
1979-1980 Fishery Biologist, National Fisheries Research Center - Seattle, U.S. Fish and Wildlife Service.

Conducted field and laboratory research on environmental effects on salmonid outmigration and their physiological condition.

1978 Research Aide, College of Fisheries, University of Washington.

1977 Research Aide, Fisheries Research Institute, College of Fisheries, University of Washington.

1976 Teaching Assistant, Department of Biology,University of Puget Sound, Tacoma, Washington.



PROFESSIONAL MEMBERSHIPS

American Society of Ichthyologists and Herpetologists
American Fisheries Society
American Institute of Fishery Research Biologists

OTHER MEMBERSHIPS

Member of the technical subcommittee of the Canada-U.S. Groundfish Committee, 1984-1991.
Member of the U.S. scientific delegation to the International North Pacific Fisheries Commission (U.S.-Canada-Japan), 1981-1991.
Member of scientific delegation to the 1984 U.S.-U.S.S.R. bilateral meetings for cooperative fisheries research. Nahodka, U.S.S.R.
Member of scientific delegation to the 1984 U.S.-Japan bilateral meetings for cooperative fisheries research. Tokyo, Japan.

SELECTED PUBLICATIONS AND REPORTS

1991 An assessment of the Exxon Valdez oil spill on the herring fisheries of Prince William Sound and adjacent Gulf of Alaska.

1991 An assessment of the Exxon Valdez oil spill on the shrimp fisheries of Prince William Sound and adjacent Gulf of Alaska.

1991 An asessment of the Exxon Valdez oil spill on the king and Tanner crab fisheries of Prince William Sound and adjacent Gulf of Alaska.

1991 North Pacific Fishery Management Council. Supplemental Environmental Impact Statement and Regulatory Impact Review/Initial Regulatory Flexibility Analysis of Proposed Inshore/Offshore Allocation Alternatives (Amendment 18/23) to the Fisheries Management Plans for the Groundfish Fishery of the Bering Sea and Aleutian Islands and the Gulf of Alaska.

1991 The North Pacific Fisheries Research Plan: A user-fee program designed specifically to provide industry supplied funds to support the federal groundfish observer program. North Pacific Fishery Management Council, Anchorage, Alaska. North Pacific Fishery Management Council, U..S. Dept. of Commerce. Anchorage, AK. 292pp.

1989 Biological information required for improved management of walleye pollock off Alaska. With D.S. Lloyd. *In*: Proceedings of the International Symposium on the Biology and Management of Walleye Pollock, Alaska Sea Grant Report No. 89-1. Fairbanks, Alaska.

1987 Fishery Management Plan for the Gulf of Alaska Groundfish Fishery. Published as Amendment 16 by the North Pacific Fishery Management Council, U.S. Dept. of Commerce.

1987 Environmental Assessment and Regulatory Impact Review/Initial Regulatory Flexibility Analysis for Amendment 16 to the Gulf of Alaska Groundfish Fishery Management Plan. North Pacific Fishery Management Council, U.S. Dept. of Commerce.

1986 A Computer Bycatch Impact Model for Management of the Gulf of Alaska Groundfish Fisheries.

1986 Environmental Assessment and Regulatory Impact Review/Initial Regulatory Flexibility Analysis for Amendment 15 to the Gulf of Alaska Groundfish Fishery Management Plan. North Pacific Fishery Management Council, U.S. Dept. of Commerce.

1986 Groundfish Fisheries Management and Bycatch: A look to the future. 1986 Western Groundfish Fisheries Conference, University of Alaska, Sea Grant.

1986 Efforts to obtain valid fishery statistics from domestic fishermen on a voluntary basis have usually failed--Editorial opinion, Pacific Fishing, September 1986, Special Interest Publications, Seattle.

1984 Environmental Impact Statement for the Bering Sea/Aleutian Islands King Crab Fishery Management Plan. North Pacific Fishery Management Council, U.S. Dept. of Commerce.

1984 Conservation, allocation, and enforcement aspects of the use of pot limits and exclusive areas in the western Alaska Tanner crab fisheries. *In*: A report to the Alaska Board of Fisheries and North Pacific Fishery Management Council. D. Larson (ed.) 100p.

1982 Distribution, abundance and outmigration timing of chum and chinook fry in the Skagit Salt Marsh. *In*: Proceedings of the Salmon and Trout Migratory Behavior Symposium, E.L. Brannon and E.O. Salo (eds.), University of Washington: 153-163.

1982 History of Tanner crab management off Alaska and the role of the North Pacific Fishery Management Council. *In*: Proceedings of the International Symposium on the Genus *Chionoecetes*, University of Alaska, Sea Grant Report No. 8240; 71-81.

1981 Outmigration timing and body composition of juvenile chum and chinook salmon in the Skagit River, Washington. *In*: Research in Fisheries, College of Fisheries, University of Washington.

1980 A modified fyke net for the capture and safe retention of salmon smolts in large rivers. Progressive Fish-Culturist, 42(4); 235-236.

1979 Physiological adaptation of juvenile salmonids to environmental change. *In*: Research in Fisheries, College of Fisheries, University of Washington.

1978 Spawning ground location and determination of the English sole *Parophys vetulus* in Elliot Bay, Wash. 41pp. Fish. Res. Inst. Report.

1978 Age and growth rate determination of Pacific cod, *Gadus macrocephalus* , of Protection Island and Port Townsend Bay, Washingotn, 25pp. Fisheries Res. Inst. Report.

1975 Behavorial study of *Chaetodon auriga*. Hawaii Inst. Mar. Biol. Special Pub. #201, 38 pp. (with E.J. Johnson and J.E. smith).

IN PREP

Proximate body composition of two species of juvenile salmonids, and its relation to outmigration.

The biological and economic impacts of restricting the Alaskan king and Tanner crab fisheries to the use of top-entry crab pots.

MATTHEW A. CRONIN
Senior Terrestrial Biologist

EDUCATION

1989	Ph.D. Biology, Yale University
1986	M.S. Biology, Montana State University
1976	B.S. Forest Biology, State University of New York College of Environmental Science and Forestry

PROFESSIONAL EMPLOYMENT

1992-Present

Senior Research Biologist, LGL Alaska Research Associates, Inc. Responsibilities include Program Manager for Terrestrial studies in the North Slope oil field areas of Alaska. This includes planning and implementing research on wildlife populations and habitat, business development in terrestrial ecology, environmental assessment and genetics. Programs include those focused on ungulate migrations, waterfowl nesting, wetlands utilization and invertebrate use of impounded areas. Supervision of terrestrial wildlife staff.

Research Geneticist for LGL Ecological Genetics Division. Responsibilities include collaborating with and assisting the U.S. Fish & Wildlife Service and other clients in mitochondrial DNA and protein analyses of sub-populaton distributions and assessing contaminant damage on a molecular level.

1989-1992

Research Geneticist, U. S. Fish & Wildlife Service, Alaska Research Center, Anchorage, Alaska. Establish Molecular Genetics Laboratory with Nuclear Regulatory Commission license for use of radioactive isotopes. Systematics and population genetics of fish and wildlife were assessed with analysis of mitochondrial DNA, chromosomal DNA, and proteins using modern molecular genetic methods. Projects included chum and king salmon stock identification, and population genetic structures of polar bears, brown bears, sea otters, walrus, pintail ducks and white-fronted geese. There will be continued collaboration in these long term projects.

Developed and applied molecular genetics to wildlife forensics.

Integration of genetic data with demographic data required close collaboration with wildlife biologists including field studies of pintail ducks and polar bears.

1984-1989

Graduate Training, Yale University. During graduate training became familiar with modern evolutionary biology theory and practice for both organismic and molecular research aspects. This includes modern systematics and its relevance to endangered species issues and conservation biology. Graduate Teaching Assistant for

courses in Field Ecology and Evolutionary Biology at Yale University, and Comparative Vertebrate Anatomy and Comparative Vertebrate Embryology at Montana State University.

As manager of a molecular genetics lab for Professor J.R. Powell, Yale University, responsibilities included managing lab inventories and radioactive material.

Contracted wildlife forensic research with the Montana Department of Fish, Wildlife and Parks. Responsibilities included developing lab analyses of proteins and DNA for species identification of tissues in poaching cases.

1980-1984 U.S. Coast Guard. Marine Environmental Protection Officer and Port Safety Officer for western Alaska. Responsibilities included planning and response to oil and hazardous materials spills for western Alaska, developing and reviewing environmental plans and regulations, and recommending actions necessary to reduce the number and severity of pollution incidents. This included interaction with government agencies, and the oil, shipping, and fishing industries. Responses to incidents were made in several remote areas of Alaska including the North Slope, west coast, and Aleutian Islands.

Other duties included vessel and port facility inspection, supervising and training of several enlisted men and military readiness.

1979-1980 Forestry and Survey Technician. U.S. Forest Service, Kootenai National Forest and Burlington Northern Timberlands, Byler Logging, Bozeman, Montana. Jobs included general forestry work, stand examinations, timber cruising, insect and disease assessment, fire fighting, logging, writing silvicultural prescriptions. Mining claim and property surveys.

PROFESSIONAL MEMBERSHIPS

American Society of Mammalogists
Society for the Study of Evolution
American Association for the Advancement of Science

PUBLICATIONS

Cronin, M.A. Submitted. Mitochondrial DNA in wildlife taxonomy and population management: cautionary notes. Journal of Wildlife Management.

Cronin, M.A., S.C. Amstrup, G.W. Garner, and E.R. Vyse. In press. Inter and intraspecific mitochondrial DNA variation in North American bears (*Ursus*). Canadian Journal of Zoology 69.

Cronin, M.A. In press. Intraspecific mitochondrial DNA variation in North American cervids. Journal of Mammalogy 73.

Cronin, M.A. 1991. Mitochondrial and nuclear genetic relationships of deer (*Odocoileus* spp.) in western North America. Canadian Journal of Zoology 69:1270-1279.

Cronin, M.A. 1991. Mitochondrial-DNA phylogeny of deer (Cervidae). Journal of Mammalogy 72:553-566.

Cronin, M.A., M.E. Nelson, and D.F. Pac. 1991. Spatial heterogeneity of mitochondrial DNA and allozymes among populations of white-tailed deer and mule deer. Journal of Heredity 82:118-127.

Cronin, M.A., D.A. Palmisciano, E.R. Vyse, and D.G. Cameron. 1991. Mitochondrial DNA in wildlife forensic science: species identification of tissues. Wildlife Society Bulletin 19:94-105.

Cronin, M.A. 1991. Genetic differentiation of caribou herds. Unpublished report. U.S. Fish and Wildlife Service, Alaska Research Center, Alaska.

Cronin, M.A., J.B. Grand, D. Esler, and D.V. Derksen. 1991. Northern pintails in Alaska and prairies have similar Mitochondrial DNA. Research Information Bulletin, U.S. Fish and Wildlife Service. 91-110.

Cronin, M.A., S.C. Amstrup, and G.W. Garner. 1991. Mitochondrial DNA variation in management of North American bear populations. Research Information Bulletin, U.S. Fish and Wildlife Service. 91-61.

Cronin, M.A. 1989. Molecular evolutionary genetics and phylogeny of cervids. Ph.D. dissertation, Yale University, New Haven, Ct.

Cronin, M.A., E.R. Vyse, and D.G. Cameron. 1988. Genetic relationships between mule deer and white-tailed deer in Montana. Journal of Wildlife Management 52:320-328.

Cronin, M.A. 1987. Intra and inter-population mitochondrial DNA variation in mule deer. Unpublished report submitted to Montana Department of Fish, Wildlife and Parks, Bozeman, Montana.

Cronin, M.A. 1986. Genetic relationships of mule deer, white-tailed deer, and other large mammals inferred from mitochondrial DNA analysis. Master of Science Thesis, Montana State University, Bozeman, Montana.

Cronin, M.A. and E. Hogan. 1979. Insect and disease conditions on Troy Ranger District, Kootenai National Forest. Unpublished report, U. S. Forest Service, Troy Ranger District, Troy, Montana.

Cronin, M.A. and D. Gochner. 1979. Mountain Pine beetle infestation in fire scorched pines. Unpublished report, U. S. Forest Service, Troy Ranger District, Troy, Montana.

Manuscripts in Preparation

Variation of kappa casein mild protein genes among herds of bison and breeds of domestic cattle. For: Animal Genetics.

Mitochondrial DNA and allozyme variation within and among subspecies of sea otters. For: Journal of Mammalogy.

Mitochondrial DNA variation in Pacific and Atlantic Walrus. For: Journal of Heredity.

Mitochondrial DNA variation in white-fronted geese. For: the Auk.

Mitochondrial DNA variation in pintail ducks. For: Journal of Wildlife Management.

Mitochondrial DNA variation in Yukon River chinook salmon and chum salmon. For: Canadian Journal of Fisheries and Aquatic Sciences.

Mitochondrial and nuclear genetic relationships of mule deer subspecies in the southwestern U.S. For: California Fish and Game.

REVIEWER FOR PROFESSIONAL JOURNALS

Journal of Mammalogy
Canadian Journal of Zoology
Biochemical Genetics
Journal of Wildlife Management
Wildlife Society Bulletin

DR. JOHN W. BICKHAM
Vice-President, Research

EDUCATION

1971	B.Sc. University of Dayton, Dayton, Ohio
1973	M.Sc. University of Dayton, Dayton, Ohio
1976	Ph.D. Texas Tech. University, Texas

RESEARCH INTERESTS

Cytogenetics, Genetic Toxicology, Vertebrate Evolutionary Biology

PROFESSIONAL EXPERIENCE

1989 — Co-founder of LGL Ecological Genetics. Responsible for overseeing all corporate research studies and directing research in ecotoxicology.

1977 — Professor of genetics and wildlife and fisheries science, Texas A & M University.

Administrative Experience: Member of the Executive Committee of the Faculty of Genetics, 1980-82, 1984-present. Vice-chairman of the Faculty of Genetics 1985. Graduate Advisor and Chairman of the Graduate Affairs Committee, Department of Wildlife and Fisheries Sciences, 1988-1989.

UNIVERSITY GRANTS AND CONTRACT RESEARCH

1987-1989	Texas Agricultural Experiment Station, Expanded Research Activity "Wildlife Genetics."
1987-1988	Texas Agricultural Experiment Station, program Development Grant "Molecular Genetics."
1986-1987	National Geographic Society "Distribution and evolution of ploidy mosaicism in side-necked turtles.
1983-1985	Caesar Kleberg Foundation "Genetic studies in wildlife management."
1982-1984	National Science Foundation "Cytogenetic studies of sex-autosome translocations in the bat family Phyllostomatidae."
1980-1981	National Science Foundation "Chromosome studies of Platemys."
1979-1980	Monsanto Agricultural Products Co. (through LGL Limited - U.S. Inc.) "Taxonomic status of the Illinois mud turtle."
1977-1979	National Science Foundation "Stability and variation of chromosomes of Rhinoclemys and other tetudinoid turtles (Reptilia: Testudines)."

PUBLICATIONS

Morales, J.C., S.W. Ballinger, J.W. Bickham, I.F. Greenbaum, and D.A. Schlitter. 1990. Genetic relationships among eight species of New World and Old World Eptesicus and Pipistrellus (Chiroptera: Vespertilionidae). J. Mamm. (in press).

Christiansen, J.L., B.J. Gallaway, and J.W. Bickham. 1990. Population estimates and geographic distribution of the yellow mud turtle (Kinosteron flavescens) in Iowa. Proc. Iowa Acad. Sci. (in press).

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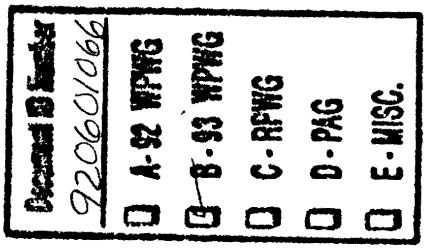

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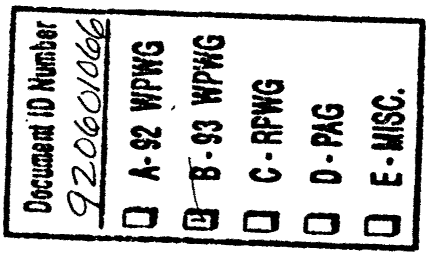

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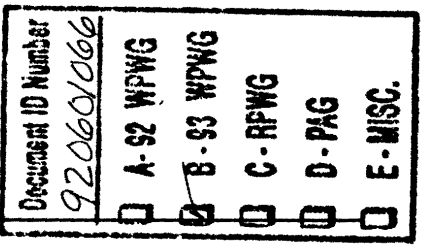
JOHN C. PATTON, Ph.D
Senior Scientist



EDUCATION

1980	Ph.D Zoology, University of Georgia, Athens, Georgia
1976	M.S. Zoology, Texas Tech. University, Lubbock, Texas
1974	B.S. Zoology, Texas Tech. University, Lubbock, Texas

RESEARCH INTERESTS

Evolutionary Genetics, Population and Ecological Genetics, Conservation Genetics, Systematics, Evolution, Cytogenetics

PROFESSIONAL EMPLOYMENT

1989-Present	Joined LGL Ecological Genetics as a Senior Scientist responsible for directing studies of genetic variation of natural populations.
1984-Present	Senior Research Associate, Department of Biology, Washington University
1979-1984	Assistant Professor, Department of Biology, Baylor University
1980-1984	Member of Graduate Faculty, Baylor University
1977-1979	Predoctoral Fellow in Genetics, Department of Zoology, University of Georgia, Athens
1976-1977	Teaching Assistant, Department of Zoology, University of Georgia, Athens
1976	Research Assistant, School of Medicine, Texas Tech. University
1974-1976	Teaching Assistant, Department of Biological Sciences, Texas Tech. University

UNIVERSITY GRANTS AND CONTRACT RESEARCH

1989-1992	National Science Foundation. Factors influencing interpopulation and intrapopulation genetic variation in bovids: The wildebeest model.
1988-1989	Wildlife Conservation International. Genetic techniques for characterizing elephant populations and detecting the origin of questionable ivory consignments.

1986-1987	Nixon Griffis Fund for Zoological Research. Genetic variability and genetic distinctness of the crowned pigeons, genus *Goura*.
1985-1986	Biomedical Research Support Grant (Washington University). Structural organizational and evolution of the Y chromosome in natural populations.
1983-1984	University Research Committee (Baylor University). Evolution of FRNA genes in mammals.
1982	American Philosophical Society. Evolutionary genetics of muroid rodent.
1980	University Research Committee (Baylor University). Rate of biochemical evolution in waterfowl.

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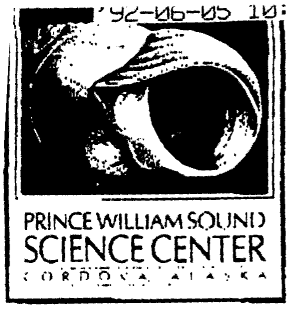

Comments

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June 4, 1992

Dr. Dave Gibbons, Director
Restoration Team
645 G Street
Anchorage, AK 99501

Dear Dave:

I'm sorry that I only have enough time to make a few brief comments on the Restoration Framework Vol. 1 document.

I feel that the framework is much too inflexible. To require "evidence of injury" presumes that the damage assessment program was comprehensive and that researchers had a uniform ability to detect injury. In contrast, the program only assessed a limited number of single species of which the detection of injury was limited to those which were the best to measure.

I recommend restructuring the conceptual approach and decision-making process to acknowledge the amount of uncertainty in the process (Figure 1). By all means, the restoration phase should not be limited by the inability to detect impacts. Unless groups such as the Trustees recognize and admit to the incredible amount of imprecision and inaccuracy of the methods used for assessment, the same measurement limitations will exist during the next catastrophe. Even more tragic is that research and development of new tools will be denied an opportunity to improve the process, and the present inefficiencies of management with low quality data will continue take an unknown toll. I recommend that the Trustees point out the need for development and deployment of new technology to improve the ability to measure model parameters and build testable models. This position on measurement is collaborated in the National Science Foundations GLOBEC reports (1991).

The Trustee's recognition of current measurement and model limitations will establish precedent for addressing the "real" problem. There are few aquatic biologists that will say that they don't need better technology and training on how to improve measurement and incorporate the new information into improving predictions. Even if the Trustees do not fund the research and development to improve measurement and predictive capabilities in the field of aquatic

ecology, management and the protection of natural resources, their statements will be of great importance justifying proposals to other sources of funding.

Many believe that the damage caused by impact of an environmental catastrophe, such as an oil spill, is convoluted by the compensatory mechanisms of the biological assemblage. Thus, outside of those species that suffer direct mortality and can be directly counted, the rest of the impact is spread out, and probably often below our present ability to detect injury on the species level. Personally, I see a need to develop a better understanding of how much resiliency a biological assemblage can sustain and how internal biological structure (species diversity, relative abundance, age class structure, etc.) functions as a compensatory mechanism. I also recognize that this is basic science and not a consideration of the Trustees, but again it would be nice to get an endorsement for supporting future research.

As to the options of restoring, I feel the most prudent approach will be to protect critical habitats and to avoid manipulations without detailed modified before-after, control, impact experimental designs and rigorous testing procedures. As we previously discussed, the Science Center held a workshop on salmon enhancement practices in Prince William Sound last fall that should be considered before considering such options. The Center will be holding a timber-fish and wildlife workshop this fall which may serve as a forum to develop a better understanding on identifying, locating, and developing the criteria for defining critical habitats in the Prince William Sound. The Center already has several agency and industry sponsors to help match a 70K challenge grant from the Pew Charitable Trust, but hopes for a 30K contribution from the Trustees to complete the matching obligation.

I hope these perspectives are not too abrupt and help your efforts because you certainly face a task of incomprehensible difficulty...the restoration of natural resources in the Greater Prince William Sound.

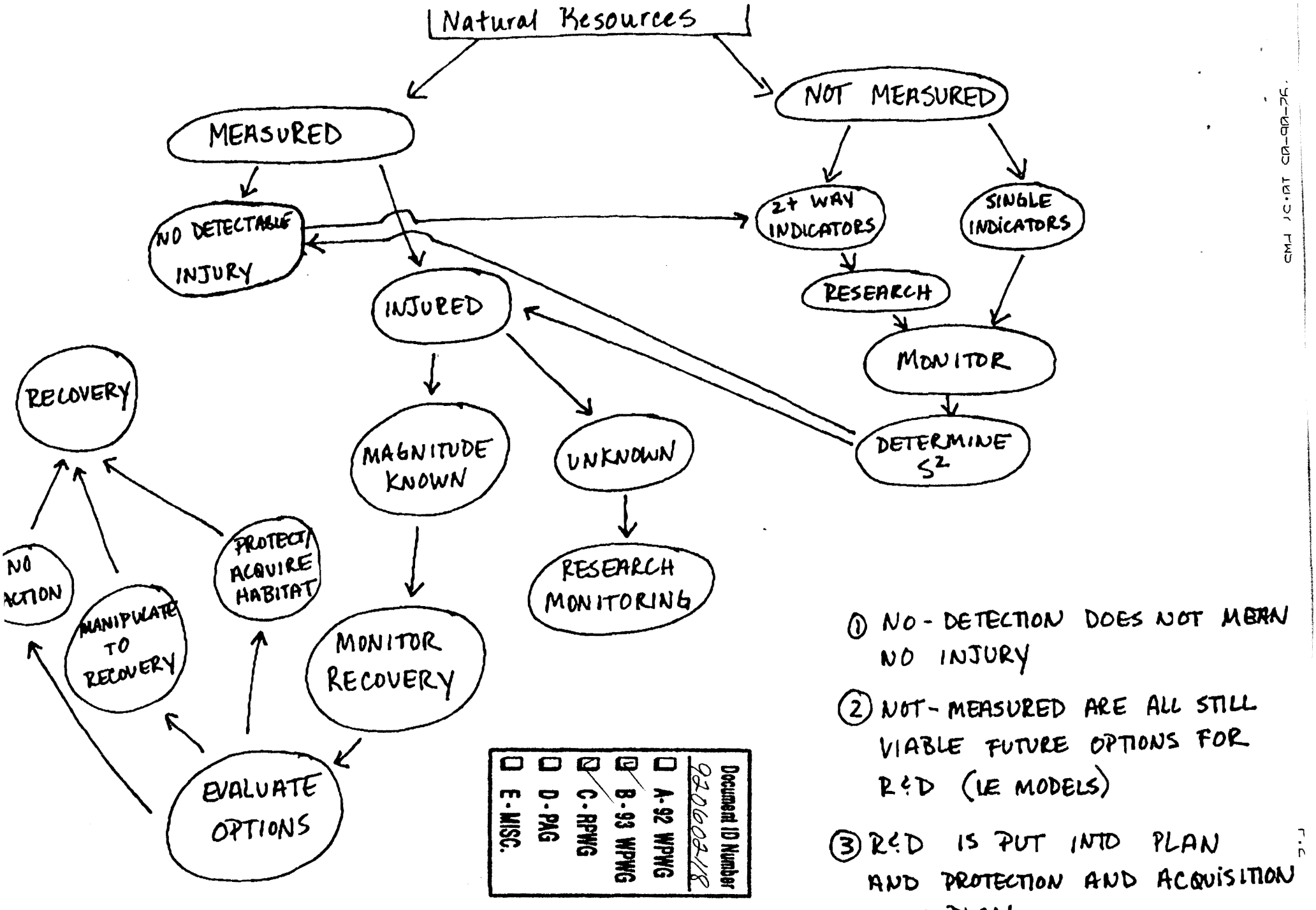
Thank you for the opportunity to comment.

Sincerely,

Gary L. Thomas

G.L. Thomas, Ph.D.
Director

one figure attached



① NO-DETECTION DOES NOT MEAN NO INJURY

② NOT-MEASURED ARE ALL STILL VIABLE FUTURE OPTIONS FOR R&D (IE MODELS)

③ R&D IS PUT INTO PLAN AND PROTECTION AND ACQUISITION IS IN PLAN (I.E. NO APRIORI DECISIONS)

FIGURE 1 — Letter from G.L. Thomas

bio-tech
SERVICES

EXXON Valdez Oil Spill Restoration
Trustee Consul
645 G Street
Anchorage, Alaska 99501

June 5,1992

Dear Sirs,

Bio-Tech Services is a full service environmental company,head quartered in Anchorage. We specialize in environmental engineering and bioremediation technology.Our company possesses a highly effective proprietary line of natural bacteria preparations known as **UNI-REM** (R). We are also partners in Spill Shield International, which sells an all natural wood fiber absorbent product line. Our bioremediation technology and absorbent products have been approved by Alaska's D.E.C.

Bio-Tech Services has developed a staff of qualified microbiologist and chemists, oceanographers, physics, geologists, logistical support personnel and business managers.Members of our staff have been involved in many environmental reclamation projects.

Bio-Tech Services would like an opportunity to discuss the restoration of Prince William Sound with the Board of Trustee. We believe our bioremediation product line **UNI-REM(R)** and our technology can assist in restoring Prince William Sound back to its natural state.

We have included our introduction booklet for your iformation. We look forward to hearing from you in the near future.

Sincerely,

Don Burke,
President

BIO - TECH SERVICES

PRESENTS

"NATURE HEALING NATURE"

UNI - REM®

PRODUCT LINE INFORMATION

CORPORATE

5611 Silverado Way
Suite C
Anchorage, AK 99518
Tel. (907)562-0774
Fax (907)561-5859

bio-tech
SERVICES

Dear Sir,

Thank you for your interest in Bio-Tech Services exclusive Uni-Rem (R) bacteria bioremediation formulates and bioremediation services. We believe our bioremediation products represent the state of art in this industry.

In the following pages you will find background information on bioremediation and a brief review concerning the effectiveness of our Uni-Rem (R) products. We have also included a copy of our Uni-Rem (R) Registration i.e. Material Safety Data Sheet.

We at Bio-Tech Services look forward to answering any question you might have concerning our products and services.

Sincerely,

Don Burke

Don Burke
Bio-Tech Services
President

5811 Silverado Way - Suite C - Anchorage AK 99518
(907) 562-0774 - FAX (907) 561-5559

SAFE CLEANUPS, THE NATURAL WAY

It sometimes seems that not a day goes by that we don't read or hear of another oil spill or waste dump site that will require considerable effort and expense to correct. All of us, from private citizens to corporate leaders understand that a safe, clean environment is essential to the quality of life we expect for ourselves and our children. Unfortunately, in spite of all the preventive measures we take, accidents happen. In a similar manner, occasionally we discover that obsolete methods of disposal once thought safe for indefinite periods are not nearly so effective as we once believed.

When a problem is discovered, be it a large oil spill resulting from an accident at sea, or a relatively small problem such as leaking tanks, the responsible parties must take steps to remove the hazard from the environment as rapidly as possible, with minimal additional disruption from the cleanup effort itself. There are several methods available to clean up petroleum and other hazardous wastes, from relatively simple mechanical means to the use of sophisticated state of the art technology. Whatever the means employed, the goals are the same, to remove the hazard quickly, safely, and at the lowest overall expense consistent with the desired end result.

Some removal methods are in themselves undesirable. Methods such as burning produce unacceptable by-products, such as soot and toxic gases, and mechanical removal simply moves the hazardous material from one site to another, doing nothing to eliminate the problem.

The most interesting ideas concerning removal of environmental hazards have centered around the idea of using naturally occurring mechanisms as a prime ingredient in the cleanup process. This is not a new idea, as the "natural" approach has included every variation imaginable, from the "ignore it and it will go away by itself" school to modern application of natural counter agents, such as organisms which consume the hazardous material or convert it to a more benign substance. It is on this last approach that Bio-Tech Services has decided to focus its efforts, and which will be the subject of the remainder of this document.

NATURE HEALING NATURE

Waste products and environmentally hazardous materials have been present on our planet since time began, long before the appearance of man, and their neutralization was no less important in those times than it is today. Naturally occurring environmental hazards include dead or dying animals, vegetation, hydrocarbon seepage, noxious gases, and similar problems. Natural forces operating over millions of years resulted in the appearance of organisms especially adapted to waste removal. These organisms, primarily one-celled creatures, are adept at removing undesirable material from the natural environment and restoring balances.

The emergence of man has resulted in increasing strain on these natural repair mechanisms, and in some cases have proven incapable of handling the levels of pollution caused by the intentional or accidental activities of our human population. Fortunately, man has the ability to work with his environment to assist natural forces in the cleanup efforts, by applications of technology such as enhanced biological methods or other techniques.

Bio-Tech Services of Alaska has spent considerable time and effort developing several types of organisms optimized to attack environmental hazards such as petroleum spills, pesticides, acids, and related compounds. Their line of enhanced biological cleanup weapons is unique in the world today, offering considerable versatility in application, and considerable cost savings over competing cleanup methods. Bio-Tech Services products are suitable for use in temperatures ranging from sub-freezing to more than 100 degrees (F). They may be used in areas with pH values below 4.5 and above 8.5, and will withstand salinity levels (in water) to at least 35 grams/liter. These products may be applied directly, via spraying or tilling, or other means as may be desirable. Bio-Tech Services application specialists are always available for consultation to determine which product is best for each job.

Application of Bio-Tech Services products to the cleanup or organic compounds, such as petroleum spills, results in a continuous reduction process, taking place over several days to a few weeks, culminating in a near to complete transformation of the hazardous material into simpler, environmentally benign substances such as water, carbon dioxide, and cell mass. In many applications, the resulting end products are absorbed in the food chain of other animals or plants already in the area and effectively disappear. Certain compounds excreted during the process, such as detergents, contribute to the effectiveness of the overall process by increasing the efficiency at which the single celled organisms can consume unwanted material.

The introduction of colonies of Bio-Tech Services microbes into the environment for the purpose of removing unwanted substances does not result in secondary disposal problems. The organisms multiply rapidly to the extent of the available food supply (e.g. oil), and diminish in proportion to the remaining supply as the unwanted product is removed from the environment. As the available foods supply decreases, the supplied organisms die out and become food for other naturally occurring plants or animals. In other words, the end result is a complete (or nearly complete) disappearance of both the unwanted substance and the bio- remediation agent until the levels of each reach those normally found in the natural environment.

Bio-Tech Services natural organisms are completely safe, and present none of the political or technical problems encountered with the use of genetically engineered organisms. Remember that each of these organisms already occurs naturally in our environment, and cannot become a hazard in and of themselves.

Each Bio-Tech Services product, such as **UNI-REM**, and **KERA- PAC**, is designed to combat a specific problem or range of problems. The remaining pages in this informational booklet will highlight each product and illustrate methods of application and other considerations involved to obtain maximum effectiveness with Bio- Tech Services products.

WHY BIO AUGMENTATION

Scientifically, it has been proven that the use of specific bacteria selected from various sites globally, that were heavily contaminated for extended periods of time, have the greatest success in bioremediation and the least impact on the environment. The geographical location where the bacteria is extracted has proven not to impact the environment or affect the success of the remediation properties of the bacteria. For example, the totally natural bacterial strains used in **BIO-TECH SERVICES** product lines **UNI-REM** and **KERA-PAC** are widely found throughout nature. The bacteria developed and integrated into the **UNI-REM** and **KERA-PAC** product lines are permanent inhabitants found in almost all natural reservoirs and soils where micro quantities or organics as a food substrate are high enough to maintain the minimal background levels required to sustain bacterial populations.

The concerns voiced about releasing non indigenous microorganisms into the open environment should be limited to products developed through genetic engineering. The application of natural microorganisms should not raise concern about changes to the natural environment.

The product lines, **UNI-REM** and **KERA-PAC** as presented by **BIO-TECH SERVICES** are based only on natural microorganisms selected from a natural environment, which has been contaminated with crude oil for many years.

The main field of our scientific activity is selection of natural microorganisms that are particularly effective in utilizing anthropogene (hydrocarbon) contaminates. We use known and proven methods of bacteria adaptation and our investigations show that a population of microorganisms inoculated into the contaminant passes its maximum and reduces to the natural background concentration after the contamination is completely biodegraded to innocuous substances in the environment.

Our scientific conclusions concur with he results of fundamental research and information obtained by scientists and companies operating in the same areas of research. As an example, the following are excerpts from a leading environmental companies literature:

"Generally, selection and adaptation consists of several steps. First, microorganisms are isolated from an environment where they have had the opportunity to acclimate naturally to a specific organic substances such as oil or phenol. Second, the dominant species is isolated and subjected to increasing concentrations of specific compounds. This results in a strains of the species that are not only capable of withstanding what might normally be toxic concentrations of specific compounds, but also demonstrates the ability to breakdown these compounds at an accelerated rate. The search for the right species and the development of a viable strains takes many, many trials over long periods of time. Third, a colony of the desired strains is established and stock cultures are maintained in the Companies culture bank. Finally, the Companies research and development department blends several of the different cultures together to form standard product blends that are highly active for commonly found combinations of waste compounds."

"Organisms selectively adapted to rapid biodegradation a waste or contaminants are cultured, blended, and shipped to the site for incubation. Incubation takes place in either a continuous flow or batch system depending on the application. Bacteria are dosed according to specific design criteria and site analysis resulting in a dramatic increase in the microbial population. This augmented population can be two orders of magnitude greater than the indigenous population. "FIGURE 2" depicts this concept. "FIGURE 3" compares biodegradation by selectively adapted organisms to indigenous bacteria."

"Organisms isolated from the soil and/or groundwater by conventional enrichment techniques are documented to be safe and non-pathogenic. These cultures are grown on a sole source of carbon similar or identical to the target substrate and then transferred to bran fiber. The bacteria are mixed into a blend so that all the fractions of the contaminates are digested. Cultures can compromise up to twelve different species or organisms."

We follow all scientific research in this field closely and can list several companies accepted as worldwide leaders that use microbiological methods of bioremediation, including inoculation of an isolated and cultivated natural strain into the contaminated soil.

Figure 1

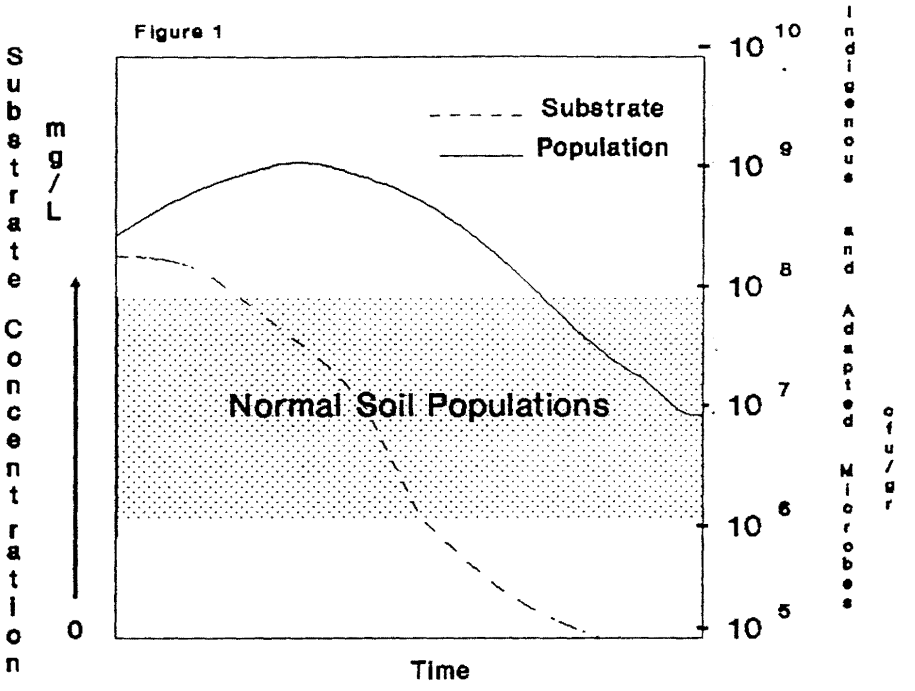
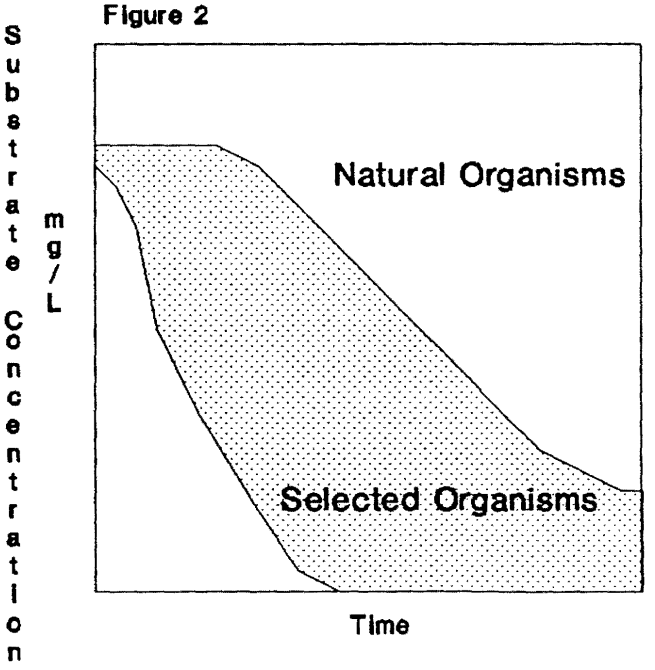


Figure 2



Sharing the opinion that practice serves as a criteria for the truth, we present some publications illustrating application of technology similar to ours on oil spills.

Vice-President of the Environmental Research and Development Bureau in Austin, Professor of Microbiology Carl H. Oppenheimer, has a collection of bacteria from the world's largest oil spills.

An Environmental Corporation has started industrial production of bacterial preparations (blends of several dozen different types of microorganisms) using bacteria from this collection.

Chairman of the Texas Commission of Water Resources and Oil Spill Response, Mr. Back Winn, reported that the product was used successfully for cleanup of the oil spill in the Gulf of Mexico resulting from an accident with the Norwegian tanker "Mega-borg". 90% of spilled oil was decomposed within the first 24 hours. Similar results were achieved with application of the product "Alpha" in an Arkansas Harbor.

Leader of the Texas Commission of Soil Resources, and member of the special oil spill remediation group, Mr. Harry Moro, has obtained state allocations for research and development of bacterial cleanup technology.

Inspired by the efforts of "Exxon" in Alaska, EPA turned their attention to the research in the field of bacterial treatment of hazardous waste. In their "Guidance for Storage, Remediation and Disposal of Petroleum Contaminated Soils" dated March 16, 1991 (section "Cell Bioremediation), EPA directly stipulates inoculation of bacteria to enhance remediation of contaminated soils.

The leader of the engineering and environmental control department of EPA (Washington), Mr. Alfred Lindsey, states that treatment of the Alaskan beaches provides the most reliable data on the successful application of bacteria.

Director of the Technical Department of ENSR, Jim Werdington, thinks that biological methods save 40% of time.

"When bacteria utilize all the oil they die without leaving any toxic residues and the protein they produce is an excellent fish food" (Houston Chronicle, June 17, 1990).

The inoculated bacteria have no harmful effect on the composition of the local biocenosis, and after all the oil is destroyed the population of the inoculated bacteria is reduced back to the previous minimal level. While dominant, the bacteria does all the work of destroying the toxic hydrocarbons, promoting the restoration of the population and activity of the local biocenosis. This process does not take 12-18 months but is accomplished during the first weeks after inoculation of the additional bacteria.

PRODUCTS AND SERVICES

KERA-PAC(R) and UNI-REM(R) Product Information

The KERA-PAC(R) Solution

As a result of a long and arduous scientific research into the development of a leading edge immobilization system, BIO-TECH SERVICES has developed the State-of-the-Art, KERA-PAC. KERA-PAC is based on derivatives from Keratin biopolymers, forming a unique bioremediation product line. The properties of KERA-PAC forms a strong and highly permeable structure, making it possible to accomplish the same environmental effects as a cocoon for living bacteria. Commonly referred to as a "Snake in a Cage", the cocoon is a man made environment, consisting of protein macromolecules, that creates a special condition in which enzymes or living bacteria are placed. KERA-PAC protects the enzymes or bacteria from any unfavorable outside environment but does not prevent the transportation of nutrient substratum or products of metabolism.

One of the most specific advantages of KERA-PAC is the creation of high concentrations and rapid reproduction of bacteria within the working area. The KERA-PAC immobilization system makes it possible to develop biological preparations with its characteristics set in advance. A natural hydrocarbon oxidizing bacterial strain is used as a base to create a line of biocompositions with characteristics such as buoyancy and high sorption capacity, making it highly effective in both soil and water applications. Scientist from BIO-TECH SERVICES are world leaders in the field of immobilization, advancing them light years ahead of the competition.

Immersing the KERA-PAC in a liquid medium activates the bacterial cells, starting their growth and reproduction, utilizing the contaminates as their source of energy. Once critical biomass is reached the KERA-PAC discharges cells into the contaminate stream. Incubation in an enriched media, such as hydrocarbons on water or in soil, results in a population explosion of the fixed cells, ejecting the free cells from the KERA-PAC into the contaminate substrate.

The KERA-PAC, when compared to the inoculation of free cells into a contaminated waste stream has several advantages:

Bacteria are fixed (immobilized) in the KERA-PAC and thence to the sorbent material. This unique system allows continual inoculation of the waste stream negating the cost of a continuous replacement of the contaminate degrading bacteria.

The KERA-PAC, acting as an incubator for the bacteria, continues to grow and discharge bacteria. Introduction of the KERA-PAC containing a small amount of immobilized bacteria, into the contaminate substrate, makes the bacteria contained in the KERA-PAC the dominant strain in the waste stream environment.

The biosorbent media is permanently enriched, due to absorption of hydrocarbon compounds, maintaining the system in a condition of stability and productivity.

In a liquid form, KERA-PAC fixes microorganisms to the work space (filter media) of a sorption column or bioreactor, allowing enhanced degradation of contaminates in a low volume waste stream, with degradation continuing into the low PPM's of contaminate.

Imbedding the KERA-PAC immobilization process in a sorbent material makes possible the increased transfer of oxygen at the oil/water interface, which has particular advantages for aerobic microorganisms.

The KERA-PAC(R) and UNI-REM(R) Solution

In the framework of innovative technology, BIO-TECH SERVICES presents a line of aggressive, contaminant reducing biological compositions, UNI-REM, that are complex, uniform structures containing strains of evolutionary, bio-degradating bacteria which may be immobilized in a KERA-PAC.

Proprietary strains of Pseudomonas bacteria are fixed into the KERA-PAC which contains the necessary nutrients such as nitrogen, phosphorous, and trace elements. The KERA-PAC is pH balanced to support microbial development. The composition of KERA-PAC is entirely biological in origin and absorbs the target contaminants.

The KERA-PAC immobilization process and the UNI-REM bioremediation products are each specifically formulated for such specialized uses and applications as:

Metabolizing hydrocarbons on water.

Soil remediation of hydrocarbons and of toxic waste such as wood processing/preserving chemicals.

A biocomposition of bacteria fixed to a oleophilic sorbent that is particularly effective as immediate response to spills on water.

Different modifications of the UNI-REM and KERA-PAC product lines make it possible to choose the most effective application in each specific case of contamination in soil, water or industrial waste water.

UNI-REM(R) - 100 is a preparative paste-form of the product, that is directly applied to remediate hydrocarbon contaminated soil and water.UNI-REM-100 is also the base for manufacturing of the other UNI-REM products.

UNI-REM(R) - 200 is a dry powder preparation of bacterial cells dried by liophylization. UNI-REM - 200 is convenient for transportation and storage of large quantities of product and is used in the same applications as UNI-REM - 100.

UNI-REM(R) - 300 is a biocomposition, immobilized through the KERA-PAC method, specifically developed for remediation of oil spills on water, resulting in formation of an oil film on the surface.The product is particularly effective due to its buoyancy.

UNI-REM(R) - 400 is developed specifically for remediation of soil contaminated with oil, oil products or toxic organic substances through the KERA-PAC immobilization method. The process of toxic components biodegradation is accompanied with a positive change in the structure of the soil changing the contaminant to a biomass. Complete recovery of the soil and increased fertility is also accomplished.

UNI-REM (R)- 500 is a special biocomposition containing a hydrocarbon oxidizing bacterial strain, immobilized through the KERA-PAC method, including biocomponents that absorb oil and oil products. UNI-REM 500 is particularly effective when applied as "First Response" to large-scale oil spills and may also be used in sorbent columns for remediation of industrial waste waters.

UNI-REM(R) - 600 is modification, immobilized through the immobilization method KERA-PAC, with a high oil sorption capacity and is actually a self recovery biosorbent. The remediation rate in the case of its application is very high due to the condensed from of the biodegradation process. The product is used for remediation in an aqueous environment through use in sorbent column processes (oil slicks and oil containing waste water).

UNI-REM (R)- 700 is a unique biocomposition of bacteria, immobilized through the immobilization KERA-PAC method, with a balanced mineral combination of nitrogen and phosphorus sources. Due to the special components in its structure, KERA - PAC works efficiently under low oxygen conditions.

REMEDIATION CAPABILITIES

UNI-REM(R) AND KERA-PAC(R) PRODUCT LINES

The following is a partial list of the contaminates that the UNI-REM and KERA-PAC product lines are capable of degradating:

CRUDE OIL AND ALL OIL PRODUCTS

Gasoline
Diesel Fuels
Jet Fuels
Aviation Fuels
Motor Oil
Hydraulic Fluid
Oil Sludge

ALIPHATIC COMPOUNDS

Methanol
Ethanol
Ethylene glycol
Propylene glycol

AROMATIC ORGANIC COMPOUNDS

Creosote
Xylene
Naphthalenes
Methyl Naphthalenes
Benzene
Crezol
Phenol
Phthalic Acid
Diethylene Ether
Toluene
Ethylbenzene
Anthracene
Pentachlorphenol

PESTICIDES

Dalapon
Sevin
DDT

DEGRADING PROPERTIES

EFFECTIVENESS OF UNI-REM(R) IN THE DEGRADATION OF VARIOUS PETROLEUM PRODUCTS

The bacterial preparation UNI-REM utilizes hydrocarbons from crude oil through the finished products, such as the various grades of gasoline, diesel and jet fuels, naphthalene, camphor, octane, hexane, benzene, toluene, xylene, paraffins, asphaltenes, wood treating chemicals including pentachlorophenol.

Oil is composed of several thousand different chemical compounds. One of the main difficulties with hydrocarbon utilization is the absence of the oxygen atom in the molecules, making it almost impossible to accomplish the nitrogen dehydration reaction necessary for biooxidation. UNI-REM's bacteria is unique in its ability to catalyze the hydrocarbon oxidizing process utilizing molecular oxygen. The UNI-REM bacteria possesses at least seven plasmids responsible for producing carbon degrading ferments. The most important ferments are monooxidases, forming a hydroxyl group in the hydrocarbon skeleton of molecules, and hyoxigenases that continues the process of hydrocarbon oxidizing along with the creation of harmless environmental products as follows:

$$C_nH_{2n+2} + 1.5O_2 \xrightarrow{\text{Bacteria}} H_2O + CO_2 + \text{Natural Protein}$$

Most commonly used microorganisms are able to metabolize crude oil in the relatively low fraction zone of the spectrum and have low activity or absence of activity in the medium molecular or low molecular portion. One of the main advantages of the UNI-REM bacteria is its ability to actively oxidize the entire spectrum of oil components including the fractions with low boiling points 176 degrees - 392F (80 degrees - 200C) and to show with the high boiling points 932 degrees - 1832F (500 degrees - 1000C), being most active in the fraction 482 degrees - 752F (250 degrees - 400c) range (FIGURE 3), including the most ecologically dangerous aromatic compounds. For example, the UNI-REM bacteria reduces the content of carcinogenic compounds of benzapyrene contained in asphaltenes from 10 to 100 times. UNI-REM also biodegrades phenols, diphenils, halogenated and sulfated aromatic hydrocarbons, surfactants and pesticides.

"UNI-REM (R) "
Oxidizing properties

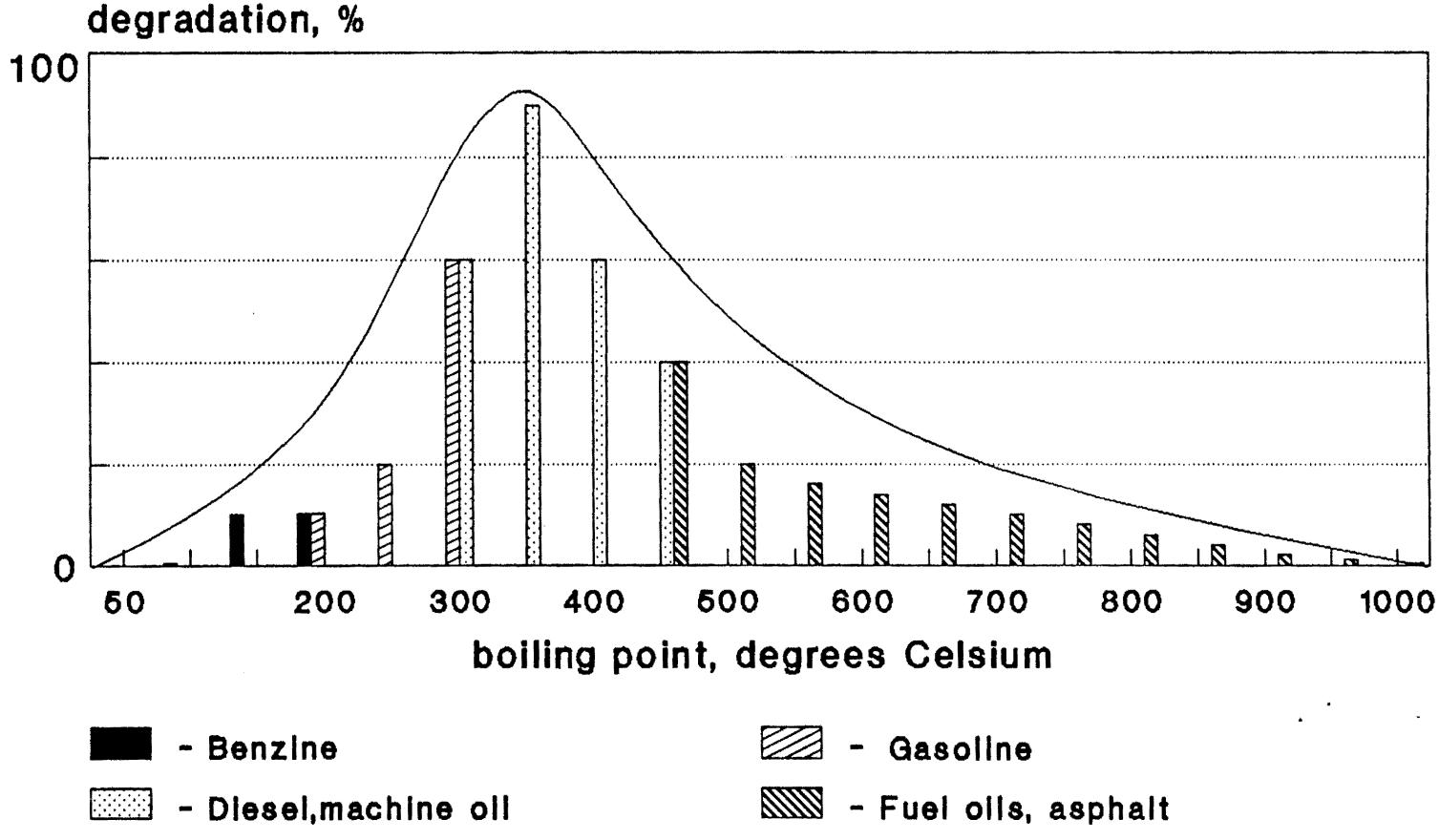


Fig. 3

UNI-REM possesses stable hydrocarbon oxidizing properties and is adaptable to a wide range of environmental factors, such as temperature, pH, chemical contaminants, the type of oil product, the area of contamination, and the structure (linear, branched, and cyclic). Compounds of the line C10 - C20 are more easily degradated. The solubility of hydrocarbons with a total number of atoms greater than 15 is relatively low, becoming soluble after biooxidation. Saturated hydrocarbons with the number of carbon atoms less than 20 are destroyed first and then the aromatic and heterocyclic. Hard hydrocarbons of the paraffin line are the last to be oxidized. Infra-Red spectrometer data has shown in tested bio-oxidized oil, that there are residues of asphaltine tar substances and only traces of hetero- and carboxy-cyclic structures.

The required conditions for UNI-REM's bacterial existence are proper temperatures, presence of oxygen, near neutral pH, flourine compounds and hydrocarbons as food supply.

Investigations conducted in the sea water have proven that the half-life time in experiments with the soluted forms of oil equalled 192 hours 77 degrees - 86F (25 degrees - 30C), 450 hours 65F (18C) and 1000 hours 32 degrees - 40F (0 degrees - 9C). One degree temperature decrease results in addition of half-life time by approximately 40 hours. Another advantage of the UNI-REM bacteria is that it is an optional psychrophyl, making it more effective in low temperature zones (Arctic and Subarctic) and extending the application period in middle temperature zones to a one to two month period, compared with other bacteria requiring warm condition. The optimal pH range for UNI-REM bacteria is 6.0 - 7.5 with a maximum oil oxidizing rate of 177 to 200 milligrams per liter of contaminant per day. The biodegradation process is dependent on the oxygen content of the water. It was found that by increasing the amount of CO_2, and lowering the amount of oxygen, culture growth was retarded, proving that its quantity correlated with the oxygen saturation of water. UNI-REM bacteria is also retarded by high concentrations of organic acids containing fluorine and salts of some metals (vanadium, nickel, etc.). The speed of bioremediation was dependent on the molecular oxygen content of the matrix. Experiments proved that by increasing the oil slick area 4 times with an equal amount of oil, resulting in an increase of efficiency and biodegradation rate by 1.3 - 1.5 times.

UNI-REM (R) REGISTRATION

I. NAME, BRAND, AND TRADEMARK:

UNI-REM(R)

Type of Product: Product for the bioremediation of hydrocarbon contaminated soil and water .

II. NAME, ADDRESS AND TELEPHONE NUBMER OF MANUFACTURER:

BIO-TECH SERVICES

5611-C Silverado Way
Anchorage, Alaska 99518

Phone: (907) 562-0774
FAX: (907) 561-5859

III. NAME, ADDRESS AND TELEPHONE NUMBER OF DISTRIBUTOR:

BIO-TECH SERVICES

5611-C Silverado Way
Anchorage, Alaska 99518

Phone: (907) 562-0774
Fax: (907) 561-5859

IV. SPECIAL HANDLING AND WORKER PRECAUTIONS FOR STORAGE AND FIELD APPLICATION:

Flammability - UNI-REM is non flammable.

Ventilation - Normal ventilation is adequate for handling and

Emergency and First Aid Procedures -

None required, ordinary measure of personal hygiene are adequate.

Direct contact of UNI-REM with skin or eyes should be avoided.

In the event of direct skin contact, wash the affected area with soap and water.

Storage Temperatures -

Minimum storage Temperature: 23° F (-5° C)
Maximum Storage Temperature: 68° F (+20° C)
Optimum Storage Temperature: 39° F (+4° C)
Temperature of phase separation and chemical changes: N/A

V. SHELF LIFE:

The shelf life of UNI-REM is 12 months if stored in a dry, low humidity environment.

VI. RECOMMENDED APPLICATION PROCEDURE:

Appliation Method :

For application on an oil spill in water: The product may be applied by spraying over a water oil spill, as it comes from the manufacturer without any other processing.

For application on an oil spill in soil:

The land area to be treated should be tilled to provide surface area for oxygen transfer and microorganism contact.

The correct balance of phosphorous and nitrogen should be established in the contaminated soil or sand. This can be done with common crop or lawn fertilizers.

Distribute UNI-REM evenly over the entire contaminated area. Backpack tank type spreaders may be used.

Moisten the treated area with water to maintain optimum soil moisture content.

To speed up degradation, till the treated area weekly or based upon specific remediation plan. This will provide aeration and increased surface contact of bacteria to the contaminant.

UNI-REM should not be applied with more than 20 psi pressure.

Concentration/Applicaton Rate:

Concentration/Application for contaminated water:

UNI-REM should be applied in concentration of 50mg/1 liter of contamination. It requires no additional processing, and can be applied directly to the spill.

Concentration/Application:

Dependent upon initial concentration of contamination:
Application rate of 2-5 kg UNI-REM per hectare of contaminated soil, dependent upon initial contamination. UNI-REM is mixed with enough fresh water to insure an even disbursement of the product over the contaminated soil.

Condition of Use:

UNI-REM is specially formulated to degrade crude or refined hydrocarbons, in fresh or salt water and most soil matrixes.

Select a time when the ambient temperature is anticipated to be above 50 degrees F and skies are clear.

Bioremediation will proceed under cold conditions, although at a slower rate.

Recommended Application Temperatures:

Minimum Recommended Application Temperature: 50° F(10° C)
Maximum Recommended Application : 110° F (43° C)
Optimum Recommended Application Temperature: 82° F (28°C)
Extended temperatures above 120° F (50° C) will kill the bacteria.

Light rains will not affect bioremediation, but extremely heavy rain may wash out UNI-REM. If heavy rain are forecast, visqueen should be used to cover the major portion of the contaminated area.

VII. EFFECTIVENESS OF ADDITIVES AND DEGRADATION RATES:

UNI-REM possesses stable hydrocarbon - oxidizing properties and is adaptable to a wide range of environmental factors, such as temperature, pH, chemical contaminant, the type of oil product, the scale of contamination, and structure (linear, branched and cyclic).

UNI-REM may be adapted to meet the needs of a wide range of water salinity, water and soil, and types and age of pollutants.

All test data was obtained from both laboratory and pilot field projects. The degradation rates are below average, since many environmental factors affect degradation.

The average degradation rate for hydrocarbon contamination in a water matrix (fresh or salt) and/or soils is similar: 1 liter of oil, in either a water or soil matrix will require 50 mg of UNI-REM applied properly, to be remediated in approximately 14 to 30 days, depending on environmental conditions.

VIII. MICROBIOLOGICAL ANALYSIS:

List of all microorganisms by species.

Monoculture strain of hydrocarbon oxidizing bacteria Pseudomonas sp.

Percentage of species in the composition of the additive.

100 %

Optimum recommended application temperature:

82° F (28° C)

Minimum and maximum recommended application temperature above or below which the effectiveness is reduced to half its optimum capacity:

Minimum temperature 57° F (10° C), maximum 95° F (35° C)

Optimum recommended application pH: 6.0 to 7.5

Minimum and maximum pH above or below which the effectiveness is reduced to half its optimum capacity:

Minimum pH 4.5; maximum pH 8.5

Resistance to salinity level below 35g per liter (4.62 oz. per 1.0 U.S. gal.).

Special nutrient requirements.

None needed

UNI-REM is a monoculture and does not contain any of the following:
Salmonella, fecal coliform, Shigella, Staphylococcus, Coagulase positive, beta Hemolytic Streptococci.

IX. LABORATORY REQUIREMENTS FOR TECHNICAL PRODUCT DATA:

The initial field pilot tests and laboratory analysis were conducted by a private concern. Candidate of Sciene, Mr. Youri Koulchitsky of the Moscow,Russia, conducted these initial stages of investigations.

The testing for the microbiological cultures was performed at the University of Alaska, Anchorage.

UNI-REM(R) TESTS

BIO-TECH SERVICES

ANCHORAGE, ALASKA, USA, SEPTEMBER, 1991

This program includes the testing of "UNI-REM's" ability to degrade oil contaminated soil.

The following personnel represented BIO-TECH SERVICES:

Don Burke, President
Kenneth Garrett, CEO, Operational Manager
Vladimir M. Martynenko,
Andrei V. Suslov.

The following personnel represented UAA Arctic Enviromental Information and Data Center:

Sal Cuccarese, Manager of Program Development Wildlife Biology, Regional Planning
Mike Kelly, Scientist.

All preparations for testing were supplied by the Alaskan Company, BIO-TECH SERVICES.

All soil samples were tested by CHEMICAL AND GEOLOGICAL LABORATORY, Anchorage, Alaska, USA.

The following is the specific test and its environmental conditions.

TEST 1 JP - 4

Removal: Alaskan soil (sandy/loam) removed from Potter Drive in Anchorage, Alaska on September 17, 1991.

Soil Density: 1.6 g per cubic cm

Total Volume: 0.004 cubic meters
Original Product: **JP - 4**
Product Density: 0.85 g per cubic cm

Additives: 76 ml of pure JP - 4 were mixed with 0.004 cubic meters of soil (6.4 kilograms). Calculated level of contamination was 10,000 PPM.

Sample #1 taken September 17, 1991

Temperature: 60-70 degrees F.

The testing procedures were as follows:

The contaminated soil was twice treated with the biopreparation "**UNI-REM**" (on the 1st and 14th day).

The soil was mixed twice a day.

Water was added every day.

Nutrients (diammonium phosphate) were applied on the 5th day in the 0.01% concentration solution.

Test was conducted at room temperature 68-74 degrees F (20-24 degrees C).

The initial soil pH level was 8.0
The final soil pH level was 7.0

Samples of soil were taken:

- at the 17th of September (analysis of Volatile Aromatic Organic Compounds, EPA 8020)
- on the 10th day of the experiment (analysis of Volatile Petroleum Hydrocarbons, EPA 8015)
- on the 21st day of the experiment (analysis Extracted Petroleum Hydrocarbons, EPA 8100 modified, and Total Petroleum Hydrocarbons, EPA 418.1)

The test results are enclosed in **Exhibit A**.

BIO - TECH SERVICES

EXHIBIT A

DEGRADATION RATE OF JP-4 USING UNI - REM(R) - 200

DEGRADATION RATE OF JP-4 USING UNI-REM(R) 200

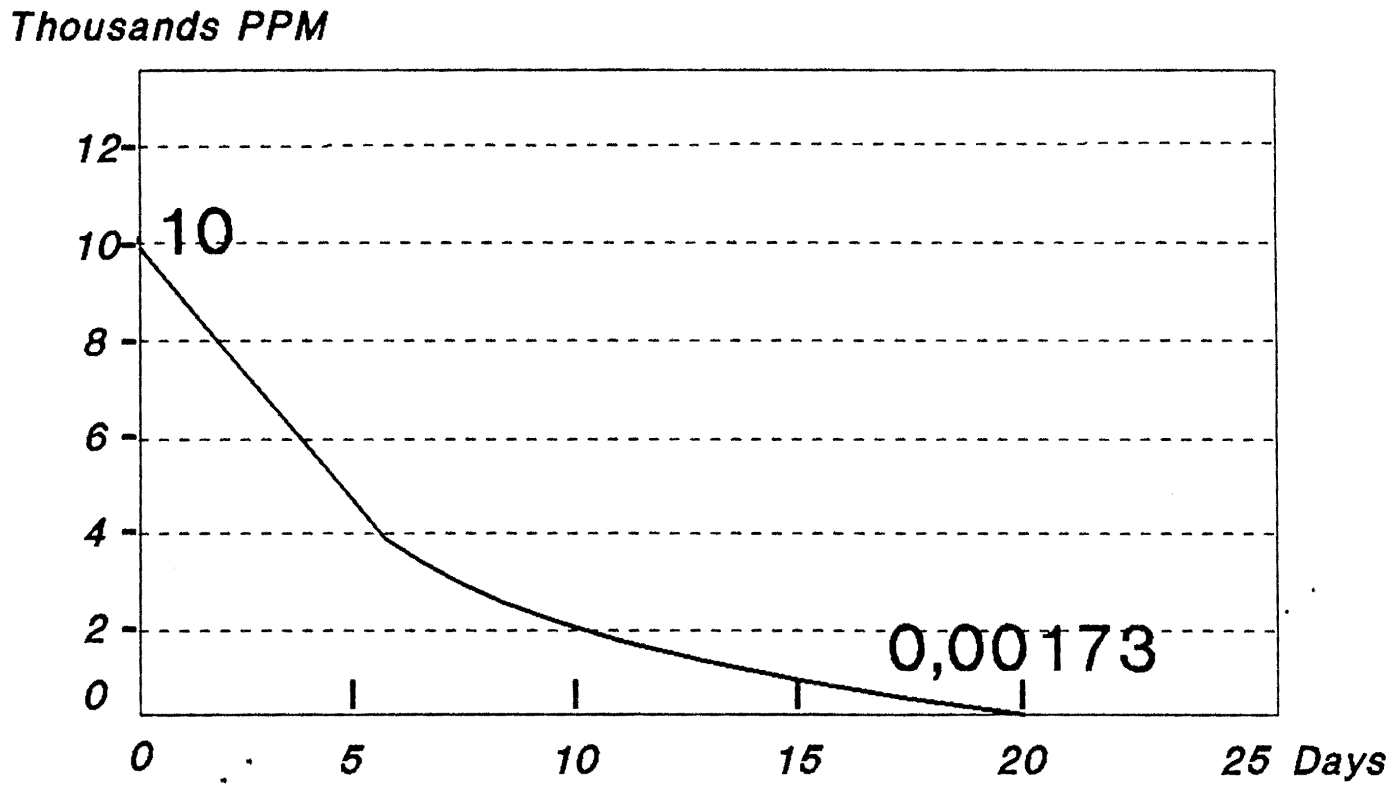


Fig. 4

Creosote Test

Client: University of Alaska/Alaska Rail road Corp.

Conducted by Bio-Tech Services (Sept - Dec 1991)

Bio-Tech Services are specialists in the remediation of soils and waters from a wide range of hydrocarbon contaminates (oil and oil based products). **Bio-Tech** has recognized that many competitive bioremediation techniques are not effective when oil contaminates also contain more complex chemical substances. This is not an uncommon condition in the field. This condition can often hinder, or make ineffective many bioremediation efforts.

Specifically, many common organic pollutants can be characterized as having antisepsis properties (the process of destroying bacteria). Creosote is a very common contaminate, and one that acts as an antiseptic, destroying many indigenous bacteria, as well as those that might commonly be applied to remediate a site via bioremediation of the more popular bacterial strains now available in the U.S.

Recognizing this condition, **Bio-Tech Services** decided to conduct tests to determine the effectivenes of its proprietary strain of bacteria called **UNI-REM**, in both its lyophilized (freeze drying powder form), as well as in its proprietary method of packaging its bacteria in a "carrier" system, called the immobilization method. Owing to its highly successful experience in the field with this particular strain when applied to substances such as glycols, aviation fuels, gasolines, etc., we felt reasonably confident our bacteia could remediate high creosote levels commonly found near lumber mill and railway sites.

Tests were conducted with soil samples furnished by Alaska Rail road Corp. through the University of Alaska under a pilot test program. These tests were conducted at **Bio-Tech's** facilities, with Dr. **Quentin Reuer, University of Alaska, Anchorage (UAA)**, and **Mr. Sal Cuccarese, UAA Arctic Enviornmental Information and Data Center**, monitoring the tests. The actual analytical tests were conducted by an independent testing organization, **Chemical & Geological Laboratories**, and followed State and Federal EPA methods. Please refer to the charts and test data attached hereto for particulars.

The soil was characterized as being sand and loam, with a contamination level of 5,000 PPM. The single sample was thoroughly mixed and then divided into three (3) equal parts.

The first part was retained as the "control". The second and third parts were retained for treatment with the same bacterial strain (UNI-REM), but in differing forms. The forms are referred to as "lyophilized" (freeze dryed powder) and our proprietary "immobilized" or "carrier" package, also in a freeze dryed form.

The samples were mixed, the bacteria was applied, and water was added (moisture control) each day in accordance with our standard field protocol.

On the second day following inoculation, we observed that all volatile organics were absent . The concentration of the contamination in the control sample was constant during the test period , and remained at approximately 5,000 PPM. One test showed a higher level, and this can be attributed to normal statistical error.

Examination of the tabulated and graphical data indicate that both forms of our proprietary **UNI-REM** bacteria preparations remediated the contaminated soils from their initial levels of 5,000 PPM to a range of 119 to 170 PPM after only 90 days.

No further tests were taken after this period, but we can forecast that the remediated levels would be approximately 100 PPM with additional time. This level would then be within most state and Federal guideline limits.

In conclusion, our tests indicate that **Bio-Tech's UNI-REM strains are highly effective in remediating creosote contaminated soils at rapid rates, and to levels that are at or below Federal EPA and state guidelines.**

BIO - TECH SERVICES

EXHIBIT B

UNI - REM(R) CREOSOTE TEST

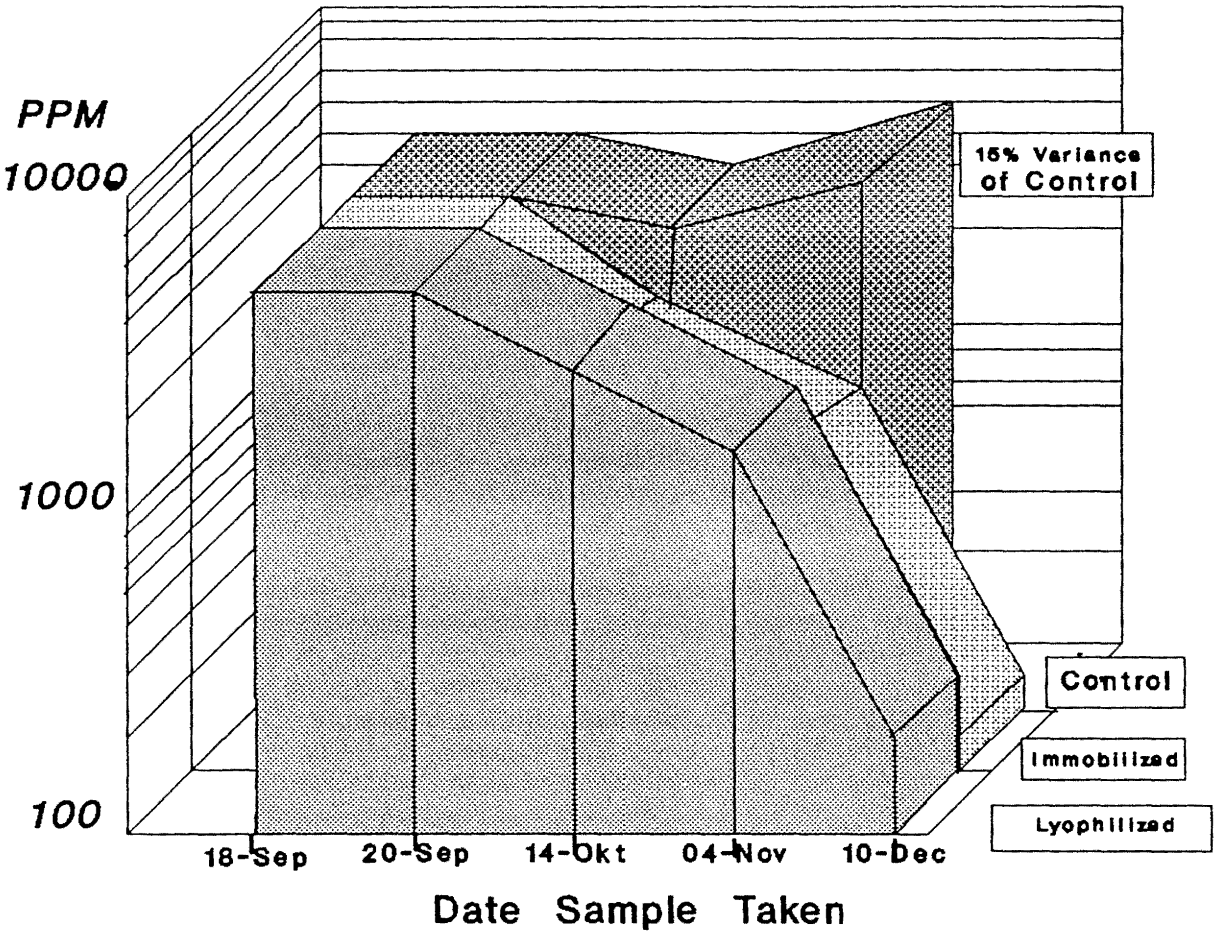
Test: Creosote & Soil (sand/loam)
Source: Sample from Alaska Rail road Corp.
Client: University of Alaska

Description of test :	*Date :*	*Test :*	*Test :*	*Test :*
Sample Designation		**Control**	**Sample # 1**	**Sample # 2**
Type or form of biopreparate			**Immobilized**	**Liophylized**
Initial Level: EPA Method 8020 (Non Volative Organic)	**18 - Sep**	**Traces**	**Traces**	**Traces**
Initial Level: EPA Method 3510/3550/8100 Mod.	**18 - Sep**	**5000**	**5000**	**5000**
Added UNI-REM(R) biopreparate to samples	**20 - Sep**	**5000**	**5000**	**5000**
EPA Method 3510/3550/8100 Mod.	**14 -Oct**	**4150**	**2450**	**3230**
EPA Method 3510/3550/8100 Mod.	**04 - Nov**	**5760**	**1460**	**2130**
EPA Method 3510/3550/8100 Mod.	**10 - Dec**	**None taken**	**119**	**170**

1. Immobilized strain shows 30% higher rate in 1 st. treatment period.
2. The liophylized bacteria shows an excellent rate of remediation, and at the end of the sample period, equal result.
3. The above shows a remediation level of 119 to 170 PPM in approx 80 days.

UNI-REM(R) CREOSOTE TEST

From Alaska Rail road Corp.



Bioremediation: An Alternative to Incineration

By R.B. Grubbs and Dwight L. Navis

Bioremediation seems to have jumped out of science fiction and into today's headlines. News coverage of several major oil spills in the last two years has increased the nation's interest in natural cleanup methods. Bioremediation is being described as tomorrow's treatment of choice for handling hazardous wastes. The good news is that bioremediation has been used successfully for many years, and provides a viable option to incineration.

Essentially, bioremediation is the process by which living organisms are used to decontaminate a polluted system. Typically, the organisms of choice are bacteria. Bacteria are simple, single-celled organisms. Although simple as one unit, bacteria taken as a whole are the most diverse group of organisms in the world. Bacteria are capable of surviving in every environment on Earth. Some strains can live in such extreme conditions as hot, sulfur springs and the Dead Sea. It is no wonder that these organisms can survive on polluted soils and water.

Bacteria are the prime work horses in bioremediation, but other organisms can be employed. Different fungi show promise as degraders of DDT and other toxic pesticides. Water hyacinths have been utilized in water systems to remove trace organics and trace metals. Some genetically altered plants could be planted in fields of contamination to degrade pollutants.

Bioremediation offers several advantages and benefits over other treatment methods. There are five primary advantages to choosing bioremediation. This natural process can be done onsite, at an economical cost, and be quickly and predictably implemented. By opting for bioremediation, a generator can reduce its liability and cost.

On-site treatment alleviates the cost and liability associated with removal and transportation of contaminated soils to another facility or landfill. Bioremediation is an economical option. The cost per ton of bioremediation of contaminated soil will normally range between $15 and $70. Also, maintenance costs of bioremediation is very low, because only a few pieces of equipment can break down or need constant repair and upkeep. The bacteria work for free, as long as there is food, which we consider hazardous compounds, to eat. This concept puts a new meaning into the phrase "Working for Peanuts," changing it to "Working for Polynuclear Aromatics."

Bioremediation is a safe and natural method of treatment. Biological treatment degrades hazardous materials to water, carbon dioxide, and bacterial cell material, without producing other side effects and with minimal energy utilization. The public is more amenable to natural solutions than incineration or burying of hazardous wastes.

Finally, bioremediation offers predictability. Where applicable, a bioremediation program can be designed that will give a definite timetable for remediation. The program can be designed to give predictable results, which allows one to devise a program with known costs. Degradation can be complete with no more liability.

Bioremediation can be segmented into two schools of thought. One method can be classified as biostimulation. This method uses naturally occurring bacteria present in the soil at the site, exclusively. These bacteria are stimulated by the introduction of nutrients into the soil mass, enhancing the biological growth. The other method can be classified as bioaugmentation. Bioaugmentation involves the addition of certain pre-selected bacteria to the soil. This process is done to ensure that the proper "degraders" are present to perform the rapid breakdown of target contaminants.

The methods of biostimulation are based on the assumption that every type of organism needed to accomplish the complete breakdown of hazardous compounds are normally present in the soil and in sufficient numbers to be effective. Therefore, to assure satisfactory treatment, all that is required is a detailed treatability study to determine the ideal environment needed for the indigenous bacteria. Of these tests are positive, the environmental conditions required can be practically obtained. These studies are normally expensive and time-consuming.

Another drawback of the feasibility is that what goes on in controlled environments - a lab, a bucket of soil, or a greenhouse - is not what goes on in a natural setting. What is important is what happens out in the field. Bacteria do not behave like chemicals; they are alive and dynamic. Very little is known about the ecology of microorganisms in the soil. Consequently, consistently successful field work is far more valuable than a few laboratory studies that barely begin to uncover the intensely complex and rich interactions that occur between soil microorganisms of all kinds.

It is also very hard to define what is indigenous to each site. The few

microbiologists who have studied bacterial ecology claim that almost every soil organism has, at one time or another, existed in nearly every environment on Earth. Bacterial populations are very dynamic. These are shuffled around by forces of weather and animals, and die back to very low levels, only to blossom by the billions under near ideal conditions. The "indigenous" populations are constantly changing due to these and other forces Indigenous populations will not always serve as a reliable pool of hazardous waste degraders. Taking a chance on the local bacterial gang can be risky, hence the need for the extensive treatability studies.

A more sophisticated approach to biostimulation is the detailed laboratory evaluation of bacterial strains at the site to find the strain or strains that best degrade the contaminants. These strains are then grown, by a patch process, in large quantities on the site. The cultured strains are added back to the soil during stimulation. One shortcoming to this batch process is that each batch will vary. This does not lend itself well to predictable remediation.

Bioaugmentation is the controlled addition of specially formulated bacterial cultures to assist bacteria present in the soil. This method will not be successful unless the environment is controlled so the conditions created produce suitable growth. Degradation of contaminants can proceed by three routes, as primary metabolites, secondary metabolites, or by co-metabolism.

A primary metabolite is viewed by the bacteria as a readily degraded substance and can be used by the bacteria as both an energy and carbon source, two vital bacterial requirements for survival. Primary substrates will induce the bacteria to produce enzymes designed to degrade those primary substrates. Enzymes are biological catalysts that perform specific tasks needed to break down hazardous compounds. Usually simple pollutants are degraded as primary metabolites.

More complex hazardous materials are viewed by the bacteria as secondary substrates. Whenever exposed to more complex pollutants, the bacteria need a primary substrate to induce the production of enzymes needed to break down both the primary and secondary substrates. A secondary substrate does not induce enzyme production; primary substrates are needed for the biodegradation of these pollutants as secondary metabolites. The enzymes are inducedby the primary substrates. Secondary substrates can now be degraded by the same enzymes that degrade the primary substrates. The primary substrate can be another hazardous substance or any other organic compound found in the soil. In many instances, other organic compounds do not need to be added as primary substrates unless the soil is depleted of organic matter, or if the bacteria strains used are highly specific and do not compete well under the site's naturally occurring or stimulated conditions.

The final route of degradation is co-metabolism. This method is similar to secondary substrate utilization. The difference is that the bacteria can use the secondary substrate as an energy or carbon source. During co-metabolism, however, the substrate (hazardous compounds) cannot be utilized by the bacteria. Through co-metabolism the enzymes produced by the bacteria can cause partial breakdown of the contaminants. The co-metabolized remnants of the hazardous compounds are then in a form that other bacteria can utilize as substrates.

You can see from this sketch of biodegradation that the process at the bacterial level is complex. Usually a consortium of different bacteria is needed for complete degradation, especially when cometabolism plays an important role. Although a consortium is required, not just any group of bacteria will do. The idea of adding sludge or horse manure to a bioremediation site, or the "sour mash" technique may not be effective, nor will it produce predictable results. What is needed is a defined consortium of bacteria that will predictably degrade certain types of contaminants at a known rate.

Once the appropriate bacteria are located, then the environment must be manipulated to allow effective growth. Soil types play a major role in bioremediation. The bacteria need surface area and access to nutrients, water, and oxygen to function effectively. Porous soils work the best. Troublesome soils include clay and soils with high mineral levels, like those found in desert regions. The troublesome soils need special care, such as amendments or sufficient mechanical manipulation to break up the soils. A successful bioremediation project is dependent on a good understanding of soils, soil problems and effective soil treatments.

Additional environmental concerns include appropriate water levels, sufficient levels of readily accessible sources of nitrogen and phosphorous, neutral pH levels and warm temperatures. All of these are needed to keep the bacteria working at an effective rate of degradation.

The final concern is "how clean is clean?" Bioremediation is an effective remediation tool, but under some conditions it cannot effectively degrade contamination to low levels, such as low parts per billion and the elusive nondetectable.

Reasonable standards must be set so the public's and the environment's health is maintained. These standards, however, should not be set to such low standards that it falls below the capabilities of reasonable cleanup methods or the remediation cost becomes prohibitive. Some places in California and in other states have set such stringent cleanup standards that few, if any, technologies can be employed in an economical manner. These unattainable standards stifle cleanup. which is not in the public interest. We have to look at all technologies available today and set the standards on attainable cleanup levels. These standards should be based on risk standards, not on capricious levels that are impossible to clean up with current technologies or which will bankrupt most institutions.

UNIVERSITY OF ALASKA ANCHORAGE

3211 Providence Drive
Anchorage, Alaska 99508

COLLEGE OF ARTS AND SCIENCES
Department of Biological Sciences

December 19, 1991

Dr. Max Sweeney
Alaska Dept. of Environmental Conservation
4241 B Street
Anchorage, AK 99501

Dear Dr. Sweeney:

I am writing in regard to the bioremediation studies currently being conducted by Biotec Services. The research involves a strain of the soil bacterium Pseudomonas putida that has shown potential for oxidation of petroleum. This organism should pose no significant threat to human health, as Pseudomonas putida is part of the normal flora of soils and is routinely encountered by humans during daily activities. Bioremediation with the strain employed by Biotec services may involve application of significant quantities of the organism to contaminated soil and water, but immunocompetent individuals should experience no significant risk during application of the cultures or subsequent visitation of the innoculated areas. Following degradation of the contaminating petroleum by this particular strain of Pseudomonas putida, the organism is likely to be replaced by other microorganisms that make up the bulk of the soil's normal flora. The potential for this organism to serve as a safe, non-destructive means of cleaning up spills is significant, and I recommend that Biotec services be allowed to proceed with their studies.

Thank you for your consideration of this matter.

Sincerely,

Qt R.

Quentin Reuer, Ph.D.

STATE OF ALASKA

WALTER J. HICKEL, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION

ANCHORAGE DISTRICT OFFICE
800 E. DIMOND BOULEVARD, SUITE 3-470
ANCHORAGE, ALASKA 99515 (907) 349-7755

CERTIFIED MAIL
RETURN RECEIPT
REQUESTED
January 23, 1992

Arctic Slope Regional Corporation
Edward Hopson, Sr.
P.O. Box 129
Anchorage, Alaska 99723

SUBJECT: **Alaska Petroleum Contractors**
6710 Wes Way, Anchorage
SPILL #: 90-2-1-1-172-1; FILE #: L/CS100.42

Dear Mr. Hopson:

The Department has reviewed the proposal by Mr. Don Burke for the cell bioremediation of the diesel fuel contaminated stockpile at this site. Mr. Burke has responded to the Department the week of January 6, 1992 and during a telephone conversation on January 16, 1992.

The proposed remediation is approved based on Mr. Burke's responses, noted above, and the revised report received January 21, 1992. The Department looks forward to working with your firm and their representative to complete the cleanup and closure of this site. If you have any questions please call me at 349-7755.

Sincerely,

Scott Bailey
Environmental Specialist

SB/cf
cc: Max Schwenne, ADEC/SCRO Contaminated Sites Program Manager
Don Burke, Bio-Tech Services

STATE OF ALASKA
DEPT. OF ENVIRONMENTAL CONSERVATION

WALTER J. HICKEL, GOVERNOR

P.O. Box 871064
Wasilla, Alaska
99687-9998
(907) 376-5038

February 28, 1992

Mr. and Mrs. Gerald Stoneking
Glad Tidings Full Gospel Church
P.O. Box 871217
Wasilla, Alaska 99687

RE: Glad Tidings Full Gospel Church, Located on Lot 5, Block 1, The Meadows; Contaminated Soil Remediation Plan

Dear Mr. and Mrs. Stoneking:

Reference is made to my letter of February 25, 1992, to Mr. Don Durko of Bio Tech Services, which conditionally approved his plan for the remediation of contaminated soil from your property, described above. A copy of my letter was sent to you for your information.

Based on discussions that I have since had with you, the issue of liability, which was briefly discussed in my letter, has become a significant concern. The position expressed in my letter, was based on your recent letter to me which stated that you had "selected" Bio Tech Services to take possession of your contaminated soil, and that "By doing this we have transferred our obligation of cleaning the soil forever". Selecting a firm to undertake the remediation work does not relieve you of your liability; however, it is now my understanding that you have signed an agreement or contract with Bio Tech Services, under terms of which they have assumed responsibility for the remediation. The Department has no objection to such an agreement and feels that this issue is one that rests entirely between you and Bio Tech Services. Such an agreement may legally obligate Bio Tech Services to complete the remediation of the contaminated soil.

I hope that this helps to clarify the Department's position. If you have any questions, please do not hesitate to call me.

Sincerely,

for Mike Kriebor
Environmental Engineer

MK:

cc: Don Durko, Bio Tech Services

Standard Quality Assurance Program Plan for Underground Storage Tank Systems Regulated by 18 AAC 78

Assessment Firm: Bio-Tech Services

Address: 5611 Silverado Way - SuiteC, Anchorage, AK 99518

Phone: 562-0774 561-5859 (Fax)

By signing this document the signatories below certify that the document is a bona fide copy of the Alaska Department of Environmental Conservation Standard Quality Assurance Program Plan Draft 2 dated March 25, 1992, that they are responsible for ensuring that all functions listed in this plan will be performed as described, and that the personnel listed herein and in subsequent site specific plans are adequately trained to perform the tasks assigned them.

Principal investigator: Iouri L. Koultchitski (Print name) — Iouri L. Koultchitski (Signature) — May 28 1992 (Date)

Quality Assurance Officer: Andrei V. Suslov (Print name) — Andrei V. Suslov (Signature) — May 28, 1992 (Date)

When signed below by the appropriate approving official, the Alaska Department of Environmental Conservation hereby approves this plan as meeting the requirements for a Quality Assurance Program Plan described by 18 AAC 78 and associated guidelines. Upon receipt, and after verification, of information showing non-adherence to this plan, the Alaska Department of Environmental Conservation reserves the right to rescind its approval of this document.

ADEC approval: Kent PATRICK-Riley (Print name) — SCRO UST Coordinator (Title)

Kent Patrick-Riley (Signature) — May 28, 1992 (Date)

BIO - TECH SERVICES

PRESENTS

"NATURE HEALING NATURE"

UNI - REM(R)

PRODUCT LINE INFORMATION

CORPORATE

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Suite C
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Tel. (907)562-0774
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Comments Cover Letter

Richard Podolsky, PhD

235 West 56th Street #20N
New York, NY 10019-4330
Tel: (212) 246-4686 or 6054; FAX: (212) 246-6074
Applelink = PODOLSKY; Internet = PODOLSKY@AppleLink.Apple.COM

June 10, 1992

BY FACSIMILE TRANSMISSION: **12 pages Total**

Dr. Dave R. Gibbons
Exxon Valdez Trustee Council
645 "G" Street
Anchorage, AK 99501

Dear Dr. Gibbons,

I am pleased to submit my resume and six restoration project proposals to the Trustee Council for consideration for the 1993 Work Plan. I am currently working with Dr. Art Weiner on a project entitled, *The Quantification of Habitat in Prince William Sound from Satellite Imagery*, which will assist the group that is restoring the Marbled Murrelet. As a biologist with a specialty in seabird restoration as well as remote sensing/GIS, I hope to make significant contributions to the restoration efforts in the years ahead.

I completed my doctoral degree in Wildlife Ecology at the University of Michigan, Ann Arbor in 1985. My doctoral research dealt with population restoration of albatrosses in Hawaii and storm-petrels in Maine. I have also been involved for fourteen years with the successful effort to restore Atlantic Puffins to nesting islands in the Gulf of Maine. While working on the Puffin Project I personally hand-raised over 1,000 puffin chicks with 96% fledging success. Since graduation I have been Director of Research at the Island Institute and Research Associate at the Cornell Laboratory of Ornithology. Presently, I am a freelance ornithologist designing and managing projects dealing with remote sensing and seabird restoration. For the past four summers I have been a visiting scientist at the Charles Darwin Research Station in the Galápagos Islands where I lead a project to restore the endangered Dark-rumped Petrel and advise the Darwin Station on remote sensing.

My current research interests are in three related areas. The first deals with the behavioral ecology and restoration of seabird populations. Second, I have developed remote sensing tools and use them to identify and measure habitats. Third, I examine the biological implications of toxic marine debris, particularly plastic, for marine birds. My research program with seabirds entails conducting behavior experiments where I present stimuli, such as vocalizations or models of courting birds, in an attempt to restore populations and enhance habitat. This work has resulted in the restoration of puffin, tern, storm-petrel and albatross populations to historical nesting islands.

With research and development grants from Apple Computer and others, I have developed GAIA Software which allows the quantification of habitat directly from SPOT and Landsat satellite images and aerial photographs. I use GAIA to measure

coasts, islands, wetlands and other critical landscapes from a variety of earth imagery. With these data I measure the degree to which habitat parameters explain the distribution and abundance of plants and animals. Remote sensing and geographic information systems are emerging technologies that are ideally suited for restoration programs.

My experience with remote sensing and population restoration enables me to bring a unique perspective to the restoration efforts in Alaska. I also have several years experience in managing logistically complex projects in remote areas.

Thank you for your consideration and I look forward to hearing from the Trustee Council very soon.

Yours Truly,

Richard Podolsky, Ph.D.

Enclosures: Resume and 6 proposals for the 1993 Work Plan.

Richard Podolsky, PhD

235 West 56th Street #20N
New York, NY 10019-4330
Tel: (212) 246-4686 or 6054; FAX: (212) 246-6074
Applelink = PODOLSKY; Internet = PODOLSKY@AppleLink.Apple.COM

EDUCATION

The University of Michigan — Ann Arbor, MI
PhD Ecology, Fisheries and Wildlife — 1985

Rutgers University — New Brunswick, NJ
MS Ecology — 1980

The University of Wisconsin — Madison, WI
AB Biological Conservation (with Distinction) — 1976

POSITIONS

Cornell University Laboratory of Ornithology. Research Associate (1991-Present).
Eastman Kodak Company: Center for Creative Imaging. Instructor (1992).
Charles Darwin Research Station-Galápagos Islands. Visiting Scientist (1988-1991).
Bigelow Laboratory for Ocean Sciences. Adjunct Scientist (1990-Present).
National Audubon Society. Ornithologist (1978-Present).
Island Institute. Rockland, Maine. Research Director (1986-1991).
College of the Atlantic. Bar Harbor, Maine. Summer Faculty (1989).
Hurricane Island Outward Bound School. Academic Director (1885-1986).
The University of Hawaii. Kauai, Hawaii. Oceanography Instructor (1982-83).
The University of Michigan. Lecturer in Ecology and Oceanography (1981-82).
Stockton State College. Pomona, NJ. Instructor in Ecology (1980-81).
Rutgers University. Lecturer in Ecology and Ornithology (1977-80).

COURSES INSTRUCTED

Science and Imaging, General Ecology, Ornithology, Field Methods in Ecology, Organisms and Evolution, Conservation and Natural Resource Ecology, Ecology of Marine Birds and Mammals, Biological Oceanography, Animal Communication.

HONORS and AWARDS

Computerworld Smithsonian Award Finalist. Computerworld/Smithsonian (1991).
Outstanding Wildlife Ecology Student. The University of Michigan Faculty (1985).
Rackham Predoctoral Fellow. The University of Michigan Graduate School (1984).
Frank M. Chapman Ornithology Award. American Museum of Natural History (1982).
Alexander Bergstrom Ornithology Award. Northeast Bird-banders Association (1981).

PROFESSIONAL SOCIETIES

American Association for the Advancement of Science, The Society for Conservation Biology, The American Ornithological Union, The Cooper Ornithological Society, The Wilson Ornithological Society.

PUBLICATIONS

Podolsky, R., J. Freilich & R. Knehr. 1992. Predicting plant species richness from remotely sensed data in a high desert ecosystem. **In Press,** 1992 ISPRS/ASPRS Global Change Conference Proceedings, Washington, DC.

Kress, S.W., D. Nettleship and R.H. Podolsky. 1992. Reintroductions of Atlantic Puffins, terns, and Leach's Storm-petrels at former breeding sites in the Gulf of Maine. **In Press,** B.D. Bell & J. Kromdeur (eds.). "Management Methods for Populations of Threatened Birds" International Council for Bird Preservation Technical Publication Cambridge, England, U.K.

Podolsky, R.H., J.B. Cruz, W. Mugavero, and S.W. Kress. 1992. Population size and trends of the endangered Dark-rumped Petrel on Santa Cruz Island, Galápagos, Ecuador. **In Review,** The Auk.

Podolsky, R. and S.W. Kress. 1992. Attraction of the endangered Dark-rumped Petrel to recorded vocalizations in the Galápagos Islands. The Condor 94: 448-453.

Podolsky, R.H. 1990. Effectiveness of social stimuli in attracting Laysan Albatross to new potential nesting sites. The Auk 107 (1): 119-125.

Podolsky, R.H. and B.C. Morehouse. 1990. Analyzing and managing digital earth imagery: An ecological perspective. Scientific Computing & Automation. January 1990: pp. 19-26.

Podolsky, R.H. 1990. Monitoring biodiversity and landscape richness through digital earth imagery. International Society for Photogrammetry and Remote Sensing Commission VII Symposium, "Global and Environmental Monitoring: Techniques and Impacts," Vancouver, BC.

Podolsky, R.H., B.C. Morehouse and R. Greene. 1990. Geographic Information and Analysis of Digital Earth Imagery on the Macintosh II. Proceedings, "Advances in Spatial Information Extraction and Analysis for Remote Sensing" Orono, Maine.

Podolsky, R.H. and S.W. Kress. 1989. Factors affecting colony formation in Leach's storm-petrel to uncolonized islands in Maine. The Auk 106: 332-336.

Podolsky, R.H. 1989. The Status of the Razorbill in the Gulf of Maine. American Birds 43: 14-16.

Podolsky, R.H. and S.W. Kress. 1989. Plastic debris incorporated into cormorant nest in the Gulf of Maine. Journal of Field Ornith. 60: 248-250.

Podolsky, R.H. 1989. Entrapment of Sea-deposited plastic debris on the shore of a Gulf of Maine island. Marine Environmental Research 27: 67-72.

Kosinski, R.J. and R.H. Podolsky. 1979. An analysis of breeding and mortality in a maturing kittiwake colony. The Auk 96:537-543.

PRESENTATIONS

Exxon Valdez Restoration Project. Dept. of Conservation. Anchorage, AK. 3/92.
The Center for Creative Imaging. Eastman Kodak Company. Camden, ME. 1/92.
Scientific and Engineering Applications on the Macintosh. San Francisco, CA. 1/92.
Apple Computer, Inc. Environmental Group. Cupertino, CA. 2/91, 1/92.
The RAND Corporation, Santa Monica, CA. 11/91.
NASA Headquarters, Washington, DC. 9/91.
Apple Computer, Inc. Worldwide Developers Conference, San Jose, CA. 5/91.
Gulf of Maine Conference, Woods Hole, MA. 1/91.
The Woods Hole Research Station, Woods Hole, MA. 11/90.
Global and Environmental Monitoring. ISPRS Comm. VII. Vancouver, BC. 9/90.
Yale University, School of Forestry and Environmental Studies. 3/90.
Computer Visualization and Imaging in Research, U. of Iowa. 2/90.
National Center for Geographic Information and Analysis, Orono, ME. 1/90.
NASA Ames Research Center. Mountain View, CA. 12/89.
Environmental Grantmakers Conference, San Francisco, CA. 12/89.
Distinguished Lecturer University of Michigan, Ann Arbor, MI. 11/89.
The Boston Computer Society. Massachusetts Institute of Technology. 11/89.
Second International Conference on Marine Debris, Honolulu, HI. 4/89.

RESEARCH GRANTS

The Irving Foundation. Enhancements to GAIA Software (91-Present).
Arthur K. Watson Foundation. The Maine Coast Environmental Atlas (91-Present).
National Audubon Society and The Charles Darwin Research Station. Attraction of the endangered Galápagos Dark-rumped Petrel to restored habitat (1988-Present).
Island Foundation, Inc. (1) Satellite imagery and computer mapping for natural resource analysis (1988-89). (2) Integrated Resource Management (1986-88).
Apple Computer, Corp. Research and Development Grant: Satellite imagery and computer mapping for natural resource analysis (1988-90).
Center for Field Research. (1) Peregrine Falcon migration on Maine islands (1984); (2) Establishment of Laysan albatross to Kauai, Hawaii. (1983).
Chapman Memorial Fund of the American Museum of Natural History. Artificial stimulation of colony formation in storm-petrels (1979-80).
Doctoral Dissertation: Colony formation and attraction of Leach's Storm-petrel and Laysan Albatross.
Masters Thesis: Reproductive performance, growth and behavior within a Herring Gull colony on Kent Island, New Brunswick, Canada.

COMPUTER EXPERIENCE

Developer and designer of scientific software including **GAIA** Software, an earth imagery analysis and **GIS** package. In-depth experience with the application of computers to environmental problems, specifically with earth image analysis, computer visualization and Geographic Information Systems. Life Sciences Editor for *SciTech Quarterly* the publication of the Macintosh Scientific and Technical Users Association and imaging instructor for Kodak.

MISCELLANEOUS

Master Bird Banding Permit # 21,768 (for Alaska). Certified Scuba Diver, small vessel handling.

POPULAR ARTICLES

This Year in Space. SciTech Quarterly. 2nd Quarter 1992.
Satellite Imagery Aids Analysis of Rare Coastal Ecosystems. GEOInfo Systems. June 1992
Optical Storage Medium and the Preservation of the Rainforest. SciTech Quarterly. 1st Quarter 1992.
Lost Island Birds. Island Journal 1992.
Costa Rica: Where Diversity Reigns. Grand Circle Travel. 34 pp, April 1992.
Mind over Macintosh. SciTech Quarterly. 4th Quarter 1991.
Satellite Search Aids Wetlands Visualization. GIS World Magazine. December 1991.
The Impact of Desktop Computing on the Progress of Science. SciTech Quarterly. 1st Quarter 1991.
Maine's Rarest Seabird. Maine Boats and Harbors. April 1991.
The Thin Edge. Island Journal 1991.
Marine Debris Conference Review. Pacific Seabird Group Bulletin 1990.
Pleistocene Islands: The Rise and Fall of Maine's Island Empire. EARTHWATCH. March 1988.
This Island Earth. New Alchemist Quarterly. Summer 1989.
Island Extinction: The Saga of the Great Auk and Sea Mink. Island Journal 1989.
The Razors Edge: Maine's Rarest Seabird. Island Journal 1988.
Night Birds: Storm Petrels on the Maine Coast. Island Journal 1987.

CONSULTING CONTRACTS

Quantification of Habitat in Prince William Sound from SPOT Imagery. Alaska DEP.
Landuse Compatibility Study from SPOT Imagery. San Clemente Island, CA.
Landsat Image Analysis of Joshua Tree National Monument. Apple Inc./National Park Service.
Wetlands Mapping from SPOT Imagery in Wells and Kennebunk, Maine. Maine Geological Survey.
Quantification of Intertidal Seaweeds Using SPOT Satellite Imagery. FMC Corporation.
Habitat Mapping and Analysis of Cross Island Wildlife Refuge. U.S. Fish and Wildlife Service.
Significant Geomorphological Features: The Maine Coast. 1989. 34 pp plus maps.
Scenic Assessment of Cobscook Bay and the Bold Coast. 1989. 17 pp
Old Growth Forest Inventory: Allen Island. 1989. 7 pp plus maps and appendices.
Old Growth Forest Inventory: Cross Island. 1989. 5 pp plus maps and appendices.
Rare Plant Inventory: Islesboro. 1988. 34 pp plus maps and appendices.
Wetlands Inventory: Long Island. 1988. 9 pp plus maps and appendices.
Ecological Inventory and Conservation Options: Islesford. 1988. 34 pp plus maps and appendices.
Ecological Characterization: West Plummer. 1988. 36 pp plus maps and appendices.
Coastal Access Study: Town of Stonington. 1988. 56 pp plus appendices.
Natural Resource Profile for Comprehensive Plan: Town of Stonington. 1988. 55 pp.
Ecological Characterization: Long Island Fuel Farm. 1988. 30 pp plus maps and appendices.
Ecological Characterization: Bareneck Island. 1988. 23 pp plus maps and appendices.
Forest Inventory: Great Chebeague Island. 1987. 3 pp plus maps.
Natural Resource Policies for Comprehensive Plan: Town of Vinalhaven. 1987. 48 pp.
Waste-water Plan: Heart Island. 1987. 11 pp plus maps.
Comprehensive Estate Management: Matinicus Island. 1987. 35 pp plus maps and appendices.
Forest Management Plan: MacMahan Island. 1987. 30 pp plus maps and appendices.
Ecological Characterization: Heart Island. 1987. 16 pp plus maps and appendices.
Forest Blow-down Study: Cape Island. 1987. 17 pp plus maps.
Forest Management Plan: Greens Island. 1987. 14 pp plus maps and appendices.
Land Use Management: North Haven Island. 1987. 30 pp plus maps and appendices.
Meadow Restoration Plan: Babbidge Island. 1987. 22 pp plus maps and appendices.
Visual Resource Assessment: Islesboro Island. 1987. 30 pp plus maps.
Ecological Characterization: Spruce Island. 1986. 22 pp plus maps and appendices.
Ecological Characterization: Hutchins Island. 1986. 25 pp plus maps and appendices.
Comprehensive Management Plan: Cross Island. 1986. 45 pp plus maps and appendices.
Groundwater and Hydrological Survey: Islesboro Island. 1986. 24 pp plus maps and appendices.
Wetland Survey: Islesboro Island. 1986. 38 pp plus maps and appendices.
Forest, Pasture and Sheep Management Plan: Allen Island. 1985. 35 pp w/ maps and appendices.

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- 02
- 03
- 04
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- 06

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Six Studies

Justification: (Link to Injured Resource or Service)

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

01 - Restoration of murres by Behavioral Attraction + Habitat Enhancement

02 - Restoration of murres by way of Transplantation of Chicks (a Feasibility study)

03 - Identification of seabird feeding areas from Remotely Sensed Data

04 - Marbled murrelet Vocalization in Conjunction with Artificial Nests

05 - User friendly GIS and Remote Sensing - Center for Public

06 - Quantification of Stream Habitat for Harlequin Ducks from Remotely Sensed Data

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

Richard Podolsky, PhD
235 West 56th St. #20N
N.Y. N.Y. 10019-4330

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.

fold here

PLACE
STAMP
HERE

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

Attn: 1993 Work Plan

Comment

CITY OF VALDEZ, ALASKA

RESOLUTION NO. 9215

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF VALDEZ, ALASKA, EXPRESSING ITS SUPPORT FOR THE EXPENDITURE OF FUNDS OUT OF THE EXXON VALDEZ NEGOTIATED SETTLEMENT BY THE EXXON VALDEZ SETTLEMENT TRUSTEE'S COUNCIL TOWARDS THE ENHANCEMENT OF PRINCE WILLIAM SOUND.

WHEREAS, the effects of the Exxon Valdez oil spill were felt by all residents of all communities in Prince William Sound and areas affected by that oil spill; and

WHEREAS, the Exxon Valdez oil spill brought a greater environmental awareness to all residents living in Prince William Sound; and

WHEREAS, the time has come to minimize the studying of the effects of the Exxon Valdez oil spill and proceed with definitive steps towards restoration and enhancement of Prince William Sound and affected areas; and

WHEREAS, the Memorandum of Agreement and Consent Decree (MOA) entered into between the United States of America and the State of Alaska states that the governments shall jointly use all natural resource damage recoveries for purposes of restoring, replacing, enhancing, rehabilitating or acquiring the equivalent of natural resources injured as a result of the oil spill and the reduced or lost services provided by such resources; and

WHEREAS, in their expenditure of funds the Exxon Valdez Settlement Trustees must take into consideration that there needs to be some recognizable benefit to those affected residents of the communities of Prince William Sound and the areas affected by the Exxon Valdez oil spill; and

WHEREAS, by definition, enhancement means to make greater as in value and attractiveness, to heighten, improve, to increase as in value or price.

THEREFORE, BE IT RESOLVED that the City Council of the City of Valdez, Alaska, supports expenditures of the settlement monies by the Exxon Valdez Settlement Trustee's Council towards the enhancement of Prince William Sound and the areas affected by the oil spill, to make those areas and communities environmentally cleaner and a better place to live and recreate.

PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF VALDEZ, ALASKA, THIS 3rd day of February, 1992.

CITY OF VALDEZ, ALASKA

By: _____
John Harris, Mayor

ATTEST:

_____
Jeanne Donald, City Clerk, CMC

1420:XKAH
1-20-92

Document ID Number
92060105S

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

ID # 920601055

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- ✓ Affiliation
- NO Costs

✓ Category

Other - comment

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

Comments

Department of Anthropology
Arizona State University
Tempe, AZ 85287
June 1, 1992

Exxon Valdez Oil Trustee Council
645 "G" Street
Anchorage, AK 99501
Attn: Restoration Framework

Dear Trustee Council:

When I was visiting the Anthropology Department at Arizona State University (ASU) the other day, I happened upon Volumes 1 and 2 of the Exxon Valdez Oil Spill Restoration Framework and decided to to make some comments on them. I am a MA student in Bioarchaeology at ASU and am somewhat familiar with cultural resource management on Federal lands. I am writing to you as a member of the public. My main concern is the restoration framework put together for the cultural resources that were damaged either directly or indirectly by the Exxon Valdez oil spill. I will deal specifically on those issues first, then get into more general issues as I close this letter.

VOLUME I, APPENDIX B: POTENTIAL RESTORATION OPTIONS

OPTION 1: Creation of a Site Steward Program to watch over threatened Archaeological sites (Also Volume II, "Restoration Procedures" in this particular case).

While a Site Steward Program would be helpful in educating the public about archaeology and the existing Legislation that protects these unrenewable resources, it also has many drawbacks. First, if the function of Site Stewards is to watch over threatened archaeological sites, then the result may be more headaches to land managers than it is worth to start the a program. There is potential for some of the Site Stewards or their associates to loot the archaeological sites they claim to watch over, and it is nearly impossible to screen out or catch such individual(s).

Second, in Arizona, Site Stewards mainly function to let the land managing agency know of vandalism that has already occurred rather than prevent vandalism. Site Stewards cannot be expected to turn in vandals, especially if Alaska is like Arizona which has gun-touting looters who are serious about their looting. To deal with such individuals is too dangerous and should be handled only by experienced law enforcement personnel.

Third, notifying the land managing agency about previous vandalism creates headaches for the agency archaeologist who has deadlines and has to push projects through her/his office. Such an individual usually does not have the time to

do one damage assessment after another for a particular site or sites. Even if Trust money is appropriated for assessing looted sites, a full-time specialist is needed to carry out these activities.

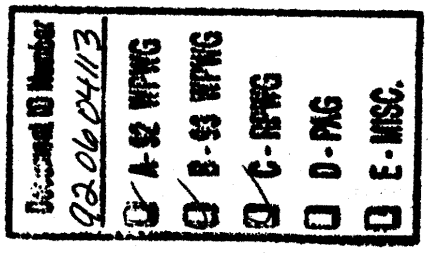
Fourth, it is important to cut off the vandalism at the source. As mentioned above, Site Stewards cannot be expected to interfere directly with vandals, especially if their lives are threatened. Even if they are able turn a vandal in and the vandal goes to court, it does not necessarily mean that the vandal will be prosecuted and that the site will be saved from future vandalism. Current ARPA legislation makes it difficult to prosecute anyone, and if they are prosecuted, the sentence is less than what the actual artifacts and damaged context are worth monetarily and scientificially. I have heard of instances here in Arizona where individuals were caught looting sites "red handed" but were determined not guilty and never served time. It is also possible that the vandal could go back out after being released and continue to loot archaeological sites.

The only way in which looting can be prevented is to have readily available Special Agents and Level IV law enforcement personnel who specialize in ARPA. It may be expensive and time consuming, but it is much more effective. Here in Arizona, there are few archaeological sites that have not been looted at one time or another, and is really disheartening to come upon a site that has been looted to such an extent that very little integrity left.

Fifth, there is also the problem of training the Site Steward. Many Site Stewards in Arizona have pursued archaeology as an interest, but they do not have any formal training in the subject and fail to understand some of the basic concepts and language. It can also be frustrating when Site Stewards report recent vandalism which turns out to old and insignificant.

Sixth, another problem with Site Stewards has to do with injuries. If a site steward gets injured while inspecting a site, who pays for it? What happens if a Site Steward has a heart attack or gets shot by a looter? If the Site Steward program is the option chosen, it is important to deal directly with this problem so no surprises such as a lawsuit or two come up later.

To sum, the best thing to do is to educate the public, hire on specialized law enforcement personnel and toughen up ARPA. Though Site Stewards are useful in their function, they cannot prevent more looting.



OPTION 10: Excavation and documentation of damaged archaeological sites.

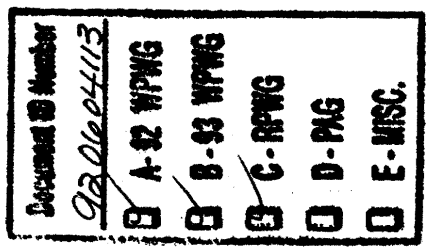
First, the terms, "injured 'artifacts'" are not too appealing. Artifacts do not have value in themselves; it is the data/information that they provide archaeologists that is valuable. (That is, after all, what some people say makes archaeologists different from looters). Also, what about damaged features or ecofacts? Does "artifacts" mean "isolated finds"? If so, say so. If not, please use a less painful word in terms of damaged data.

Second, data recovery is probably the best option for the problem at hand. In the long run, it is cheaper because once the site is removed from management, land managers do not have to worry about looters or erosion. Nor do they have to worry about law enforcement or continual looting

I am not an expert on Alaskan archaeology, but if C14 dating is the only way that the damaged sites can by dated, then I encouage the development of new cleaning techniques or even new dating methods to aid in determining the age of sites. I would think, however, that stylistic attributes of artifacts could serve as a relative dating method. For those sites that are damaged by oil, are they damaged in their entirety? If not, it may prove useful to sample those sites and recover only that which has not been damaged by the oil. Another option would be to excavate both areas of the site and cross-date the materials. Features that are damaged by the oil spill may have to be written off unless there are other dating methods that can be used, but some data recovery is better than allowing the sites to be looted even more.

OPTION 35: Replacement of archaeological artifacts by purchasing "specific pieces for public institutions".

The purchase of artifacts from private individuals absurd and will do nothing but encourage more looting. To the best of my knowledge, it is not the role of the land managing agency to go around and purchase artifacts which may have been stolen from the very land it manages. This option reminds me of a little museum where I did some volunteer work as an undergraduate. The museum purchased some artifacts from a private individual for quite a sum of money only to find out that many of them had been stolen from the very same museum some years prior to their purchase. Another analogy would be to find artifacts at an antique dealer that were supposed to be repatriated. If anything, private collectors should be educated and encouraged to either donate or loan



their artifacts and/or notes to public institutions so they can be studied. As for actively tracking down illegally collected artifacts, I do, and always will, support such an endeavor.

GENERAL OBSERVATIONS/QUESTIONS ABOUT ARCHAEOLOGY

When I reviewed Volume II of the Draft Work Plan, I got the impression that archaeological surveys were not conducted until two years after the occurrence of the oil spill. I hope that my impressions are wrong. However, if my impressions are correct, I am curious to know why it took two years, since earlier surveys and knowledge about the danger the damaged sites could have helped reduce looting. Some stabilization could also have been done to help reduce erosion.

I was disturbed by the fact that Volume I only briefly mentions damage done to Native sacred and burial grounds, and Volume II only briefly mentions working with Native Corporations. Current legislation (i.e. NAGPRA) requires that Federal land managers work closely with Native Americans with repatriation of human skeletal remains and associated grave furniture. It is important to emphasize cooperation especially when it comes to restoring the damaged sacred lands and burial grounds.

No mention is made about potential data recovery or relocation of the damaged burials. Perhaps this oversight is on purpose, since the subject of managing aboriginal sacred lands and burial grounds is a sensitive issue, but if that is the case, then why was it even mentioned? If data recovery is feasible, it should be conducted in the most sensitive manner. It should also be as complete as possible and by an experienced and qualified paleopathologist and/or bioarchaeologist.

Since most archaeologists from ASU are anti-contractor academicans and it has worn off on me somewhat, especially when I do thesis research. I have become wary about any kind of contractor, whether it be environmental or archaeological, because very few standards have been developed where direct comparisons can be made (it can be very expensive tracking down and re-analyzing materials from contract reports--if they can be found). Contractors are businessmen first and foremost, meaning that profit replaces caring. As a result many contractors seem to have become insensitive to the issues at hand. Instead of relying heavily on contracts, I would like to see more schools get involved and I would like to see grants given to graduate students who study the effects of the oil spill on cultural resources and the ecosystem.

Though I am no expert, I feel that the estimated budget for cultural resources (and general environmental recovery) is lower than what the actual cost will be. Since such an extensive and damaging oil spill has never happened before in U.S. history, it

is difficult to be accurate in estimating such a cost. It is hoped that money will be set aside for potential underestimation of project costs.

GENERAL OBSERVATIONS

Nature seems to have a way of healing herself in terms of natural disaster. Mount St. Helens and even Yellowstone National Park are prime examples. In terms of the Exxon Valdez oil spill, however, no action is not the answer. Because actions to clean up the oil spill did not happen as quickly as it should, I am doubtful that the pre-spill ecosystem will ever come back to its pre-existing condition. I also think that Exxon got away with Ecological Murder and should be paying a larger fine than $1 billion over the next ten years. Listed below are some general comments on the two volumes.

1) After reviewing the options in Volume I, I found that most, if not all, listed for the injured plant and animal life will have to be enforced to some extent, especially the manipulation of the various resources and the protection and acquisition of habitats. I support the idea of replacing the harvest of animals injured by the oil spill by establishing alternative areas of harvest (i.e. salmon runs), but I am curious about the possibility of overharvesting the undamaged areas to the point were genetic variability and/or reproduction is threatened. I also support that attempts will be made in re-establishing injured animals in situ rather than importing other stock. I was surprised, however, to find that only a minor amount of data recovery on coastal habitats in the Prince William Sound area have been obtained prior to the oil spill. As a result, extensive data recovery, perhaps more than that addressed in Volume II, will have to be caried out.

2) Though the Restoration Framework mentions how the oil absorbed through the food chain will affect wildlife, it does not emphasize the effects as much as it should. I doubt that scientists have yet to fully understand how the minutest living organism consumed by a gastropod or any other creature can affect animals on a higher trophic level. Thus, more emphasis should be made on the effects of the oil on different trophic levels and more studies should be carried out on this subject than is prescribed.

3) We know that the oil spill has definitely affected marine plantlife, but will it affect terrestrial plant life? If so, how? Will the oil act like fertilizer, or will it kill? This subject was not addressed in either volume. What happens if the terrestrial plant life begins to die? How will it affect the rest of the environment? How will it affect the wildlife and subsistence? How will the oil affect the local insect populations? Will insects become a problem in the future?

4) It is sad to see that introduced foxes may need to be eliminated from islands that are important to nesting marine birds, especially when humans placed them on the islands in the first place. I agree that the foxes may have to be removed, but is there an alternative to outright slaughter? Can they be re-introduced into their original habitat or be taken elsewhere?

5) I noticed in Volume II that the majority of the project personnel are male. What happened to equal opportunity employment?

Though I have questions and comments on many other subjects, time and postal rates do not allow me to cover them, and perhaps they should be left to the experts. I do think, however, that timber and wildlife harvests and any other activity that may upset the delicate balance even more should be halted in and surrounding the damaged area until the ecosystem is able to recover to a good extent. Thank you for considering my comments.

Sincerely,

Esther Morgan

Additional Comments:

----------(fold here)----------

Return Address:

ESTHER HUBBARD
DEPT OF ANTHROPOLOGY
ARIZONA STATE UNIVERSITY
TEMPE, AZ 85287

Place Stamp Here

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

Attn: 1992 Draft Work Plan

Document ID Number
92060413

- [x] A-92 WPWG
- [x] B-93 WPWG
- [x] C-RPWG
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— Comment asking for extended timeline for 1993 ideas

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:

EXXON VALDEZ OIL SPILL RESTORATION IDEAS SUBMISSION

Justification: (Link to Injured Resource or Service)

to enhance ~~and~~ restoration overall

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

I feel that the time line of ideas being submitted limited to June 15, 1992 is unfair. Restoration should be an ongoing process & should not be limited to the brainstorms of persons in a limited time. Ideas should be allowed to be submitted to the council as they are found to be necessary. For instance, studies that have been held from the public on the effects of the oil spill ~~W.S.~~ are just now being released. Until the public has a chance to review these in great detail, it is hard to know what should be recommended to the council for restoration in some cases.

Please reconsider your deadline. I feel that the staff & time it would take to continue to ~~accept~~ review new proposals is ~~less~~ much less than the great results that may be achieved by reviewing such proposals.

Document ID Number
920610227
- ☐ A-92 WPWG
- ☒ B-93 WPWG
- ☐ C-RPWG
- ☐ D-PAG
- ☐ E-MISC.

Estimated Duration of Project: ongoing

Estimated Cost per Year: — N/A —

Other Comments:

Area code to ?

Name, Address, Telephone:

MARNIE L GRAHAM
PO BOX 3224
VALDEZ, AK 99686

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.

Alaska Wilderness Recreation and Tourism Association

Dave Gibbons
EVOS Restoration Team
645 "G" Street,
Anchorage, AK 99501

Dear Dave,

On behalf of our members operating tourism businesses or recreationally using the oil spill impacted area, AWRTA would appreciate it if the Restoration Team would consider recommending to the Trustee Council the following projects designed to restore lost natural resources and services:

1. Timber buybacks to provide habitat protection for recovery of species damaged by the spill and to protect the area's scenic qualities damaged by the spill from additional harm. — 01

2. Restoration of shorelines damaged by beach berm relocation including the removal of logs and rock debris pushed into adjacent uplands areas and re-planting of damaged beach and uplands areas with local species. — 02

3. Institution of a program to annually clean garbage from oil spill impacted area beaches to help enhance damaged visual quality and habitat. — 03

4. Publication of high quality, full-color brochures on damaged species aimed at recreational users and tourism operators that give information on the following topics: 1) significant aspects of a species' life history and behavior that may be adversely affected by human contact; 2) damages suffered by the species from spill and other causes (disease, human disturbance, etc.); 3) ways to prevent additional stress such as not disturbing seals during pupping and molting periods, use of hydrophones to enhance whale watching at a distance, etc. Distribute the fliers to harbors, Visitor Centers, Tour and Charter boat operators, kayak rental outlets, recreational equipment stores, etc. — 04

5. Institution of a watchable wildlife survey program soliciting input from tourism companies and others on the following topics: a) species observed, — 05

P.O. Box 1353, Valdez, AK 99686. Phone: 907-835-5175. Fax: 907-835-5395

date and number; and b) anecdotal information on human/animal encounters. This information could help document the possible changes and movements in marine mammal populations, give tourism operators and tourists a chance to "participate" in the recovery, 3) document changes, both positive and adverse, in human/animal encounters, and 4) provide planners with information that may be helpful in developing additional programs.

Comment

Tourism and recreational users have suffered considerably from the visual damage done to marine and shoreline areas through the loss of marine mammals, removal of intertidal and shoreline zone flora and fauna, beach relocation, and staining and sterilization of beaches. The U.S. F.S. recognizes visual quality as a natural resource; the state and tour operators have spent considerable amounts of money to market Alaska's superscenery and superwildlife viewing opportunities, and consumers choose destinations on the bases of visual quality and wildlife viewing experiences. The ability of the tourism industry to recover from economic damages sustained as a result of the spill depends on the ability of tour operators to deliver a product that lives up to consumer expectations and is competitive with other supersenecry/superwildlife areas in the world.

Respectfully submitted,

Nancy R. Lethcoe

Nancy R. Lethcoe

Comments

JUN 1 2 REC'D

Working for the Nature of Tomorrow.

NATIONAL WILDLIFE FEDERATION

750 W. Second Ave., Suite 200. Anchorage. AK 99501 (907) 258-4800

Post-it™ brand fax transmittal memo 7671	# of pages ▸ 3
To Dr. David Gibbons	From Doug Miller
Co. Exxon Valdez Oil Spill	Co. NWF
Dept. Restoration Team	Phone # 258-4800
Fax # 278-7178	Fax # 258-4811

June 12, 1992

Dave R. Gibbons, Director
Exxon Valdez Oil Spill Restoration Team
645 "G" Street
Anchorage, Alaska 99501

Document ID Number
920612248
☐ A-92 WPWG
☑ B-93 WPWG
☐ C-RPWG
☐ D-PAG
☐ E-MISC.

Dear Dr. Gibbons:

Thank you for the opportunity to provide recommendations on restoration projects that may be undertaken in 1993 and beyond. As you are aware our organization is still in litigation with Exxon and Exxon Shipping, Inc. We care as the Trustees do about the recovery of Prince William Sound and other areas impacted by the Exxon Valdez oil spill.

We recommend that the Trustees allocate the Exxon Settlement funds AS INTENDED by Judge Holland in the PLEA AGREEMENT AND THE AGREEMENT AND CONSENT DECREE. This includes funds for habitat restoration and acquisition and funds for long-term research and monitoring of the spill's impacts.

We recommend that the Trustee Council use up to 80% of its funds for protection and acquisition of habitat. We believe that protecting the habitat in Prince William Sound and the Gulf of Alaska will help eliminate some of the stress which the oil spill placed on the environment. The remainder should be divided among post spill research, monitoring of the environmental recovery, and investigation of how to prevent and clean up future spills.

We once again return to the PLEA AGREEMENT NO.A90-015 CR. on page 9. "Such monies are to be used by the State of Alaska and the United States exclusively for restoration projects, within the State of Alaska, relating to the "Exxon Valdez" oil spill. Restoration includes restoration, replacement and enhancement of affected resources, acquisition of equivalent

resources and services, and long-term environmental monitoring and research programs directed to the prevention, containment, cleanup and amelioration of oil spills"

The Exxon Spill has not been cleaned up! Note the Anchorage Daily News article on "Mussels cover oil from spill" (6/5/92). The Trustees must avoid getting involved in clean up and direct the Coast Guard to tell Exxon that new areas of spill debris have been found. Exxon is still responsible for cleaning the oil in the spill area.

Sincerely,

S. Douglas Miller

S. Douglas Miller, Ph.D.
Director

cc:
Jay D. Hair, President National Wildlife Federation

FAXED ADN 6/5/92 B-1

Mussel beds cover oil left behind by the Exxon Valdez spill, state officials say.

Mussels cover oil from spill

State studies effects on otters, sea birds

By NATALIE PHILLIPS
Daily News reporter

DISK ISLAND — One of the most startling discoveries during oil-spill cleanup work last summer was that perfectly preserved oil — sometimes up to 4 inches deep — was locked under some mussel beds in Prince William Sound.

After a winter of comparing notes, oil-spill scientists now suspect that contamination of that food source may explain why harlequin ducks are not reproducing and black oystercatchers, river otters and juvenile sea otters are not thriving.

"We're saying, 'Of course, how could we have been so blind!' " said Mark Brodersen, oil-spill restoration chief with the state Department of Environmental Conservation. "The oil is there and that was a surprise. ... Late last summer, when we started looking for possibilities as to why we were seeing low reproduction in the harlequin ducks, we started thinking it might be the oil beds."

To find out, $874,000 of oil-spill settlement money will be spent this summer on four studies. Scientists will trap oystercatcher chicks and harlequin ducks and examine their blood and feces. At the same time they will try to determine how widespread the problem is and they will start exploring ways to get the trapped oil out from under the beds. Study results are expected in the spring of 1994.

"This will be beneficial for the next oil spill — if there is one," said John Sandor, commissioner of the Alaska Department of Environmental Conservation, during a Wednesday press tour of Prince William Sound. Sandor kicked back a layer of mussels in a quiet bay on Disk Island to expose a thin layer of oil.

The Exxon Valdez ran aground on Bligh Reef on March 24, 1989, spilling more than 11 million gallons of North Slope crude oil in the Sound. Last year, the state and federal governments settled damage claims against Exxon for about $1 billion, with most of the money to be used for restoring

Please see Page B-3, Col.

... than other employees.

OIL IN THE SOUND: Mussel beds cover leftovers from Exxon Valdez spill

Continued from Page B-1

the Sound and other spill-damaged areas.

Sandor said that, at the time of the spill, officials decided to leave the mussel beds alone, fearing disturbing the beds would do more harm than good. But last summer's discovery has caused them to reconsider.

Brodersen emphasized that only a small number of mussel beds are affected. Mussel beds formed on bedrock are not affected. Only mussel beds formed on fine-grain, sandy sediment in the path of the oil were affected because the oil could collect under the beds. The oil sits right under the threads that anchor the mussels to the beach. The solid mass of mussel threads cut off oxygen to the oil and, without oxygen, the oil degrades slowly, if at all, Brodersen said.

Scientists don't know how long it will take the oil to degrade if left under the beds, Brodersen said, but added they were surprised to find "oil that smells like it was put there yesterday."

One of the experiments scientists are trying this summer involves stripping away basin-wide swatches of mussels to see if enough oxygen can get to the oil layer to make it degrade, even under mussels left in place.

But it is a sensitive process, because if too much of the bed is removed, there won't be enough threads in place for young mussels to connect to.

Another method being explored involves scrubbing the mussels like a layer of turf, Brodersen said. If the oil is deep, the layer of mussels would be peeled back, the oil removed and the mussels replaced. If the oil layer is thin, the whole mussel layer would simply be flipped over, giving rain, air and storms an opportunity to break down the oil.

Though the connection between the tainted mussel beds and species higher in the food chain is still not clear, scientists know the oil leaches up out of the sediment into the mussels, Brodersen said.

They also know that harlequin ducks feed on mussels, shells and all; that mussels are a large portion of the black oystercatchers' diet; that mussels have been recovered from the feces of river otters; and that juvenile sea otters have nothing else to feed on during the winter months.

Document ID Number 920605123

☐ A-92 WPWG ☒ B-93 WPWG ☐ C-RPWG ☐ D-PAG ☐ E-MISC.

Comment

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Alaska Sealife center / Seward ocean [illegible] & Marine Science

Justification: (Link to Injured Resource or Service)
Rehabilitation of marine mammals / Research & Education

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)
a Rehabilitation / Research / Education facility in Seward in a joint [illegible] with institute of marine Science

main objective is rehab of injured [illegible] marine mammals, released back to wilderness, research on Habitat, [illegible] & environment of all marine life & education public & visitors on the connection between wildlife, Habitat, environment & Sustainable ecological development.

Will be managed by professional staff with research staff from around the world.

Start up funds needed to build project — project already underway & is in early development stage. ongoing door receipts & Research money will help with future funding.

Will be a major economic resource for Alaska as tourist attraction & in state visitors also.

Estimated Duration of Project: unlimited

Estimated Cost per Year: 2-3 million / yr.

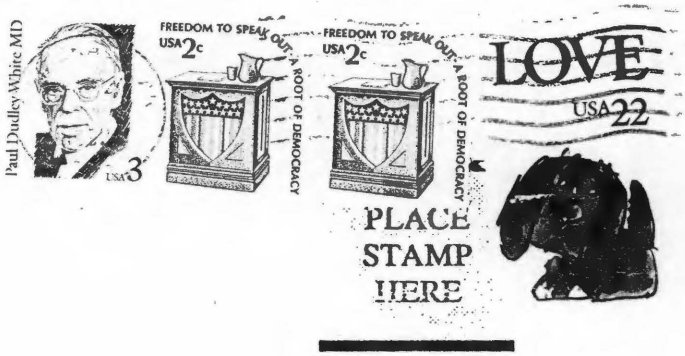
Other Comments: This project has already been planned & has been supported by a large group of Scientists & Alaska citizens. More detailed information to be provided upon request.

Name, Address, Telephone:

DR. JOYCE MURPHY
12531 OLD SEWARD HWY
ANCHORAGE, AK 99515
345-1515

fold here

Dr. Joyce M. Murphy
12531 Old Seward Highway
Anchorage, AK 99515



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

Attn: 1993 Work Plan

Document ID Number
92065123
- [ ] A-92 WPWG
- [x] B-93 WPWG
- [ ] C-RPWG
- [ ] D-PAG
- [ ] E-MISC.

JUN 05 REC'D

9206092 19

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

Comment

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Alaska Sealife Center

Justification: (Link to Injured Resource or Service)

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

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

Thomas D. Smith
515 Second Ave
Seward, AK 99664

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.

fold here

PLACE
STAMP
HERE

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

Attn: 1993 Work Plan

5 June 1992
515 Second Ave.
Seward, Ak 99664

EXXON VALDEZ Trustee Council
645 G Street
Anchorage, AK 99501

Dear Council:

I am writing you to support the Alaska SeaLife Center project for funding with money from the EXXON VALDEZ Settlement fund. I find this project to be one of the few that are being proposed that will not only provide long term rehabilitation and restoration benefits but also benefits to the entire State in the form of jobs and increased tourism.

This facility can become recognized world wide for its research and rehabilitation expertise. It can also be a showcase for presenting the Alaska marine environment to the general public. Its location in Seward will make it accessible to the majority of the State's population. This will allow the Center to introduce the majority of our children to the need to understand and appreciate their unique marine environment. The Seward locale is geographically logical and also in an area that was most heavily effected by the oil spill.

I appreciate the balanced manner in which the group sponsoring this project presents it. They are neither the radical environmentalist nor the radical industrialists that appear to sponsor several of the other proposed projects. The SeaLife Center's sponsors appear to be more interested in the welfare of their City and State, and their environment then in radical causes or personal gain.

I also find this project to be the only one proposed that will provide a long term, visible yet realistic product that will benefit the State as a whole and produce a product that will be readily visible as a wise use of the settlement money. With our abundance of marine life, Alaska desperately needs a facility of this type.

I wish you well in your task and appreciate you accepting this task despite the tremendous public pressure that you will be subjected to as members of this Council. I hope you disperse the funds wisely.

Sincerely;

Thomas D. Smith

Thomas D. Smith
Captain, US Coast Guard (Retired)

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL Comment

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Clean up of remaining subsurface oil

Justification: (Link to Injured Resource or Service)
Contaminant needs to be removed prior to any other measures

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

EPA is currently testing 10 available bioremediation products through NETAC (Dr. Ed Barkey 412-826-5511) Bioremediation is the least damaging clean up measure and there are non toxic products available unlike the Inipol that was used by Exxon.

I suggest close contact with Division of Spill Prevention + Response (ADEC) Leslie Pearson 907-428-7055

Document ID Number
920514008
☐ A-92 WPWG
☑ B-93 WPWG
☐ C-RPWG
☐ D-PAG
☐ E-MISC.

Estimated Duration of Project: Unknown

Estimated Cost per Year: Cheaper than mechanical clean ups

Other Comments:

Name, Address, Telephone:

Steve Karcz
OSE
PO Box 190151
Anch AK
99519

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.

ID #92054008

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- ✓ Affiliation
- NO Costs

✓ Category

Manip & Enhancement

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

CITY OF CORDOVA

Comment

January 30, 1991

Exxon Valdez Oil Spill
Restoration Trustee Council
645 G. St.
Anchorage, AK. 99501

Dear Trustees,

On behalf of the Cordova City Council, I am writing to express the City's support for research projects designed to enhance the restoration of salmon, herring, and other wild fish stocks damaged by the Exxon Valdez oil spill. We believe that the research projects proposed by biologists in the Cordova Office of the Alaska Department of Fish and Game merit special attention by the Trustees. These studies target both restoration and effective management of a complex fishery. We support this research for the following reasons:

02 City of Valdez endorsement attached

1. This research specifically targets the restoration of species damaged by the oil spill. This falls directly in line with a Council mandate; to restore damaged natural resources and the ecological integrity of the Sound.

2. If this research is not adequately funded, it will very likely have adverse impacts upon ADF&G's in-season management capabilities given the complex mixed stock salmon fishery in Prince William Sound. Without the information these projects could provide, it is likely that ADF&G will have a very difficult time meeting its dual mandates to restore and enhance damaged wild stocks while at the same time, meeting industry demands for an efficient and timely harvest of large hatchery returns. This is particularly true now, given the pressure to move harvest zones out of hatchery terminal areas and into entrance corridors where hatchery and wild stocks mix. This research could give Fish and Game more effective management tools. Without them, there could be adverse impacts both for the fishing industry and for the health of wild fish stocks; particularly salmon and herring.

3. These proposed projects could also provide important pre-season and post-season information. These data could greatly increase ADF&G's ability to forcast returns and anticipate stock specific temporal and spatial distributions in the fisheries. These types of data are of tremendous value in resolving the types of controversial issues which are routinely addressed by citizen advisory groups, the Salmon Harvest Task Force, the Board of Fisheries,the Prince William Sound/Copper River Regional Salmon Planning Team, and the Legislature.

02 Railroad Avenue P.O. Box 1210 Cordova, Alaska 99574 Telephone (907) 424-6200 Fax (907) 424-6000

4. Interactions between wild salmon stocks and hatchery reared stocks is a research topic of vital concern to industry officials and biologists alike. Damage assessment and restoration research projects are very important in understanding these interactions.

5. The oil spill happened less than three years ago. This is a very short time in ecological terms. We believe that it is very important that long term research on damage assessment and restoration take place. We are not confident that the amount of data collected to date is sufficient to make valid scientific conclusions and resource management decisions. The fact that much of the data is "litigation sensitive" and not open to public scrutiny does little to bolster our confidence.

6. The damage assessment and restoration research projects being carried out by the Cordova ADF/G Office have tremendous economic value to the City of Cordova. First, the economy of this community is primarily based upon the fishing industry. Any research that will assist ADF&G's management capabilities will ultimately benefit the community. The combined goals of maintaining the health and integrity of all salmon stocks and maximizing economic opportunies for fishermen are central to a stable economy. Second, much of this research money has been injected directly into the Cordova economy. Most of the people hired for these projects, both permanent and temporary, are Cordova residents. Most of the money spent for food and supplies has gone to local businesses. The Cordova economy suffered a great deal in the wake of the Exxon Valdez spill and it is going through a kind of restoration process of its own. These research dollars have provided, and hopefully will continue to provide, an economic stimulus for this community.

In summary, the City of Cordova takes the position that the type of research proposed by the Cordova ADF&G Office is vital to restoration of the ecological integrity of Prince William Sound. It is also vital to the economic health of Cordova and to sound management of our resources. We understand that funding decisions have not yet been made on these projects. We would urge the Trustees Council to provide the necessary funding for these projects in light of its mandate to restore the natural resources in Prince William Sound. We appreciate the opportunity to comment and please contact us if there are any questions regarding our position on this issue. Thanks for your attention to this matter.

Sincerely,

Charles K. Weaverling, Mayor

c.

Representative Kubina
Senator Menard
Senator Kurtulla
Resource Restoration Coordination Group
Representatives Davidson, Navarre, Gruenberg
ADF&G/Cordova Office

ID # 920601056

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

/ Checked for Completeness

- / ID stamped/Input completed
- / Name
- / Affiliation
- Costs

/ Category

Restoration Other - Restoration Science - Research

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

CITY OF CORDOVA, ALASKA Comment

RESOLUTION 92-04

Document ID Number
920601057
☐ A - 92 WPWG
☑ B - 93 WPWG
☐ C - RPWG
☑ D - PAG
☐ E - MISC.

A RESOLUTION SUPPORTING PWSAC'S PARTICIPATION IN SALMON RESTORATION AND REHABILITATION EFFORTS IN THE AREA IMPACTED BY THE EXXON VALDEZ OIL SPILL

WHEREAS, Prince William Sound Aquaculture Corporation (PWSAC) contributes an average of 70% of the annual commercial salmon harvest in Prince William Sound, and

WHEREAS, PWSAC thus contributes substantially to the economies of all the communities in the Prince William Sound region, as well as to the Kenai Peninsula, Anchorage, and the state of Alaska, and

WHEREAS, PWSAC programs contribute large numbers of salmon to the sport fisheries of the Sound, and

WHEREAS, the marine environment which supports both enhanced and wild salmon production was impacted by the 1989 Exxon Valdez oil spill, and

WHEREAS, the Exxon oil spill also negatively affected the salmon market;

THEREFORE, BE IT RESOLVED by the City Council of the City of Cordova, Alaska, that:

(1) The Council support the appointment of PWSAC as a member of the public advisory committee of the Oil Spill Trustee Council, and

(2) The Council support PWSAC's recommendations for restoration funding of salmon rehabilitation and evaluation activities, including:

* long-term evaluation of wild and hatchery stock interactions
* cooperative biological and oceanographic studies
* salmon rehabilitation projects, including improvements to the Main Bay Hatchery
* sport fishery development projects
* market research and development

PASSED AND APPROVED THIS EIGHTH DAY OF JANUARY, 1992.

Mayor Charles K. Weaverling

City Clerk D. Lynda Plant

ID # 920601057

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- ✓ Affiliation
- NO Costs

✓ Category

Manip & Enhancement - comment

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

RESOLUTION

Whereas - Pink salmon stocks in Prince William Sound were clearly damaged by the Exxon Valdez oil spill, and,

Whereas - Damage assessment and restoration science work on pink salmon in Prince William Sound provides information greatly contributing to the understanding of damaged stocks and their interrelationships with other salmon stocks in Prince William Sound, and

Whereas - Restoration of these damaged stocks is largely possible only through fisheries management actions that are highly dependent upon the information generated from damage assessment and restoration science projects, and

Whereas - The economies of the oil spill affected communities in Prince William Sound are largely dependent upon the salmon industry and are directly benefitted by the improved management precision brought about through the knowledge gained from existing restoration science projects, and

Whereas - The integrity of wild salmon stocks in Prince William Sound will receive benefit from knowledge gained from these programs and this knowledge will have application to salmon production planning, and the future of the salmon industry in Prince William Sound.

May it therefore be resolved that the Prince William Sound/Copper River Regional Salmon Planning Team strongly endorses the Exxon Valdez Trustee Council's continued support for restoration science projects for salmon in Prince William Sound as a long term method of restoration of damaged wild stocks, through applied management, scientific evaluation and enhancement of the commercial salmon fisheries.

John McMullin by TBN — 2/5/92

John McMullin, Chairman, Date
Prince William Sound/Copper River
Regional Salmon Planning Team
P.O. 1110
Cordova, Alaska 99574

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ |

To Trustee Council	From PWS/CR RPT
Co.	Co. PWSAC
Dept.	Phone # 424 7511
Fax # 276 7178	Fax # 424-7514

ID # 920601053

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- ✓ Affiliation
- Costs

✓ Category

Restoration - Manipulation/Enhancement — Comment

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

Comments

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Document ID Number
920605122
☐ A-92 WPWG
☑ B-93 WPWG
☐ C-RPWG
☐ D-PAG
☐ E-MISC.

Title of Project: Timber Rights Aquisition in PWS

Justification: (Link to Injured Resource or Service) Preserving what's left of PWS

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

PWS has suffered enough! Stop further damage to the wildlife ecosystems by purchasing timber rights from private land holders before the uplands above the oiled beaches are clear cut. Perhaps the Nature Conservancy could administer these trust ~~funds~~ Timber rights.

Estimated Duration of Project: 3 yrs

Estimated Cost per Year: $ 50,000,000

Other Comments: We need to preserve what's left - not blindly carry on all the money while logging runs rampant.

Name, Address, Telephone:

Tom Copeland
Box 2338
Cordova AK 99574

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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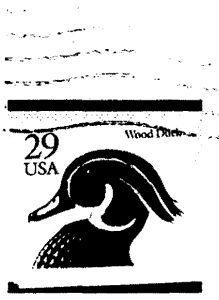


Exxon Valdez Trustee Council
645 G St.
Anchorage, Alaska 99501

Attn: 1993 Work Plan

Document ID Number
9206050122
- [ ] A-92 WPWG
- [x] B-93 WPWG
- [ ] C-RPWG
- [ ] D-PAG
- [ ] E-MISC.

JUN 05 REC'D

Comment

Document ID Number
920608203
- [ ] A-92 WPWG
- [x] B-93 WPWG
- [ ] C-RPWG
- [ ] D-PAG
- [ ] E-MISC.

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:
BUY TIMBER IN AFFECTED AREAS

Justification: (Link to Injured Resource or Service)

Description of Project: (e.g. goal(s), objectives, location, rationale, and technical approach)
TIMBER SHOULD BE PURCHASED AND PERMANENTLY PRESERVED FROM CUTTING, ESP. IN AREAS VISIBLE FROM WATER, AROUND STREAMS, OTHER HABITAT THIS ACQUISITION OF HABITAT IS THE MOST EFFECTIVE SOLUTION TO RESTORATION.

Estimated Duration of Project: PERMANENT ACQUISITION

Estimated Cost per Year:

Other Comments:

Name, Address, Telephone:
JOE FERGUSON
7760 N. DOUGLAS
JUNEAU, AK 99801
(907) 463-3087

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.

fold here

Fregueen
7760 N Douglas
Juneau AK 99801

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

Attn: 1993 Work Plan

Document ID Number
920608203

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

920608.190

Comment

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Habitat Acquisition

Justification: (Link to Injured Resource or Service)

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

Buy timber rights in PWS.

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

Mitchell Nowicki
PO Box 2232
Cordova, AK 99574

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.

Carl Rosier, 5-7

Please buy timber rights in PWS as part of restoration. Most people in Cordova want that.

Thank you.

Com #	Top/op	Issue
1	30	360

MITCHELL NOWICKI
P.O. BOX 2232
CORDOVA, ALASKA 99574

Document ID Number
920608190

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

ID # 920608190

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- NA Affiliation
- NA Costs

✓ Category

COMMENT

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

90602083

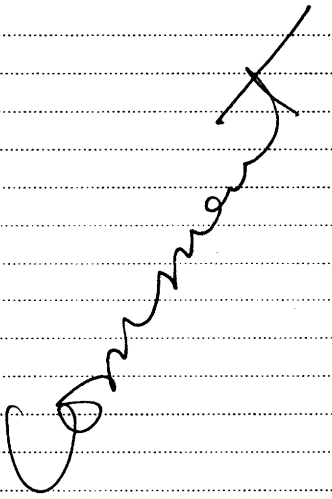
EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Habitat Acquisition

Justification: (Link to Injured Resource or Service)

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



Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

Frank Ruff
Box 1428
Homer, AK 99603

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.

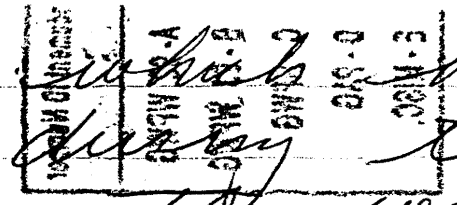
Frank J. Rott
Box 1428
Homer, Alaska
99603
May 20 1992

Dear Mr. Gilbons.

I am 85 years old. How can I explain to yor how fast the land has been gobbled up for human endevor. So much wasted and uncared for. It has been a crying shame to watch. When I was yong like yor I didnt realize how important the Health of or land is.

Please utilize these monies for buying land that future people can hold in thust for the wildlife of tomorow.

The wildlife and fish suffered so during the spill and deserve to share habitat bought to right the wrong



happened to them
during the spill.

To waste any more money
on clean up, lawyers fees,
or the other wasteful
purposes is of no use.

Buy the land, this
land for the animals as
a ~~tribute~~ tribute and
to give something to the
true victims of the spill.

If you don't your money
will be gone, your land
destroyed and nothing left to
show. Nothing left to show
future generations that we
did care and were sorry.

Please buy habitat
with this money. You will
never regret this decision.
and it will be of
historical standing.

Sincerely,

Frank J. Fott

920602083

ID # ~~90602~~

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- Affiliation
- Costs

✓ Category

Habitat Protection - Acquisition

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

5-26-92 Comment

Dear Mr Dibbons & the Restoration Trustees,

I truly believe that the best use of funds from the Exxon Valdez settlement is to protect the beautiful lands and wild species in the areas affected by the spill. Forests need protection from clearcutting. Sensitive tidal lands, precious shorelines and old forests all need to be protected and possibly restored. Our children and their children's children all need to have the opportunity to experience this wonderful land and its abundant wildlife.

Sincerely,

Dale W. Gardner

PO Box 2-2112 Juneau, Alaska 99802

ID # 920601068

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- Affiliation
- Costs

✓ Category

Acquisition - Comment

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

May 18, 1992

Dave Gibbons:

Subj: Prince William Sound Settlement Funds

Dear Dave:

In my opinion habitat protection and acquisition should be the priority use of settlement funds. No since locking them up in an endowment or getting into construction.

Best wishes,

Amy C. Powell

34 year resident of Kodiak

[redacted]
Powell
PO Box 2285
Kodiak AK 99615

ID # 92526026

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

_____ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- NO Affiliation
- NO Costs

_____ Category

Restoration - Habitat Protection

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

Comment

Dave Gibbons
Administrative Director
Restoration Team
645 G Street
Anchorage, Ak. 99501

Mr Gibbons,

I'm writing concerning the Exxon Valdez oil spill restoration plan. As an Alaskan and part-time fisherman I feel obliged to put in my two cents worth. I was shrimp fishing on the F/V Hustler near Naked Island in the Sound when the Valdez went aground. Our gear was fouled and we sold our shrimp and gear to Exxon. We were hired by Exxon and worked for them for about a month. We tended containment boom around the tanker while it was on Bligh Reef. We quit the cleanup because it seemed ineffective and disorganized. The cat was out of the bag and there was no way to get it back. We also saw no moral reason to line our pockets and do little. The pay seemed too much like "hush money". I accepted settlement money for the lost fishing time that year but haven't taken any since and am not involved in litigation against Exxon.

My other job, as an electrician, is for an oilfield service company at Prudhoe Bay. The bread on my table comes from oil. Alaska's a small state in many ways.

I've wandered a bit from what I wanted to recommend for my money spending ideas but I want to let you know where I'm comming from and what I've seen. I think that the most effective way to repair the damage to Prince William Sound's ecosystem is to purchase large blocks of land. I think that these lands should be protected from further damage and commercial developement. I do not think that Governor Hickels plans for an "improved" Sound are representitive of most Alaskan's concerns or interests. I believe that scientific studies concerning the impact of the Oil Spill on the coastal

ecosystem including it's people is another valuable way to spend settlement money.

Prince William Sound is an amazingly beautiful place despite the black marks. I think it should be that way for many generations to come. I would urge members of the team to spend time getting to know these lands and waters intimately before making decisions. A few days, in a few coves, around some of the people of the Sound will help promote a longer range vision.

Thanks for considering my ideas.

Peter McKay
Box 8168
Nikiski, Ak. 99635
(907) 776-5745

ID # 920526029

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

_____ Checked for Completeness

✓ ID stamped/Input completed
✓ Name
None Affiliation
No Costs

Supports:
- Habitat Protection
- Scientific Studies

_____ Category

Other - Comment.

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

Comment

Document ID Number 920526O

- [ ] A-92 WPWG
- [x] B-93 WPWG
- [ ] C-RPWG
- [ ] D-PAG
- [ ] E-MISC

5-19-92

Mr Gibbons,

I am a concerned citizen living in Alaska. I am writing to you concerning the use of the Exxon Valdez spill settlement money. I waited all my life to get to Alaska. I finally made it here in January 1989. When the news reported the grounding of the "Valdez" and the massive amounts of oil that were escaping I felt sick & I felt cheated. I will never be able to see Prince William Sound like it was. I believe it will recover, eventually; but not for a very long time. I came here because its the only place left in the U.S. that has genuine wilderness. Exxon has been "fined" or whatever you wish to call it, that monetary compensation cannot restore the damage but it can be used to protect other pristine areas in Alaska as well as

invaluable wildlife habitat. It's been 3yrs + still not a penny has been used to actually aquire threatened habitats. 80% of the settlement funds should be used for habitat acquisition to prevent further damage to our natural resources + to compensate for our lost resources. The restoration process must begin now, funds should not be locked away in an endowment. Construction is not restoration, its development. Habitat aquisition should be given concurrent consideration in the restoration process. Habitat protection and aquisition, including purchase of land, conservation easements and timber rights are the most effective means of restoration and should be the priority use of settlement funds. I want my children to be able to grow up in a clean, safe, natural place. Once we use up our resources what will be the next step? Everything has limits, lets use this money to garantee the future for our grandchildren and beyond. Thankyou for your time.

Cindy Fluck
12247 Crested Butte Dr. Eagle River 99567
(696-5140)

ID # 9205260 24

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- Affiliation
- ✓ Costs

✓ Category

Habitat Protection / Aquisition 80%

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

Comment

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Document ID Number
92051401 1
☐ A-92 WPWG
☑ B-93 WPWG
☐ C-RPWG
☐ D-PAG
☐ E-MISC.

Title of Project:
EXXON VALDEZ OIL SPILL

Justification: (Link to Injured Resource or Service)

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

DEAR SIRS -

I AM HAPPY TO REPORT THAT IN NINILCHIK - ANCHOR POINT AND CLAM GULCH, THERE WAS NO ENVIRONMENTAL, NATURAL RESOURCES OR MARINE DAMAGE, ACCORDING TO MY DAILY SURVEYS - THESE SURVEYS WERE TAKEN DURING AND AFTER THE EXXON VALDEZ OIL SPILL -

Estimated Duration of Project: NONE -

Estimated Cost per Year: NONE -

Other Comments: PLEASE USE THE MONEY TO BUY LAND FOR PUBLIC USE -

Name, Address, Telephone:
Robert Chenier
ROBERT CHENIER
BOX 55
NINILCHIK AK
99639

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.

ID #920514011

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

✓ ID stamped/Input completed
✓ Name
Affiliation
no Costs

✓ Category

~~Habitat Protection / Acquisition~~ Other - comment

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

4110.

Comment

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:
Habitat Acquisition

Justification: (Link to Injured Resource or Service)

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

use 80% of settlement funds for habitat acquisition

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

Karin Kozie
Bill Routzie
Cindi Breller
Copper Center, AK

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

Attn: 1993 Work Plan

Dear Trustees; JUN 04 REC'D 6/2/92

I feel strongly that the Exxon settlement monies from the oil spill should be spent on habitat acquisition, including purchase of land, conservation easements & timber rights. At least 80% of settlement funds should be used for habitat acquisition. My reasoning is this:

1) Many of the areas damaged by oil spill are now at further risk of habitat degredation from extensive logging & subdivision development. Ancient forests provide nesting sites for birds harmed by the oil spill. An intact forest provides permanent jobs & strong tourist & subsistence hunting opportunities rather

than boom & bust. This is especially important to the fisheries industry. And last, There is little that can be done to clean up the oil. Unseen effects (eg. pollution) will remain & affect animals & people for many years to come. acquisition should begin immediately as many critical lands are under imminent threat. Construction projects are not an appropriate use of these funds. The monitoring program should consider all affected species & not be dominated by species of commercial interest. The public advisory group should have a seat designated for each interest group (environmentalists, etc.) or group

members cannot be held accountable to their interests.

Sincerely
Karin Kozie
Bill Rorba
Cindi Preller

Copper center, Alaska

920604109

Comment

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:
Habitat acquisition

Justification: (Link to Injured Resource or Service)

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

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

Sam Booher
4387 Roswell Rd
Augusta, GA 30907

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.

fold here

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

Attn: 1993 Work Plan

JUN 04 REC'D

Sam Booher
4387 Roswell Rd
Augusta, Ga 30907
22 May, 1992

Mr Dave Gibbons
Restoration Team RE: Framework Doc.

Dear Mr Gibbons

After watching Wally Hinkle on the TV show 60 Minutes. and now that the Oil Spill Settlement is behind us I am concerned as to how the funds will be spent.

Do plans call for the restoring and preserving of the coastal ecosystem or will it be spent to develop the area to facilitate man's exploitation of the coastal ecosystem ?

I offer that Wally Hinkle has no compunction as to how he would use these funds to support his building programs. I offer that his proposed uses are in conflict with the original intent in obtaining these funds.

My first concern is the preservation of wildlife habitat that depend on Ancient Forests. In the lower 48 we have destroyed virtually all of ours. That which is left must be saved.

My second concern is the selling of Kodiak Island by its owners (Native Americans) for development. I offer that any funds used to preserve this Island network and the Kodiak Bear is critical to the bears survival.

My last concern and I am sure it is shared my most Americans is the preservation of Wilderness shorelines. If this money is not used to fund the protection of forested coastline habitat, Alaska's coastline is going to resemble the timbered areas of Oregon and Washington state - a disgrace that we must all share the blame.

Any thing you can do to support the above ideas will be appreciated.

Sam Booher

also coded to 92 - MISC

Document ID Number
9206041109
- [x] A-92 WPWG
- [x] B-93 WPWG
- [x] C-RPWG
- [ ] D-PAG
- [x] E-MISC.

Comment 4107

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:
Habitat acquisition – along lines of HB 411

Justification: (Link to Injured Resource or Service)
Seabird reduction and otter survival (PWS)

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

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:
Hans U. Tschersich
1423 Baranof St.
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.

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

Attn: 1993 Work Plan

Hans U. Tschersich, M.D.
1423 Baranof St.
Kodiak, AK 99615

2 June, 1992

Dave Gibbons
Acting Administrative Director, Restauration Team
645 G Street
Anchorage, AK 99501

Re.: Use Exxon Money for Acquisition of Lands in the Spill Area

Dear Mr. Gibbons and Trustees:

The negative impact of the massive oil spill can still be seen in Prince William Sound and the Kodiak archipelago. There seems to be a remarkable reduction in sea birds in our area and current newspaper reports describe poor survival rates of sea otters and other animals in the West Prince William Sound area.

I feel a deep sense of loss about this decline of the natural diversity and abundance. Restauration in our life time is questionable. The best prospects for improvement of this sad situation are through acquisition of still undamaged lands in the vicinity of the oil spill before these still unspoiled areas undergo degradation from development and exploitation.

The settlement funds should be used for the purchase of lands and timber rights, in a way outlined in Rep. Cliff Davidson's bill. In order to prevent the loss of critical habitat and forest lands, like on Afognak Island, a process should be used to provide immediate protection until a final settlement can be worked out. We cannot procrastinate - the matter is urgent because of imminent logging in some of the areas.

The public advisory group has to include representatives of all interest groups, including ecologists and environmentalists. The economic benefits from the use of the Exxon money should not be the only or predominant concern.

Sincerely,

Tsch

Hans U. Tschersich

also called to 92-MSK

ID
9206020086

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:
Habitat Acquisition

Justification: (Link to Injured Resource or Service)

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

Outright acquisition, purchase of development rights, establishment of conservation easements/restrictions.

Comment

Estimated Duration of Project: —

Estimated Cost per Year: —

Other Comments:

Name, Address, Telephone:

Roger Leo
PO Box 324
Princeton, MA 01541

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.

_____ fold here _____

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HERE

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

Attn: 1993 Work Plan

P.O.Box 324
Princeton, Ma. 01541

May 29, 1992

Dave Gibbons
Acting Administrative Director
Restoration Team
645 G St.
Anchorage, AK 99501

Dear Mr. Gibbons,

This lettter contains my thoughts and comments on the Exxon Valdez Oil Spill Restoration Plan, Vol. I: Restoration Framework. I had been studying the production of oil on Alaska's North Slope for more than a year before the Exxon Valdez ran agound on Bligh Reef and have kept abreast of subsequent events including industry response to the grounding, court actions, and scientific research on every facet of America's largest domestic oil spill.

I visited the Prudhoe Bay fields in May of 1988 and the Arctic National Wildlife Refuge in June of 1988 to compare North Slope development with North Slope wilderness. I toured Prince William Sound in May of 1989 to assess oil damage and the efficacy of cleanup efforts under way. I drove the length of the Trans Alaska Pipeline System in 1989 and spent more time in Prudhoe Bay and on the Coastal Plain of ANWR. In 1991 I again visited the Coastal Plain, spent time in Kaktovik and in Arctic Village. I also spent two weeks on the water in Southeast Alaska in July of 1987. These comments are based on all of these experiences.

1. Money available under the Spill Settlement should be used primarily for land preservation in the form of outright acquisition, purchase of development rights and establishment of conservation restrictions.

The devastation of ancient forests on Admiralty Island in Southeast Alaska is an egregious example of what will inevitably happen to the unprotected forests around Prince William Sound. Clear cuts on Admiralty destroy the impression of pristine beauty that Alaska claims as its birthright. They also wreak havoc on the environment.

2. Economic activities of human inhabitants of PWS depend upon the health of all biologic relationships that comprise the PWS ecosystem. It would be folly to spend Spill Settlement money to bolster a narrowly defined spectrum of species and activities deemed commercially valuable. Protection of the entire ecosystem makes far more sense.

3. The group that advises on use of the spill settlement money must include representatives of non-government bodies to speak for wildlife, for wilderness and for people who appreciate the enjoyment of an undeveloped area ... as opposed to reps of official agencies charged with balancing conflicting interests.

4. The clear public interest in using Spill Settlement money to protect and preserve the entire Prince William Sound ecosystem in as pristine a state as possible should not be compromised by the powerful but narrowly focused influence of special commercial interests.

Sincerely yours,

Roger Leo

ID # 920602086

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- Affiliation
- Costs

✓ Category

Habitat Protection - Acquisition

Lead Agency

Cooperating Agency(ies)

Y N Passed initial screening criteria

RANKING H M L Rank Within Categories

H M L Rank Overall

Project Number - if assigned

90602087

EXXON VALDEZ **OIL SPILL TRUSTEE COUNCIL**

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project:

Habitat Acquisition

Justification: (Link to Injured Resource or Service)

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

use 80% of money

Comment

Estimated Duration of Project:

Estimated Cost per Year:

Other Comments:

Name, Address, Telephone:

Alva Faust
Box 2994
Homer 99603

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.

fold here

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

Attn: 1993 Work Plan

9206020871

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

P.O. Box 2994
Homer, AK 99603
May 31, 1992

Dave Gibbons
Acting Administrative Director
Restoration Team
645 G. St.
Anchorage, AK 99501

Dear Mr. Gibbons:

The primary use of the settlement funds should be the acquisition of lands in the spill affected areas. Animals were lost, the ecosystem sustained severe damage; hence the most effective action your group can perform is the purchase of land, timber rights, and conservation easements. We should not be altering the environment with construction projects. Further clean up is questionable and probably more damaging. The highest and best use of these funds is habitat acquisition.

I want to see the bulk of this money, 80% or more, go to preserving the old growth forests, saving the stream habitats, maintaining ecosystems in the central areas of some of Alaska's most beautiful parks. We stand to lose whole stretches of forest land in the Kenai Fjords National Park as well as in Kodiak National Wildlife Refuge, Afognak and Chugach National Forest.

The number one priority for these settlement funds should be habitat acquisition with primary concern given to areas that are imminently threatened by logging. This process must begin now. We really cannot afford to put the money away in an endowment which would allow critical areas to be lost forever.

Thank you for your time.

Sincerely,

Nina Faust

Nina Faust

ID # 920602087 ~~9060~~

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- Affiliation
- Costs

✓ Category

Habitat Protection - Acquisition

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

2088

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Habitat Acquisition

Justification: (Link to Injured Resource or Service)

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

and use forests for education

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

Jessica Braunel
PO 2784
Homer 99603

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

Attn: 1993 Work Plan

P.O. Box 2784
Homer, Alaska
99603

Dave Gibbons
Acting Administrative Director
Restoration Team
645 G St.
Anchorage, Ak 99501

May 27, 1992

Dear Mr. Gibbons,

As a resident of both Homer and Afognak Island, I am deeply concerned about the imminent threat of clear cut logging to these and other coastal communities in Alaska. Once clear cut, the biological diversity of these crucial habitats will be lost forever.

I truly believe that the most important and just use of the Exxon Valdez Oil spill settlement fund would be for habitat acquisition. While we have the financial opportunity; let's act now to save these precious forests that make Alaska unique. The wildlife was the true victim of the EXXon Valdez tragedy and should be justly compensated by saving its invaluable home.

There has been talk of using the Exxon money for schools. I can think of no gift as priceless and beneficial for our children than a healthy, intact forest environment in which to grow, learn, and play. These Alaskan coastal lands offer a

wealth of education to those who are willing to take the time to study in nature's classroom. For the sake of future generations of all Alaskans, (whether they be human, fish, or fowl) buy back the land!

As for tucking settlement money away for future "enhancements" in the state, there appears to me nothing more beneficial for the local economies than unclearcut forests. This land, if protected, is useful for the fisherman and tourist alike.

Please use the restoration funds to acquire habitat before the coastline of Alaska resembles California subdivisions. Park lands are what still give America its majestic charm and the forests are what still make Alaska the "Last Frontier!" Let's save this land, if nothing else, for posterity.

Thank you for listening. It's time for action before it is too late and that action is simply preserving the forests!

Sincerely,

Jessica G. Brainard

Jessica G. Brainard

ID # 920602088

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

✓ ID stamped/Input completed
Name
Affiliation
Costs

✓ Category

Habitat Protection - Acquisition

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

Comment
2090

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Habitat Acquisition

Justification: (Link to Injured Resource or Service)

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

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

Jim Latimer
Box 3937
Seldovia, AK
99663

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

Attn: 1993 Work Plan

To: The Restoration Team
c/o Mr Dave Gibbons

Box 3937
Soldotna Ak. 99669

5-30-92

The 'future' may look to Alaska it is time 'Alaska' looks to the future.

It is time for us to have & 'use' 'insite' and to use the settlement money to benefit Alaska & Alaskan's of the present & future.

To:
- stabalize our economy.
* - to responsibly and unselfishly apportion resources & the decisions there-of to future generations.
- to recognize & protect what makes Alaska and in effect each Alaskan*, the unique & special place & people that we are and may continue to be.

Of the options I've seen, land (wilderness) aquisition is most justified by intelligent insite & reasoning.

After reasoning, that construction & "improvement projects sound good for now & perhaps one two generations - it seems obvious that (as our present budget problems show), we may not be able to handle the maintainence costs of more roads, bridges, ports, & schools. With oil revenues declining it is only realistic to expect a down cycle in our boom bust history - and a down cycle is not a stable or smart time to 'build'.

Why I see Land/Habitat aquisition as our best option:

over please

* - to see diminishing wilderness areas around the world, and, Alaska's increasing revenues from those paying to see & experience the sights & offering that we recieve every day from our 'wilderness' should both make us appreciate what we have and see how valuable it is & will be.

** - it unselfishly & responsibly gives future generations lands & resources to use & benefit from, as they choose.

- clear cut logging is scaring some of Alaskas 'prime' wilderness by removing slow (50-500 years) re-growth trees that serve as habitat for animals that recieve excess hunting pressure due to extensive road access (consult Kodiak F&G on Afognak Isl. hunting). Profits from logging do not match the long term potentials for undisterbed lands. These slow re-growth areas should receive priority in aquisition considerations.
- our kids will hear less 'you should have seens' & 'there used to be's'
- land is a good investement for the private & public & can serve as an endowment fund of sorts.
- those who experienced the agony of the oil spill should feel a committment to that which gave us the reason for such deep agony. We should commit to protecting the environment we (all critters) use & love & aquasition will help.

Sincerely
Jim Latimer

Thank you for your time & attention

ID # 920602090

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- NO Affiliation
- NO Costs

By Lead

✓ Category

Other Comment

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

095

Comment

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Habitat Acquisition

Justification: (Link to Injured Resource or Service)

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

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

John Strasenburgh
PO 100171
Anchorage AK
99510

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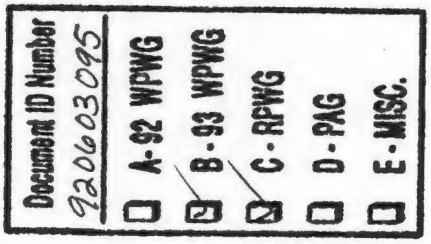
Exxon Valdez Trustee Council
645 G St.
Anchorage, Alaska 99501

Attn: 1993 Work Plan

P.O. Box 100171
Anchorage, AK 99510
June 2, 1992



Mr. Dave Gibbons
Acting Administrative Director
Restoration Team
645 G Street
Anchorage, AK 99501

Dear Mr. Gibbons:

These are my comments on the Exxon Valdez Oil Spill Restoration plan, Vol. 1: Restoration Framework.

I came to Alaska 21 years ago, primarily because I was, and still am, drawn to the wild, unspoiled open spaces. I have traveled throughout Alaska, including Prince William Sound, by kayak, canoe, foot, snowshoe and dogteam. Observation of and participation in the pristine wilderness of Alaska is where I recreate, where I feel joy, and where I get my spiritual sustenance. And Prince William Sound was/is part of that. I care about its future.

Prince William Sound has sustained, and continues to sustain, devastating damage. A few days ago I read in the newspaper that the young sea otters are experiencing an extremely low survival rate. This morning I read that the murres (300,000 killed directly by the spill) are having trouble reproducing and that their species continues to suffer. I expect that as the scientific studies are released that we will see many other instances where the devastation is continuing.

The spill has happened and its effects cannot be undone. But the Trustees can take steps to compensate for the damage. This can best be done through habitat protection and acquisition and this is how the bulk of the settlement funds should be spent. You may not be able to restore a beach to its pristine state or bring the sea otters and other wildlife back from the dead, but you can prevent other types of damage. For example, you can prevent logging by acquiring timber rights. This would not only protect wildlife habitat, but would also help promote stable local commercial and sport fishing, recreation, tourism and subsistence economies.

I would like to see the wilderness character of the Sound remain intact. This has been severely shaken, but there is still hope. The acquisition and protection of habitat should begin immediately, before any more damage (e.g., logging, construction projects, etc.) occurs.

And just as a side note, your public advisory committee (or whatever it's called) should be representative of the various interested parties. In other words, one member of the committee should be an environmentalist, another a fisherman, another a recreation guide, and so on.

Thank you for this opportunity to comment.

Sincerely,

John Strasenburgh

ID # 920603095

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- — Affiliation
- — Costs

✓ Category

Other Comment

Lead Agency

N/A

Cooperating Agency(ies)

N/A

Y (N) Passed initial screening criteria

RANKING H M L Rank Within Categories

H M L Rank Overall

Project Number - if assigned

CNF-Ken Rice

5-7

Comment

Mike Barton,

P/S buy back timber rights in PWS as part of restoration. Most people in Cordova agree.

Thank you.

MITCHELL NOWICKI
P.O. BOX 2232
CORDOVA, ALASKA 99574

5/15/92

ID # 920526017

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

_____ Checked for Completeness

✓ ID stamped/Input completed
✓ Name
NO Affiliation
NO Costs

_____ Category

Restoration Habitat Protection

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

Comment

GERALD R. BROOKMAN
715 MUIR AVENUE
KENAI, ALASKA 99611

May 29, 1992

Document ID Number
920601071
☐ A-92 WPWG
☑ B-93 WPWG
☑ C-RPWG
☑ D-PAG
☐ E-MISC.

Dave Gibbons, Acting Administrative Director
Restoration Team
645 G Street
Anchorage, AK 99501

Dear Mr. Gibbons:

I am writing concerning the decisions that will be made on the Oil Spill Restoration Framework (Vol. 1). While the Kenai area was not directly affected by the EXXON VALDEZ oil spill, I do have a great interest in the area which was affected, and I would like to make the following points, for your consideration in deciding on how the settlement funds will be expended.

1. I believe that habitat acquisition should be given **concurrent** consideration in the restoration process. Acquisition of habitat and protection from development can do a great deal to ameliorate damages to wildlife populations which would otherwise be damaged.

2. Habitat protection and acquisition, including purchase of land, conservation easements, and timber rights are the most effective means of restoration and should be the **PRIORITY USE** of settlement funds. I believe that 80%, at least, of the settlement funds should be used for habitat acquisition to prevent further damage to natural resources and services on an equivalent resource basis.] 01

3. I believe that the **imminent threat protection process** should be used, otherwise critical forest lands may be logged before they could be considered for acquisition. Negotiations should begin **immediately.**

4. The restoration process must begin **AS SOON AS POSSIBLE.** Funds must not be locked away in an endowment. Construction projects are **NOT** an appropriate use of restoration funds.

5. **WILDERNESS QUALITIES OF THE REGION MUST BE PROTECTED.**

6. Restoration and protection of archeological resources, especially in national parks, is very important.] 02

7. The monitoring program should not be dominated by studies of commercially valuable species, but should give equal consideration to all species in a comprehensive program that evaluates the long-term effects of the spill on the entire coastal ecosystem.] 03

8. The public advisory group should have a seat designated for each interest group (environmentalists, in addition to governmental, commercial use, etc.). A broad spectrum of interests should be represented on this group, to ensure that all appropriate interests will be included, and that no appropriate considerations will be overlooked.

I thank you for your consideration of my comments, above.

Gerald R. Brookman

ID # 920601071 -01

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- Affiliation
- Costs

✓ Category

Habitat Protection - Acquisition

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

ID # 920601071 -02

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

✓ ID stamped/Input completed
✓ Name
Affiliation
Costs

✓ Category

Manipulation and Enhancement - Archeological

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

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RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

ID # 92060107 - 03

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

✓ ID stamped/Input completed
✓ Name
Affiliation
Costs

✓ Category

Restoration Monitoring

Lead Agency

Cooperating Agency(ies)

Y N Passed initial screening criteria

RANKING H M L Rank Within Categories

H M L Rank Overall

Project Number - if assigned

Comment

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Document ID Number
92051401 4
☐ A-92 WPWG
☑ B-93 WPWG
☐ C-RPWG
☐ D-PAG
☐ E-MISC.

Title of Project:

Justification: (Link to Injured Resource or Service)

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

Estimated Duration of Project:

Estimated Cost per Year:

Other Comments: Don't pay any more lawyers.

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.

ID # 9205140 14

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- Affiliation
- ✓ Costs

✓ Category

other — comment

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

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_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

8192

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: National Parks restoration

Justification: (Link to Injured Resource or Service)

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

Fund restoration of national Parks areas.

Comments

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

Stan Eilers, MD
5070 Northridge Pt. SE
Cedar Rapids, Iowa
52403

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.

fold here

PLACE
STAMP
HERE

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

Attn: 1993 Work Plan

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

To Whom It May Concern,

I am writing to express my concern that our National Parks are not recieving an adequate amount of financial allocation from the Exxon settlement of the Valdez oil spill. It seems that a higher percentage of the money is going to support commercial fisheries, which benefit a small few, while the National Parks which are owned by all are being short changed. I urge maximal funding for the restoration of the National Parks and the affected threatened land, water and wildlife. Thank you for your time and considration in this matter.

Respectfully,

p. more attention to national parks

Stan Eilers, M.D.
5070 Northridge Pt SE
Cedar Rapids, Iowa 52403

ID # 920608192

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

ID stamped/Input completed
Name
Affiliation
Costs

✓ Category

Comments

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

Comment

16 May 1992

Dave Gibbons
Acting Administrative Director
Restoration Team
645 G Street
Anchorage, AK 99501

Mr. Gibbons,

The recent release of the Exxon Valdez oil spill restoration plans have given me the impetus to write you. I am concerned that this money, which could be used for aiding immediately threatened lands, will sit idle in banks and endowments. Please use this money now for urgent projects such as acquiring land or timber rights.

Habitat in Kodiak, Kenai Fjords and the Chugach Forest is a vital part of our Alaska. Let's buy these areas, and provide the protection we couldn't provide to the oil-soaked Sound.
Thank-you for your time!

Sincerely,

Marin Kuizenga

Marin Kuizenga
Box 84425
Fairbanks, AK 99708

ID # 920601070

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- Affiliation
- Costs

✓ Category

Habitat Protection - Acquisition

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

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_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

Comment

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

May 18, 1992

Dear Sirs:

I am writing to let you know that I am deeply concerned that the restoration needs of Kenai Fjords National Park, Katmai National Park, and Aniakchak National Monument are being overlooked.

The national parks belong to all Americans, and are important to us all. Opportunities must be provided for those who live outside of Alaska to participate in the restoration process and the national parks must be allotted needed resources.

Sincerely,

Linda A. Jennings

Linda A. Jennings
4833 Maury Lane
Alexandria, Va. 22304

CC:
Senator John Warner
Senator Charles Robb
James Ridenour, Director NPS

ID # 9205 26037

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

_____ Checked for Completeness

✓ ID stamped/Input completed
✓ Name
NO Affiliation
NO Costs

✓ Category
other - comment

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

Therese Provenzo
5000 N Tonawanda Creek Rd
N Tonawanda NY 14120-9536

May 10'92.

Dear Sirs,

We are deeply concerned about the problem of the oiled national parks & the limited restoration that is being offered. These lands belong to all Americans and the unborn generations. Opportunities for those who live outside Alaska should be made for them to participate in the restoration.

We would also like to receive the 1992 Work Plan & Framework Document so that we can offer comments & be put on the mailing list for notification of public meetings.

Thank you.

Therese N. Provenzo

Document ID Number
4205260 19

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

Comment

ID # 920526019

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

✓ ID stamped/Input completed
✓ Name
NO Affiliation
NO Costs

✓ Category

other - comment

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

Sam Booher
4387 Roswell Rd
Augusta, Ga 30907
22 May, 1992

Mr Dave Gibbons
Restoration Team

Dear Mr Gibbons

After watching Wally Hinkle on the TV show 60 Minutes. and now that the Oil Spill Settlement is behind us, I am concerned as to how the funds will be spent.

Do plans call for the restoring and preserving of the coastal ecosystem or will it be spent to develop the area to facilitate man's exploitation of the coastal ecosystem ?

I offer that Wally Hinkle has no compunction as to how he would use these funds to support his building programs. I offer that his proposed uses are in conflict with the original intent in obtaining these funds.

My first concern is the preservation of wildlife habitat that depend on Ancient Forests. In the lower 48 we have destroyed virtually all of ours. That which is left must be saved.

My second concern is the selling of Kodiak Island by its owners (Native Americans) for development.' I offer that any funds used to preserve this Island network and the Kodiak Bear is critical to the bears survival.

My last concern and I am sure it is shared my most Americans is the preservation of Wilderness shorelines. If this money is not used to fund the protection of forested coastline habitat, Alaska's coastline is going to resemble the timbered areas of Oregon and Washington state - a disgrace that we must all share the blame.

Any thing you can do to support the above ideas will be appreciated.

Sam Booher
Sam Booher

ID # 920526036

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- Affiliation
- Costs

✓ Category

Habitat Protection / Acquisition

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

Comment

20 May 1992

Dave Gibbons
Acting Administrative Director
Restoration Team
645 G Street
Anchorage, AK 99501

Dear Mr. Gibbons:

It has been brought to my attention that the Exxon Valdez Oil Spill Trustees just released plans for natural resource restoration work that will be done using the $1 billion settlement fund and that you are taking comments on this plan. I am a resident of the state of Minnesota who has visited this area (before the spill) and I care very deeply for it and wish to comment on what should be done with the restoration monies.

It is my worry that these monies will somehow fall into the Hickle administration's hands which would be the worst possible scenario. Governor Hickle would use the money for his interests or for building more roads, docks, hatcheries and tourist developments...all the things that this money should not be used for. Rather,I urge the Trustees to spend most of the settlement money on habitat acquisition. The public strongly favors additional habitat protection as the most meaningful form of restoration. There is nothing more that can be done to clean up the oil. What remains, let us let nature take its course. Habitat restoration is needed in The Kodiak National Wildlife Refuge, Kenai Fjords National Park, Afognak Island, and Chugach National Forest. Extensive Native Corporation and other private lands within these areas are under constant threat from clearcut logging and resort or subdivision development. It is of utmost importance to use these monies be used to acquire land or timber-rights from willing sellers using spill restoration funds so as to protect these scenic areas rich in fish and wildlife from further damage. Habitat acquisition should be given concurrent consideration in the restoration process rather than a hierarchical process in which habitat acquisition would only be done as a last resort. Habitat protection and acquisition, including purchase of land, conservation easements and timber rights should be the priority use of the settlement funds. 80% of the settlement funds should be used for habitat acquisition to prevent further damage to natural resources and to compensate for lost resources. Let me reiterate that these monies should not be used for any construction projects including tourist developments or roads. The wilderness qualities should be recovered and enhanced by these monies. The restoration process must begin now; funds should not be locked away in an endowment for Governor Hickel to use for his own personal interests later. Let's give habitat acquisition the priority it deserves in this process.

Sincerely,

Marcus Olson

Marcus Olson
Box 185
Barrett, MN 56311

ID # 9205 26035

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- no Affiliation
- no Costs

✓ Category

Hab Prot + Acquisition

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

Comment 2089

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Restoration projects in National Parks + Monuments

Justification: (Link to Injured Resource or Service)

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

Kenai Fjords

Katmai

Aniakchak

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

Velva Osborn
Iowa City IA

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.

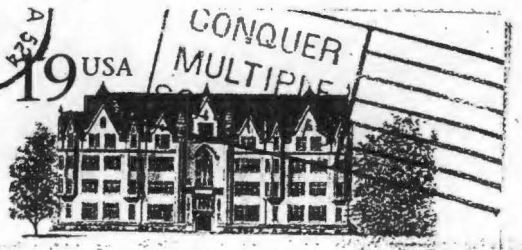
fold here

PLACE
STAMP
HERE

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

Attn: 1993 Work Plan

Miss Velva J Osborn
1434 Franklinst
Iowa City IA 52240



JUN ... REC'D

Document ID Number
920602089
- [ ] A-92 WPWG
- [x] B-93 WPWG
- [ ] C-RPWG
- [ ] D-PAG
- [ ] E-MISC.

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

Dear Council Members, May 25, 1992

I am deeply concerned that the restoration needs of the Kenai Fjords, the Katmai National Parks, and Aniakchak National Monument are being overlooked in your deliberations. They have yet to be allotted any restoration resources, and are being ignored in favor of commercial fishery projects. Grizzly bears suffer from ingested oil; impacted archeological sites are increasingly vandalized, and pristine coasts are still affected by oil.

Please put me on your mailing list to receive the 1992 Work Plan, Framework Documents, and public meeting notices.

Yours very truly
Velva Jeanne Osborn
1434 Franklinst
Iowa City, IA 52240

ID # 920602089

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- Affiliation
- Costs

✓ Category

Other - Comments - Damage Assessment -

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

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RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

Received in Anchorage, 5/12

Comment

JUN 08 REC'D

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: Primary Election '92

Justification: (Link to Injured Resource or Service)

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

Accept campaign issues about restoration from political ~~platform~~ raised by political leader advocates. This is a political year for representative Democracy of, for and by the people. Follow particular ideas which become popular or were winners.

Com #	Top/op	Issue
1	50	1000

Document ID Number
920608201

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

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments: So far, except for the Citizens advisory group, the public can only comment to trustees autocratically picked by the Executive Branch of Govt or determined by Judicial decree.

Name, Address, Telephone:

John Grames
P.O. Box 100827
Anchorage, AK. 99510
274-6348

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.

United States Department of Agriculture
Forest Service
Cordova Ranger District
P.O. Box 280
Cordova, Alaska
907/424-7661

Copper River Delta Institute
612 2nd Street
P.O. Box 1460
Cordova, Alaska 99574
907/424-7212
FAX 907/424-7214

also coded into 92

Document ID Number
920602079
☑ A-92 WPWG
☑ B-93 WPWG
☑ C-RPWG
☐ D-PAG
☐ E-MISC.

Reply to: 1500

Date: 2 June 1992

Subject: Restoration Framework

To: Bruce Van Zee, Forest Supervisor, Chugach National Forest

Attached please find general comments on the proposed Exxon Valdez Restoration Framework, and comments addressing specific options listed in the Framework. These comments were prepared jointly by the Cordova Ranger District (CRD) and the Copper River Delta Institute (CRDI).

We want to express some additional concerns we had on how the oil spill restoration has been handled with regards to both the Cordova Ranger District and the Copper River Delta Institute. First, we are concerned with the lack of involvement and familiarity we have had with the restoration process. Until Ken Holbrook's visit to Cordova 2 weeks ago, there had been very little interaction between the Trustees, the Oil Spill Restoration Committee, the Oil Spill Liaison and CRD and CRDI since the spill occurred 3 years ago. We have not been made aware how we might be involved, and how we fit into long-term planning.

The proposed Restoration Framework is an also an example of this lack of coordination and communication. Both CRD and CRDI were never made aware of the document previous to its publication, nor were they asked to submit or suggest options for the Restoration Framework. The Chugach National Forest is barely mentioned as a Prince William Sound land manager. For instance, there are at least two options (options 7 and 24) that address management issues in parks and refuges--with no mention of forest lands.

In addition, neither CRD or CRDI received copies of the 3 Volume document when it was first released. CRDI has yet to receive its requested copy and borrowed its only copy from Cordova's veterinarian. Similarly, CRD received its copy just a few days before Holbrook's visit to Cordova on 13 May. When we voiced our concerns about the 4 June response date being too soon and requested an extension, we were told that any extension was out of the question. The brief review period is reflected in our generalized comments.

In addition, neither CRD nor CRDI normally receive notification of public meetings on the oil spill when they were being held in Cordova. This lack of coordination and communication should be remedied if both CRD and CRDI are going to be effective, active participants in the restoration process.

We also are concerned that there is very little synthesized information readily available on the results of the restoration and damage assessment studies. This lack of information makes it difficult to address many of the proposed options listed in the Restoration, let alone submit proposals ~~for~~ restoration monies.

Comments

To date, the principal role of CRD and CRDI in the restoration process has been that of an advisor to other public agencies contracted to address oil spill issues on Forest Service lands. At the same time, when either CRD or CRDI have initiated and submitted proposals to the Oil Spill Restoration Committee, our proposals have entered a black hole and in some cases have been ignored or dismissed with a brief "it does not have a link to the oil spill". For example, last November, CRDI submitted 4 proposals to Ken Rice at the Oil Spill Restoration Committee, including 1 proposal that addressed shorebird staging in an oil-impacted area on northern Montague Island. Our understanding is that these proposals were never passed on to Ken Holbrook, and therefore were not considered for 1992 Forest Service oil spill monies.

In short, we urge you to have the Chugach National Forest Oil Spill Liaison and the Forest Service representative on the Oil Spill Restoration Committee to keep both CRD and CRDI informed and updated on current activities pertaining to the oil spill. We also would encourage you to raise the profile of the Forest Serice in the proposed Restoration Framework. And finally, we would urge you to support both CRD and CRDI's restoration/restitution proposals and assist us in pursuing funding for them.

Thank you once again for the opportunity to submit our comments on the proposed Restoration Framework. We look forward to receiving a copy of the Chugach National Forest's response to the Restoration Framework.

/s/
Mary Anne Bishop, Acting Manager
Copper River Delta Institute

/s/
Cal Baker, District Ranger
Cordova Ranger District

Enc.
cc: Ken Holbrook, Oil Spill Liaison

COMMENTS CONCERNING THE EXXON VALDEZ OIL SPILL RESTORATION FRAMEWORK'S POTENTIAL RESTORATION OPTIONS

Prepared by: Cordova Ranger District, Chugach National Forest
Copper River Delta Institute, Pacific Northwest Research Station

GENERAL COMMENTS ON PROPOSED OPTIONS

Lack of incorporating the Chugach National Forest into proposed options.

The Restoration Framework fails to mention the Chugach National Forest throughout the options as a land manager except for Option 6. There is a need to incorporate the Chugach National Forest in any options that currently concern "State and Federal parks and refuges" (e.g. Options 7, 8, 21, 24,), At the same time, many of the options do reflect recreational development in Prince William Sound. There is a need to examine these proposed recreational development options as they relate to the Chugach National Forest management direction.

Lack of options as they relate to the criminal plea agreement.

In the introduction of the Restoration Framework (page 5), restoration includes "restoration, replacement, and enhancement of affected resources, acquisition of equivalent resources and services; and long-term environmental monitoring and research programs directed to the prevention, containment, cleanup and amelioration of oil spills." Restoration options as currently listed in the Framework, do not address prevention, containment and amelioration of oil spills. Research to date and most options focus on resources in oil-impacted areas, and not on resources in the tanker-corridor or tanker travel route that could be potentially impacted in a future spill.

Need to incorporate issues and concerns of page 16 into proposed options.

We noted the following issues and concerns were not adequately addressed in any of the potential restoration options:

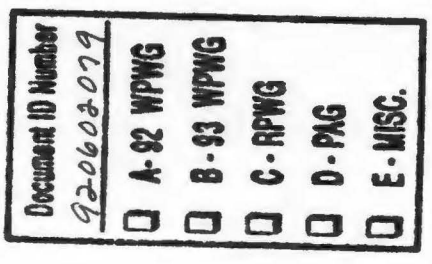
1. use of restoration monies for the prevention of future spills.

2. further clean-up activities.

3. how much reliance should be place on natural processes to insure recovery of injured natural resources and services.

4. the effect of restoration activities on the local economy of the spill area.

5. idea of removing other (non Exxon Valdez oil) sources of contamination from the affected area as a means of aiding restoration.



COMMENTS ON SPECIFIC RESTORATION OPTIONS AND ADDITIONAL SUGGESTED OPTIONS

Comments on Restoration Options for Management of Human Uses.

Option 1. Archaeological resource protection.

We recommend an additional action to include archaeological site inventory work up to the 150'contour line along all shorelines and beaches in Prince William Sound. The Forest Service would assist in the monitoring and site protection program in Prince William Sound.

Option 2. Intensify management of fish and shellfish.

The proposed option should be expanded to include the intensified management of fisheries habitat. Habitat management of fish and shellfish is an essential component in managing populations.

Option 3. Increase management for fish and shellfish that previously did not require intensive management.

The proposed option should be expanded to include the intensified management of fisheries habitat. Habitat management of fish and shellfish is an essential component in managing populations.

Option 4. Reduce disturbance at marine bird colonies and marine mammal haul-out sites and rubbing beaches.

The proposed actions should be expanded to include the whole spectrum of boat operators and public users including photographers, recreational boaters, and fishermen.

Option 5. Reduce harvest by redirecting sport-fishing pressure.

Any redirected sportfishing effort for cutthroat trout will primarily occur on the Chugach National Forest. The Forest Service should be an integral partner in the development of any management plan that recommends changes in recreational use on the Chugach National Forest. Information required to implement this option should include the evaluation of habitat capability in order to properly assess stock status in non-oiled systems. Additionally, alternative sport fishing locations need to be inventoried and assessed for their recreational potential and possible adverse impacts on the fisheries.

Option 6. Redesignate a portion of the Chugach National Forest as a National Recreation Area or Wilderness Area.

We agree that the possibility of redesignating portions of the Chugach National Forest be considered. This should be addressed in the Chugach National Forest Plan Revision. As this plan is developed, the general public and other state and federal agencies including the Oil Spill Trustees should be encouraged to participate in and comment on the Forest Plan Revision.

Option 7. Increase management in parks and refuges.

The Forest Service is the largest land-owner in Prince William Sound. This option and proposed actions should include the Chugach National Forest. Currently the suggested actions include hiring and training additional staff, and providing interpretive services to educate the public about the spill. We recommend that actions also include providing additional facilities and equipment for increased staff requirements.

Option 8. Restrict or eliminate legal harvest of marine and terrestrial mammals and sea ducks.

The U.S. Forest Service should be involved in any subsistence issues or changes in subsistence regulations because it is the agency that administers subsistence on Forest Service lands. Under ANILCA, Section 801 subsistence use has precedence over commercial or sport use, and should be therefore be considered in any reduction of harvest.

Option 9. Minimize incidental take of marine birds by commercial fisheries.

We agree that minimizing incidental take of marine birds is important.

Suggested Additional Restoration Options for Management of Human Resources

Option 33. Develop integrated public information and education program.

This option should be included under the Management of Human Resources Options, not the "Other Options" category. The Cordova Ranger District is very supportive of developing interpretative and educational programs. We would, however, recommend that the City of Valdez be targeted for a large-scale public information program because of its central location in Prince William Sound, and its importance to recreation and industry.

Currently, an estimated 100,000 visitors to Prince William Sound pass through Valdez. Despite the fact that the Chugach National Forest is the primary land administer in Prince William Sound, we have no presence in Valdez. The development of a Chugach National Forest Visitor Interpretive Center in Valdez that emphasized the natural resources and multiple uses of the Prince William Sound and Copper River Delta ecosystems, as well as the effects of the Exxon Valdez spill, would be effective in reaching a large majority of the visitors and residents of Prince William Sound.

Suggested Option 36. Develop programs to prevent, manage and respond to future oil spills.

This option calls for the development of coordinated, intra- and inter-agency prevention and response plans. The lack of planning and response to the Exxon Valdez oil spill by the Chugach National Forest, the largest federal land agency in Prince William Sound, has demonstrated the need to develop a prevention and response program for both Prince William Sound and the Copper River Delta.

Suggested Option 37. Identify social, cultural and economic impacts of the Exxon Valdez oil spill on spill area residents and develop a response system to mitigate past and potential impacts.

The Prince William Sound has historically been inhabited by diverse multi-cultural populations residing in small communities and villages. Natural resource communities are intimately linked to the ecosystem through subsistence and commercial harvests of fish and mammals. Baseline data on local community residents needs to be collected for understanding social, economic, and cultural impacts of oil spill disasters spill communities. Furthermore, emergency response systems in these communities should be identified and evaluated.

Comments on Restoration Options for Manipulation of Resources

Option 10. Preservation of archaeological sites and artifacts.

We recommend an additional action to inventory archaeological sites up to the 150'contour line along all shorelines and beaches in Prince William Sound. The Forest Service would assist in the monitoring and site protection program in Prince William Sound.

Option 11. Improve or supplement stream and lake habitats for spawning and rearing of wild salmonids.

Restoration of wild salmonid spawning and rearing habitat is important and should receive high priority. The Forest Service is recognized for its expertise in fisheries habitat restoration and should be the lead agency on Forest lands involved with these projects. Chum salmon were also identified as an injured species and should be included in this option.

Option 12. Creation of new recreation facilities.

Option 12 should be expanded to include interpretive and educational facilities such as the creation of a Chugach National Forest Visitor Interpretive Center in Valdez (see Option 33 above). Currently, the estimated 100,000+ visitors to Prince William Sound pass through Valdez. Despite the fact that the Chugach National Forest is the primary land administer in Prince William Sound, we have no presence in Valdez.

Option 17. Eliminate introduced foxes from islands important to nesting marine birds.

We support fox eradication under these circumstances.

Option 18. Replace fisheries harvest opportunities by establishing alternative salmon runs.

The Chugach National Forest would not support any stocking or fish culture techniques that have the potential to impact existing wild salmon stocks.

Comments on Restoration Options for Habitat Protection and Acquisition

Option 19. Update and expand the State's Anadromous Fish Stream Catalog.

While a number of "new" streams were identified for listing in the States Anadromous Fish Stream Catalog, several of these streams have been field surveyed by the Forest Service over the last 25 years. Prior to initiating additional field surveys, existing information should be compiled and future needs assessed.

Option 20. Establish and Exxon Valdez oil spill "special management area".

We disagree with this option because Alaska's Coastal Management Zone Act Regulations nullify the need for a special management area.

Option 21. Acquire tidelands.

We support tideland acquisition. The Chugach National Forest would be the logical land manager for tidelands acquired in Prince William Sound.

Option 22. Designate protected marine areas.

We support the identification and potential designation of protected marine areas. The Chugach National Forest should participate in the identification and designation of any protected marine area, especially when it relates to unique wild fish stock habitats, recreational opportunities, and whenever the designated habitats adjoin Forest Service lands.

Option 23. Acquire additional marine bird habitats.

We support marine bird habitat protection and acquisition.

Option 24. Acquire "inholdings" within parks and refuges.

We support this option and would expand this option to include acquisition of inholdings on Chugach National Forest lands.

Option 25. Protect or acquire upland forests and watersheds.

In light of public opinion, Alaska House Bill 411, and current legislation pending in the U.S. House of Representatives and U.S. Senate, the acquisition of upland forests and watersheds adjoining the Chugach National Forest should be considered as a viable, and timely option to achieve restoration.

Option 27. Designate and protect "benchmark" monitoring sites.

We strongly support designation of "benchmark" monitoring sites, including oiled and unoiled sites. Whenever appropriate, these benchmark sites should be included in any monitoring study be it species specific or otherwise. We also urge that any long-term monitoring be adequately funded.

Option 29. Establish or extend buffer zones for nesting birds.

We support the establishment/extension of buffer zones for nesting birds on Forest Service lands in Prince William Sound where it can be demonstrated that injured populations will recover more rapidly as a result of this management practice. We would like to play a role evaluating the pertinent studies in Prince William Sound and making decisions to act on this option.

Comments on Restoration Options Listed as "Other Options

Option 31. Develop a comprehensive monitoring program.

We strongly support a comprehensive monitoring program and list it as a top priority for restoration. In addition to continued monitoring of species and habitats where damage has already been proven, monitoring should include the collection of baseline data on species that could be impacted in a future spill. Examples of such species would be staging shorebirds and waterfowl during spring and fall migration both in Prince William Sound and on the Copper River Delta. Monitoring projects should also include the "benchmark" sites, and should be adequately funded over several years.

Option 32. Endow a fund to support restoration activities.

We support the establishment of an endowment to support restoration activities with a portion (not all) of the restoration settlement monies. This endowment should be administered to include the following restoration activities:

Option 32 (continued).

habitat acquisition and protection, long-term monitoring and research, and clean-up activities. Within the framework of any endowment, items should be prioritized for funding based on public input.

Option 34. Establish a marine environmental institute.

We do not support this option because it potentially supports a duplication of research effort and facilities. Currently there are 4 research institutes in Prince William Sound that either have the ability or the potential to address marine environmental issues. These include: the Copper River Delta Institute (U.S. Forest Service), the Prince William Sound Science Center and the associated Oil Spill Recovery Insitute, and University of Alaska's Seward Marine Center. We strongly urge that these institutes better coordinate their efforts both with each other and in cooperation with other federal and state research divisions, including the Alaska Fish and Wildlife Research Center (US Fish and Wildlife Service).

ID # 920602079

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

- ✓ ID stamped/Input completed
- ✓ Name
- ✓ Affiliation
- Costs

✓ Category

Other - Comments

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

920528044

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

Comment

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

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

Title of Project: Do Nothing

Justification: (Link to Injured Resource or Service) Stop interfering with Nature

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

let nature take it course.

man, too often, interfers.

Estimated Duration of Project: 3 years

Estimated Cost per Year: $0

Other Comments:

Name, Address, Telephone:

G. H. HOLLIDAY
PO Box 1080
TOMBALL, TX 77377
713-351-7591

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

MAY 28 REC'D

Attn: 1993 Work Plan

ID # 920528044

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- ✓ ID stamped/Input completed
- ✓ Name
- Affiliation
- Costs

✓ Category

Other - Do nothing - Comment

_____ Lead Agency

_____

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

_____

_____

RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____

ADD to Comments: 8/94

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL Comment

FORMAT FOR IDEAS FOR RESTORATION PROJECTS

Title of Project: ~~Habitat Acquisition~~ GIS services

Justification: (Link to Injured Resource or Service)

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

habitat acquisition / long term monitoring / fund existing marine institutes / centralize GIS systems / better prevention + cleanup

Estimated Duration of Project: _____

Estimated Cost per Year: _____

Other Comments:

Name, Address, Telephone:

Timothy Bowman
PO 768
Cordova, AK
99574

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

Attn: 1993 Work Plan

Timothy D. Bowman
P.O. Box 768
Cordova, Alaska 99574
June 4, 1992

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

RE: Comments on the Exxon Valdez oil spill Restoration Framework, Potential Restoration Options.

I have several general and specific comments regarding the Restoration Framework, and use of Restoration money.

General Comments

1. The best and proper use of restoration money should be habitat acquisition. Although I believe that this should be a primary use of the settlement funds, it should not be done at the exclusion of other important actions, such as long term monitoring of affected wildlife and habitat. The Exxon Valdez oil spill has emphasized the need for baseline data, and we should be prepared for other oil spills or other catastrophes.

2. Certain activities are completely inappropriate for the intended purposes of Restoration money. These include the construction of roads, ferries, docks, airstrips, and hatcheries.

Specific Comments

1. Option 34 (Establish a Marine Environmental Institute). I support this concept, but urge that funding be directed to improve or expand existing facilities and capabilities of the Prince William Sound Science Center or Copper River Delta Institute. These entities are already capable of meeting the proposed objective.

2. A Geographic Information System (GIS) needs to be established to synthesize all available geographic and resource information on the region, and to serve as both a central repository and distribution center for such data. This might be logically and practically accomplished in conjunction with the proposed Marine Environmental Institute.

3. I would suggest an additional Option to develop a program to prevent, or respond to, future oil spills. This should include species-specific response plans which identify the responsible agency or individual(s).

Thank you for the opportunity to participate in the public review process.

Sincerely,

Timothy Bowman

Timothy D. Bowman

ID # 194

COVER WORKSHEET FOR 1993 IDEA SUBMISSIONS

✓ Checked for Completeness

ID stamped/Input completed
Name
Affiliation
Costs

✓ Category Support ~~Management Action~~

✓ Lead Agency ~~ADNR~~ Comment

_____ Cooperating Agency(ies)

_____

Y N Passed initial screening criteria

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RANKING H M L Rank Within Categories

H M L Rank Overall

_____ Project Number - if assigned _____