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NATIONAL WILDLIFE FEDERATION

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COMMENTS OF THE NATIONAL WILDLIFE FEDERATION ON THE PROPOSED CONSENT DECREE/MEMORANDUM OF AGREEMENT WHICH CONSTITUTE A SETTLEMENT OF GOVERNMENTAL CLAIMS FOR NATURAL RESOURCE DAMAGE AGAINST EXXON AND ALYESKA PIPELINE

[56 Federal Register 11636, March 19, 1991]

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NWF Comments
Consent Decree/MOA

INTRODUCTION

The National Wildlife Federation ("NWF" or "the Federation") welcomes the opportunity to comment on the Agreement and Consent Decree (hereafter "Consent Decree") and Memorandum of Agreement (MOA) proposed by the natural resource Trustees[1] and Exxon[2] as settlement of governmental claims for natural resource damage claims resulting from the Exxon Valdez oil spill. 56 Federal Register 11636 (March 19, 1991).

The Federation's principal concern is that the public has no meaningful ability to evaluate and comment on the proposed settlement unless scientific and economic data, which address the adequacy of the proposed settlement, are made available. Currently, the Trustees and Exxon have withheld the bulk of this information.

The data contained in studies conducted by the Trustees, including economic studies, belongs to the public since the research analyzes the impacts of the spill on the public resources and was paid for with public funds. Such disclosure also would enhance the ability of outside scientists and the public to assess and comment upon post-spill restoration plans. Moreover, the studies should be released in order to inform the public and scientific community about the impacts of a major spill, and to enhance our understanding of the costs and risks of oil development and oil transport. The truth about the spill must be shared nationally and internationally, to aid in studying the impact of spills which continue to occur in the Persian Gulf, in the Mediterranean and around the globe.

Federal Judge Russel Holland must evaluate the fairness and legality of the proposed settlement and NWF requests the Judge to order all parties -- including Exxon -- to disgorge this critical

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[1] Under the scheme set forth in the Clean Water Act and the Superfund statute, Trustees must be appointed to represent injured natural resources. In the case of the Exxon Valdez oil spill, there are both federal and state Trustees (collectively, the "Trustees"). The federal trustees are: Department of Interior, Department of Commerce (through the National Oceanic and Atmospheric Administration, NOAA), and the Department of Agriculture (the "Federal Trustees"). The Alaska state Trustees are: Department of Fish and Game, Department of Environmental Conservation, and Department of Law (the "State Trustees").

[2] "Exxon" refers to Exxon Corporation, Exxon Shipping, and Exxon Pipeline, collectively.

data. We urge the Court to defer approval of the proposed settlement until the public and the Court have an opportunity to fully evaluate the data.

To assist the Court in this task, the Court could consider appointing a magistrate, special master, or independent counsel to review the data who would also aid the Court in assessing the advisability and fairness of allowing Alyeska Pipeline Service Corporation ("Alyeska" or "Alyeska Pipeline") to avoid all criminal liability and all civil liability for natural resource damages.

NWF also questions the adequacy of the settlement and provisions of the proposed settlement which should be modified and/or interpreted.

NATIONAL WILDLIFE FEDERATION

NWF is the nation's largest private conservation education organization. Founded in 1936, the Federation, its 5.6 million members and supporters, and 51 affiliated organizations, work to educate, empower, and inspire individuals and organizations to conserve fish, wildlife and other natural resources, to protect the environment, and to build a globally sustainable future.

For several years, NWF been involved in oil spill and natural resource damage issues. The Federation is actively working on oil spill issues and is on the forefront in urging safeguards to prevent damages such as those associated with the Exxon Valdez oil spill. NWF, with the Wildlife Federation of Alaska and the Natural Resources Defense Council (NRDC), has filed suit against Exxon and Alyeska Pipeline requesting the court to create a trust fund which would aid in restoring the natural resources damaged by this catastrophe. In addition, the Federation continues to participate in the Valdez spill natural resource damage assessment process via comments submitted in the public record. NWF also strongly supports citizen involvement in government decisions relating to pollution assessment and cleanup.

The Federation welcomes this opportunity to comment on the proposed settlement. This issue is of great importance to NWF and its members and supporters. As one of the principal plaintiffs in the State of Ohio et al. v. Department of the Interior, 880 F.2d 432 (D.C. Cir. 1989) and State of Colorado et al. v. Department of Interior, 880 F.2d 481 (D.C. Cir. 1989) (collectively, "Ohio case"), NWF successfully challenged important aspects of the natural resource damage assessment regulations promulgated under the Comprehensive Environmental

Response, Compensation, and Liability Act ("CERCLA" or "Superfund"). The Federation also successfully intervened in and obtained the Court's rejection of an unlawful government-polluter settlement agreement in a precedent-setting natural resource damage case in Massachusetts. In Re Acushnet River and New Bedford Harbor: Proceedings Re Alleged PCB Contamination, 712 F.Supp. 1019 (D. Mass. 1989). In addition, the Federation actively advocates increased prosecution under Superfund to recover funds for restoration of damaged natural resources.

I. WITHOUT FULL DISCLOSURE OF SCIENTIFIC DATA, THE PUBLIC CANNOT EVALUATE THE SETTLEMENT

The Need For Public Input

It is a cornerstone of American democracy that the public shall participate in government and our governments, federal, state and local, shall be accountable for their actions. This is especially true when government actions involve public resources. In the case of the settlement of the governmental lawsuits concerning the Exxon Valdez oil spill, public involvement is essential.

A. THIS WAS A MAJOR DISASTER

This proposed settlement involves the largest oil spill ever to occur in U. S. waters and one of the world's worst spills -- clearly an issue of great public importance. The spill occurred in Prince William Sound, a largely undeveloped, pristine environment of spectacular beauty and species diversity. The timing of the spill was disastrous: the deadly oil slick swept across the Sound and the Gulf of Alaska at the time of the year when the ecosystem in the area is most biologically active.

The Exxon spill coincided with the beginning of the reproductive cycle for most of the birds, mammals, fish and other species in the Sound and when many migratory species were beginning to arrive in the area. The spill took place just before the seaward migration and spawning of countless salmon and herring -- along with oil, these species are the foundation of the local economy and the traditional way of life pursued in many native villages.

The U. S. and Alaska governments and Exxon have studied the various effects this spill has had on the Prince William Sound/Gulf of Alaska ecosystem for over two years. The grisly immediate impacts, such as body counts and evidence freezers full of dead, oiled animals and rehabilitation centers full of stressed and dying wildlife have been revealed. However, the results of the publicly-funded studies have been hidden from the

public. Except for Exxon's constant barrage of public relations materials intended to pose as science, little information has been disclosed. Much of what we know was revealed through leaks by concerned scientists; and the information indicates that the spill has had and will continue to cause dramatic, long-term effects on the entire ecosystem.[3]

If ever the public has had a right to know what its governments are doing and how it affects public resources, this proposed, precedent-setting legal settlement should trigger that right.

B. THE PUBLIC TRUST MAY HAVE BEEN VIOLATED

This settlement proposal implicates the public's right to know because the vast majority of the natural resources that have been so dramatically damaged are public resources and the governments have a duty to properly steward these resources.

Much of the land affected and the resources damaged by the spill, including sea and land animals, water, beaches, and forests, are publicly-owned resources.[4] Pursuant to the provisions of the Clean Water Act and the Superfund statute that form the backbone of the legal claims for natural resource damages the proposed settlement would resolve, the governments have a legal obligation to the public to protect these resources. This legal duty extends to governmental actions such as this proposed settlement.

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[3] The value of the recently-released government summaries of some of these studies is extremely limited. As will be discussed below, despite the summaries' descriptions of dramatic damage to birds, mammals, and important segments of the ecosystem, without any of the data collected or study plans and methodologies used in these studies, the public can place little faith in the preliminary conclusions drawn in the document. Further, the governments have categorically refused to release any of the studies of the economic impacts of the spill, and have released no data on the costs of restoring, replacement or acquisition equivalent to the damaged natural resources. Without the results of the governmental economic damage studies, the public does not have nearly enough information with which to assess the proposed deal.

[4] Sites with great cultural and historical importance to American natives have been damaged, as well. Although native peoples have valid claims to control of many of these sites, some of these sites are under exclusive federal or state control.

As discussed below, many aspects of this proposed settlement are extremely troubling, tantamount to a violation of the public trust. In order to fulfill the obligation to the public, it is paramount that all information regarding the government actions at issue be made available for review.

C. SIGNIFICANT CONFLICTS OF INTEREST EXIST

Full disclosure is essential because both governments promoting this proposed settlement have significant conflicts of interest.

The history of the Exxon Valdez spill is deplorable. It was an accident waiting to happen and, when it happened, it was an accident completely out of control. Exxon pushed its over-worked, under-staffed tanker crews to travel in inclement weather and with little rest. It also tolerated alcohol and substance abuse, despite the dangers posed to fragile natural resources. While Exxon must accept primary responsibility for this unnecessary and predictable disaster, Exxon's regulators, the State of Alaska and the U. S. Coast Guard are arguably at fault as well, for permitting this dangerous situation to develop.

Once the spill occurred, the nation watched in horror as Alyeska Pipeline Service Corporation, under a legally-binding agreement to prevent and/or clean up any such spill, completely failed to do its job.[5] Afterward, Exxon took over the cleanup duties once Alyeska's complete failure was apparent, and, directed by the Coast Guard and the State of Alaska, chased the fleeing oil. The oil coated miles of coastline and, soon, thousands were at work rubbing oily rocks with towels. Again, although Alyeska and Exxon must accept primary responsibility for the failed cleanup, Alyeska's regulators, the State of Alaska and the U. S. Coast Guard, are arguably at fault.

After hundreds of injured parties and the governments filed suits against Exxon and Alyeska, it is not surprising that Exxon and Alyeska, seeking to spread the blame, filed claims against

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[5] Documents recently released by California Member of Congress George Miller, as part of a Congressional investigation, reveal that, eleven months before the Valdez ran aground, Alyeska recognized that it could not respond to a major spill in Prince William Sound. Despite its legally-binding promises to the U.S. and Alaska governments to clean up such spills, Alyeska decided it would do nothing to improve its cleanup capability. See Appendix 1, "Comments of the National Wildlife Federation on the 1991 Restoration Work Plan" (April 15, 1991) at Attachment C, and discussion below.

the State of Alaska and the U. S. Coast Guard. Exxon has filed a counter-claim against the State of Alaska in the State's lawsuit against Exxon, alleging that by refusing to allow Exxon to use toxic chemical dispersants on the slick, the State significantly magnified the damage caused by the spill. Using essentially the same theory as in the counter-claim against the State -- the Coast Guard delayed use of dispersants -- Exxon has also filed an administrative claim against the Coast Guard, seeking payment for cleanup costs.

While the assertion by Exxon and Alyeska that the State and the Coast Guard compounded matters by allegedly failing to approve the use of dispersants are unconvincing, Exxon's lawyers are pursuing it solely because this strategy was successful for Amoco Corporation lawyers in the Amoco Cadiz litigation. Exxon and Alyeska had neither sufficient supplies of dispersant on hand to remedy the spill, nor did they have the manpower to apply dispersant in necessary quantities. Further, there is a strong argument that after the third day, when dispersants may have been available, the weather conditions were not appropriate for using dispersant.

Beyond the claims that Exxon has filed against the governments to date, both governments should have known that during a trial, Exxon's strategy would include an effort to shift blame to the governments. Exxon lawyers could tell the jury a story about the regulators who approved Exxon's reduced crew sizes, high-speed transits in bad weather across Prince William Sound, and lax enforcement against substance-abuse. Exxon lawyers could argue that the Coast Guard should have seen the Valdez heading for Bligh Reef on the Coast Guard radar system and taken action to avert the disaster. Exxon and Alyeska could argue that the State should have known that despite representations made by the Corporation, Alyeska's Contingency Plan blueprint for cleaning up oil spills was designed solely to respond to small spills and only under optimum conditions.

Under these circumstances, it is suspect that the United States and the State of Alaska are eager to cut a deal with Exxon to limit their liability.[6] If this is the case, it is in the governments' interest to keep information hidden from the public, lest the deal unravel. It follows that the governments will reveal only information which would support the settlement. If

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[6] The fact that the state of Alaska is seeking a covenant not-to-sue from the private plaintiffs before it will release any data confirms this theory.

the settlement is rejected, the governments' contributory negligence will put them at legal risk once again.

Due to this conflict of interest, the public has a right to be informed of the bases for the proposed settlement.

Very Little Information Has Been Disclosed to the Public

Despite the public right to full disclosure regarding the bases for the settlement agreement, very little information about the agreement has been made public. The recently released summaries concerning damage caused by the spill in Prince William Sound and the Gulf of Alaska do nothing to improve this situation.

A. MUCH INFORMATION HAS BEEN COLLECTED

Soon after the spill occurred, the natural resource Trustees and Exxon commenced substantial scientific research programs to assess the damages caused by the Valdez spill. Over two years after the spill, these programs have collected a huge amount of scientific and economic data.

These scientific programs, for better or for worse[7], were designed to elicit information that would answer the legal questions which a court of law would ask during a trial for natural resource damages. The Ohio case establishes that natural resource damage recovery must include the following:

1) the full cost of restoring, replacing or acquiring the equivalent of the damaged natural resources;
2) the cost to the public of losing the use of those resources until they are fully restored;
3) the lost "nonuse" value of the resources,; and,
4) the reasonable costs of assessing the damages.

To fully restore damaged natural resources, natural resource damage Trustees must employ physical restoration techniques wherever possible.[8] For example, planting new beach grasses

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[7] See Appendix 1 at 9 (NWF comments argue that litigation emphasis has distorted scientific program).

[8] Small amounts of money may also be needed to restore native archaeological sites with cultural and/or historic significance. The proposed settlement, which settles state common law as well as federal Clean Water Act claims, could legally pay for such restoration work, although no such restoration should proceed without the consent of the affected

where oil damage has killed grass and caused erosion is a physical restoration technique planned for Prince William Sound. Resources that cannot be physically restored must be replaced, to the extent feasible. For example, reintroducing species killed by the spill; this example also highlights the inherent limitations of certain restoration activity -- no store stocks the 515,000 live murres needed to replace those killed. To the extent that the damaged natural resources cannot be physically restored and/or replaced, equivalent assets must be acquired by the Trustees.

The costs of losing the use of resources and the lost non-use value, the second and third types of damages described above, are calculated using various types of economic valuation techniques. A principal technique for assessing lost use and lost nonuse values as economic damages endorsed by the Ohio court is the contingent valuation method. Using this technique, economists choose study populations representative of those damaged and conduct surveys of these populations.

The scientific programs initiated by the Trustees and by Exxon were designed to determine the cost of restoring or replacing the damaged natural resources. By studying the nature and extent of damage to the ecosystem, scientists and economists can begin to approximate what types of physical restoration, replacement, and/or acquisition projects need to be accomplished and put a price tag on that segment of natural resource damage. The Trustees' scientific damage assessment program includes 75 studies which have been or will be initiated over three field seasons: 1989, 1990 and 1991. The Trustees' program has also included seven economic studies initiated to calculate the interim lost use and/or lost-use and non-use damages.

In various forums, Exxon has made inflated claims about its damage assessment study program. Exxon videos describe Exxon's program as staffed by world-renowned scientists using state-of-the-art equipment and pronounce Exxon's desire to mend the damage to Prince William Sound. However, similar to the Trustees, Exxon's chief motivation is litigation. In view of Exxon's superior resources, Exxon's scientific and economic damage assessment program probably is more extensive than the studies conducted by the Trustees.

B. VERY LITTLE DATA WILL BE RELEASED

The extensive damage assessment programs carried out by the Trustees and Exxon to prepare for trial form the basis for the

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native communities.

proposed settlement. Yet, it has always been clear that the parties are reluctant to release this critical data.

Exxon has made no effort to release its scientific and economic data (except for selected studies it has released for public relations purposes). The State of Alaska has stated that it will not release any data until: 1) all other parties sign a covenant not-to-sue with them; and/or 2) the State concludes all Exxon Valdez-related litigation (which could take years).[9] The Federal Trustees alone announced they would make their scientific data available, apparently over the state's objection. However, the Department of Justice asserts that substantial delay is necessary since most data are released because many of these studies require completion of quality control laboratory work and peer review before disclosure[10]. Further, the Federal Trustees refuse to release: 1) any Coast Guard studies; or 2) any economic data.

Moreover, it appears that the State is taking steps to end the unfinished damage assessment program conducted by the Trustees so the public will never know if the proposed settlement is adequate. Some reports indicate that the State will not continue its nearly-completed economic studies, which already show extensive damages resulting from the spill (see below); furthermore, the State is arguing that the Trustees should discontinue a significant portion of the scientific studies planned for 1991[11].

In contrast to these negative events, on April 8, the Department of Justice deposited with Judge Holland's Court a brief summary of the preliminary results of the Trustees' scientific -- not economic -- damage assessment studies[12].

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[9] Since the proposed settlement was announced, both Exxon and the State have opposed a motion filed in state court by NWF, its co-plaintiffs, and the other plaintiffs which would require all parties to submit all scientific data to a central data repository.

[10] The studies could be released to the public before they have been fully peer reviewed. This would allow the public a chance to analyze some aspects of the data while the peer review process took place. Revised, post-peer review versions of the studies could then be made available.

[11] See Appendix 1 at 9, Attachment E.

[12] See Appendix 2 (DOJ Summaries).

Unfortunately, this document raises far more questions than it answers. For example, the summaries:

1) include none of the underlying data or scientific analyses upon which the summaries are based.[13]
2) describe the results of the studies in such a conclusory and vague fashion as to create many new uncertainties about the exact nature of the long-term damage the Exxon spill has caused and will continue to cause;
3) provide no description of the actual measures or the costs thereof needed to restore, replace or acquire the equivalent of each of the damaged resources;
4) contain no information about the working hypotheses, study protocols, or methodologies used in the studies, which is very important to analyzing the credibility of the purported results; and
5) contain no information about who are the principal investigators, which would allow the public to examine and assess the areas of expertise, competency, and reputations of the scientists who have done the work;

The Settlement Cannot Be Accepted Without Full Disclosure of All Scientific and Economic Data

The governments and Exxon ask the public and Judge Holland to accept the proposed settlement, they have denied the public and the Court access to information which would form a reasonable basis for making such a weighty judgment. The governments and Exxon have done nothing to present what the restoration costs may eventually be and what are the economic damages (interim lost-use and/or lost-use and non-use damages)[14]. Thus, the public and

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[13] This puts the public in the awkward position of having to trust the very governmental agencies that have a clear conflict of interest regarding the acceptance of the proposed settlement.

[14] In fact, the DOJ Summaries indicate that the information included in the data available to the governments is only "preliminary, as studies are still underway and available data are not fully analyzed and interpreted." Appendix 2 at 4. More surprising still is the statement that "[r]estoration measures will begin in 1991 and are expected to become more comprehensive as the understanding of the effects of the spill improves and as experts and the public provide input on where restoration measures should be concentrated." Id. at 15 (emphasis added). These two statements make clear that the governments and Exxon

the Court have no basis on which to decide whether the proposed settlement could fulfill the statutory measure of damages, or whether the settlement amount is fair, adequate, and in the public interest.

Faced with this impossible situation, the Court should order the release of all information which could form the basis of the proposed settlement and extend the comment period until all the data -- scientific and economic, governmental and Exxon's -- have been released and fully analyzed by the public. The Court should scrutinize whether the statutory measure of damages is met by the proposed settlement.[15]

In addition, to ensure that it can independently analyze the proposed settlement, the Court should appoint a magistrate,

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have not presented restoration cost figures to the public because they cannot do so -- such data are not yet available and won't be for some time.

[15] It is quite possible that the Trustees ignored the statutory measure of damages in establishing the level of the settlement. The Governor of Alaska talked about seeking an $1 billion settlement before he would have had access to any of the scientific or economic data. In fact, the Governor and Attorney General Cole have said that the $1 billion figure came from Hickel's own knowledge of Prince William Sound.

As for the Federal Trustees, on March 20, 1991, Assistant Attorney General Richard Stewart explained to Congress that "[t]he schedule of payments under the settlement agreement is expected generally to coincide with the future funding needs for restoration work now being planned by the federal trustees." R. Stewart, Testimony before the Fisheries and Wildlife Conservation and the Environment, Coast Guard and Navigation, and Oceanography Subcommittees of the House Committee on Merchant Marine & Fisheries 6 (March 20, 1991) (emphasis added). This statement appears to confirm that interim lost-use, as well as lost-use and non-use damages -- critical elements of natural resource damage recovery according to the Ohio court -- are not recovered by the proposed settlement.

special master, or independent counsel[16] to assist the Court in its own review of the data.[17]

II. PRELIMINARY INDICATIONS ARE THAT THE SETTLEMENT IS INSUFFICIENT

Although the public and the Court need scientific and economic data to fully evaluate the proposed settlement, some information now exists which casts serious doubt on the adequacy of the amount of the proposed settlement.

The Trustees' Restoration Plan And Recent Announcements That Scientific Studies Will Be Terminated Suggest That The Settlement Is Insufficient

The Trustees' March 1, 1991 Restoration Work Plan suggests that the settlement amount will restrict their restoration, replacement, and acquisition options, instead of restoration and other needs dictating the settlement terms. This is directly contrary to Congressional intent to establish restoration, replacement, and acquisition as the fundamental goal for the Trustees. Moreover, recent press accounts (see attachment) suggest that the Trustees likely will not acquire significant habitat by purchasing logging rights. In addition, press accounts also indicate that the Trustees will be terminating the economic studies and many of the scientific injury assessment studies. All these actions lead to one conclusion: the settlement simply will not provide sufficient funds to permit the Trustees to carry out their public trust obligations under applicable statutes and other law.

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[16] See Bond, Plea Bargaining and Guilty Pleas § 6.18(c)(court may name special prosecutor in rejecting plea bargain as contrary to public interest); United States v. Cox, 342 F.2d 167, 179 (5th Cir.)(en banc), cert. denied, 381 U.S. 936 (1965) (Judge Griffin Bell and dissenters in part suggesting that where government decision not to prosecute is in bad faith or "irrational," court may be authorized to appoint counsel to prosecute case); United States v. Cowan, 381 F.Supp. 214, 223 & n. 11 (N.D.Tex. 1974), rev'd on other grounds, 524 F.2d 504 (5th Cir. 1975), cert. denied, 425 U.S. 971 (1976)(to same effect).

[17] NWF is not suggesting, however, that the Court merely order in camera review of the data. It is critical that both the Court and the public be able to fully assess the proposed settlement.

Present, After-Tax Value Is Low

The proposed settlement provides for $1 billion[18] to be paid out over a ten and one half year period. Although this is the largest sum ever recovered for natural resource damages, the Exxon Valdez spill is the worst spill in America's history and one of the worst oil spills to occur, in terms of biological effect. When the length of the payout period is combined with the tax-deductible nature of the bulk of the proposed settlement, at a minimum the actual value of the proposed deal is halved.

The Congressional Research Service has estimated that once the present value of the stream of payments is calculated and the tax-deductibility of these payments is taken into account, the proposed settlement would cost Exxon only $421 to $528 million, depending on which discount rate is applied in the calculations.[19]

The Associated Press (AP) used another means to calculate the real cost of the proposed settlement to Exxon. They contacted an annuity broker who specializes in buying annuities which will create payment streams sufficient to satisfy various types of judicial awards and private settlements, similar to the proposed Exxon Valdez settlement. The broker took bids on an annuity which would create the payment stream set forth in the proposed settlement. Once a low bid was received, AP took this number and adjusted it to account for the amount of the annuity payment Exxon could deduct from its taxes. The result: the proposed settlement costs Exxon $486.3 million, less than half the announced $1 billion figure.[20]

Both calculations shows that the true impact of the "billion dollar settlement" on Exxon will be far less than advertised. In fact, Exxon may have been expecting to pay a far higher amount. The Wall Street Journal reported that in 1990, Exxon set aside $1.68 billion to cover all its future Exxon Valdez-related

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[18] This consists of $100 million criminal and $900 million civil payments.

[19] See Appendix 3 (CRS Valuation). Note that the $421 million figure is the one associated with the arbitrary 10% discount rate suggested by the Department of Interior's natural resource damage assessment regulations.

[20] See Appendix 4 (AP Valuation).

costs.[21] This latter figure gives some idea of the value Exxon placed on the dramatic and long-term damage it caused in Prince William Sound and the Gulf of Alaska.

Preliminary Economic Damage Studies Show Significant Damage

As discussed above, an integral component of the measure of natural resource damages is the economic damage caused by the injury to the resources. It is particularly interesting to note that the studies the Trustees and Exxon most fiercely resist disclosing are the economic studies. Perhaps this is because these studies show the greatest amount of damage.

Several newspaper articles leaked information regarding the State of Alaska's economic damage studies, which are nearly complete.[22] The Washington Post reported that the studies value the economic damages from the spill at $3 billion; the Anchorage Daily News subsequently reported that the studies show a range of damages from $3 to $8 billion, depending on how conservative is the set of assumptions about the type of survey questions which are most accurate.[23]

Of course it is dangerous to rely on leaked and/or incomplete information. This is precisely why the Court needs to order the disclosure of all the scientific and economic data collected by the Trustees and Exxon. Further, if the Court appoints a magistrate, special master, or independent counsel, as suggested above, this individual could help evaluate the validity of these disquieting disclosures.[24]

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[21] See Wall Street Journal, March 14, 1991.

[22] NWF has learned that the Federal economic damage studies were initiated only recently and have now been suspended. As noted above, work on the State economic studies has also been discontinued, perhaps permanently -- even though the studies are nearly complete and preliminary results are already available.

[23] See Appendix 1 at Attachment A.

[24] NWF has learned the identities of the principal investigators involved in the Trustees' economic studies. The State of Alaska has retained as expert witnesses Dr. Richard Carson, Assoc. Professor of Economics, University of California at San Diego; Dr. Robert Mitchell, Professor of Sociology, Clark Univ.; Dr. Michael Hanemann, Assoc. Professor of Agricultural & Resource Economics, Univ of Cal.; and Dr. Raymond Kopp, Director, Quality of the Environment Div., Resources for the Future.

DOJ Summaries Show Extensive, Possibly Permanent Damage

Despite the limitations discussed above, the DOJ Summaries present information that indicate that the Prince William Sound/Gulf of Alaska ecosystem may have sustained permanent damage due to the Exxon Valdez spill.

As soon as the DOJ Summaries were released, public reaction was dramatic. Few Americans were aware of how widespread was the initial devastation caused by the spill. Particularly disturbing to many readers was the information regarding bird deaths resulting from the spill. For example, the summaries indicate that as many as 300,000 murres died from direct effects of the oil and that as many as 215,000 murre chicks were not born in 1989-90 alone because of the various physiological and other stresses caused by the oil. Similar, although less dramatic impacts were suffered by many other species.

More troubling to scientists, particularly restoration experts, was the news that, according to the summaries, the Valdez oil continues to have a very significant impact on the inter-tidal zone (essentially the area in which the tide moves in and out) and that significant amounts of oil are trapped in the inter-tidal and sub-tidal zones -- causing continued exposure to oil for many species. In addition, continued oil exposure has been documented not only in near-shore fish and wildlife, but in deep water marine life, such as pollack, hundreds of miles from the spill site. This indicates that the fundamental building blocks of the ecosystem, especially the critical inter-tidal area that many species depend on, have been knocked out of place and the prospects for the future are unclear. Indeed, the Trustees' summary suggests that there are certain long-term effects lasting several decades on certain elements of the affected ecosystem.

While it is difficult to draw conclusions from the condensed and conclusory descriptions of damage found in the DOJ Summaries, the potential that the data would show significant, lasting damage to the entire ecosystem is now less easily discounted.

Directed by Dr. Norman Meade, Chief Economist in the NOAA Damage Assessment Branch, Rockville, MD, the experts retained by the United States are Dr. Alan Randall, Professor of Agricultural Economics, Ohio State; Dr. John Hoehn, Asst. Professor of Agricultural Economics, Michigan State; and Drs. Nancy Bockstael, Kenneth McConnel and Ivar Strand, Professors of Agricultural & Resource Economics at the Univ. of Maryland. NWF urges the Court to subpoena the testimony of these investigators regarding the economic studies.

The Settlement May Not Provide Sufficient Funds For Critical Restoration Needs

The Prince William Sound/Gulf of Alaska ecosystem, which was smothered in eleven million gallons of oil, faces another significant threat: extensive clear-cut logging. The fact that the proposed settlement payments (particularly those which would be due in the first few years under the agreement) may be inadequate to allow the Trustees to prevent this additional threat to the ecosystem is discussed in NWF's Comments on the 1991 Restoration Work Plan. Appendix 1 at 2-5, Attachment B. In addition, as structured, the settlement cannot pass the pragmatic test of providing sufficient funds for needed restoration work.

In public testimony before the Alaska Legislature, both Alaska Attorney General Charles Cole and Alaska Fish and Game Commissioner Carl Rosier stated that they have abandoned the State's previous goal of preventing clear-cut logging via timber acquisition. See Anchorage Daily News, April 17, 1991 (Appendix 5). This significant change in the State's position may confirm that the proposed settlement does not provide money sufficient to achieve this important priority objective[25].

III. SETTLEMENT LETS ALYESKA OFF THE HOOK

In NWF's comments on United States v. Exxon Shipping and Exxon Corp., No. A90-015 CR. (D. AK March 13, 1991) (the "Plea Agreement"), the Federation argues that the Plea Agreement

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[25] The environmental community believed that settlement of natural resource damage claims against Exxon and Alyeska would be sufficient to cover immediate needs such as timber acquisition, continued physical restoration (and the requisite scientific work to direct restoration), and continued cleanup. Moreover, NWF believed that such a settlement would include adequate funds so that all the monies would not have to be spent immediately and could form the principal for an environmental trust.

While the proposed settlement was negotiated, the Natural Resources Defense Council and NWF submitted a memorandum to U.S. Assistant Attorney General Richard Stewart and Alaska Attorney General Charles Cole (Appendix 6), that outlines the benefits of an endowed trust and suggests a way in which the trust could be organized. This approach would create a permanent source of funds that could support restoration work necessitated by effects of the Exxon Valdez spill discovered in the future, as well as serve related educational and pollution prevention purposes.

Unfortunately, it does not appear that the proposed settlement envisions the creation of a trust.

relieves Alyeska Pipeline of criminal liability, despite convincing new evidence that Alyeska wilfully ignored a legally-binding obligation to clean up spills in Prince William Sound, what Congressional investigators suggest that this dereliction is a criminal violation of the Clean Water Act.[26]

The Consent Decree compounds this mistake by absolving Alyeska of civil liability to the governments for natural resource damages. As with the Plea Agreement, it appears that Alyeska has been released from this substantial potential liability merely because Exxon drove a hard bargain.

As in our comments on the Plea Bargain, NWF urges the Court to strike these unjust provisions and/or to appoint a magistrate, special master, or independent counsel to review Alyeska's outrageous conduct to determine the fairness of permitting the consortium to substantially benefit from this proposed settlement.

IV. PROVISIONS FOR PUBLIC INPUT ARE INSUFFICIENT

The proposed settlement fails to resolve two important related issues. First, the documents do not set forth any categories of restoration projects that may or may not be considered by the Trustees. Second, the MOA does not establish the types of public participation which would be appropriate. The MOA merely states:

> The Trustees shall establish procedures providing for meaningful public participation in the injury assessment and restoration process, which may include establishment of a public advisory group to advise the Trustees....

56 Fed. Reg. 11644 (March 19, 1991). NWF believes the optimum solution to these omissions is to create a vital public participation process.

While the proposed settlement was being negotiated, NWF and NRDC submitted a memorandum to several of the agencies involved in negotiations discussing an option for public participation (see Appendix 7). Essentially, the memorandum outlines a broad based public committee with an independent staff which would consult with involved governmental agencies. NWF urges the Trustees and/or the Court to revise the MOA to require this type of public advisory group.

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[26] See Appendix 1 at Attachment C.

NWF also urges the Court to require that the Trustees parallel the public participation approach contained in provisions of the Superfund statute. The statute and regulations contain guidance regarding public participation planning, technical assistance grants for interested members of the public, and public repositories for important documents which relate to restoration activities. [illegible]gh the Superfund public participation program [illegible]paradigm,[27] it offers the Trustees an established model, [illegible]s a source of professional staff with pertinent experie[illegible]

V. AS A MATTER OF POLICY AND AS A MATTER OF LAW THE REOPENER IN THE SETTLEMENT IS INADEQUATE TO PROTECT THE ENVIRONMENT FROM UNEXPECTED FUTURE DAMAGES

The Reopener is Unreasonably Narrow

Paragraphs 17-19 of the agreement include a narrowly drawn "reopener" provision that authorizes the governments to reopen the settlement if unexpected damages are discovered in the future. This clause is subject to a $100 million cap. The terms of this reopener limit availability of those funds: between September 1, 2002 and September 1, 2006. Moreover:

> (a) the cost of a restoration project must not be grossly disproportionate to the magnitude of the benefits anticipated from the remediation; and
>
> (b) the injury ... could not reasonably have been known nor could it reasonably have been anticipated by any Trustee from any information in the possession of or reasonably available to any Trustee on the Effective Date.

Consent Decree at paragraph 17.

Thus, solely in the case of an injury which could not reasonably be anticipated based upon "any information ... reasonably available to any trustee" could the government recover up to $100 million, and there could be no claim before 2002 or after 2006. Moreover, Exxon would fiercely resist any claim to reopen the agreement under this extraordinarily narrow provision.

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[27] For example, to obtain technical assistance grants, citizens must comply with onerous accounting requirements, meet unrealistic matching fund requirements, and compete for limited funds.

Except in an extremely unusual situation, the public -- not the criminally culpable polluter -- bears the risk of unforseen injuries. This reopener is a mirage.

The Reopener Violates the Law

The federal government's complaint states in paragraph 6, the "United States of America is trustee for the natural resources injured by the spill pursuant to various federal statutes and treaties which include . . . the Clean Water Act, 33 U.S.C. §1251 et seq.; [and] the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §9601 et seq...." CERCLA, the Superfund statute, provides specific requirements for a settlement in which Trustees covenant not to sue a polluter for damages to natural resources. For example, CERCLA requires that except in certain extraordinary circumstances not present here:

> a covenant not to sue a person concerning future liability to the United States shall include an exception to the covenant that allows the President to sue such person concerning future liability resulting from the release or threatened release or threatened release that is the subject of the covenant where such liability arises out of conditions which are unknown at the time the President certifies ... that remedial action has been completed at the facility concerned.

42 U.S.C. §9622(f)(6)(A).

It has been established in a precedent-setting case in which the United States and the National Wildlife Federation were parties, that a settlement into which the United States enters which contains a covenant not to sue for natural resource damages under CERCLA must contain a reopener (as required by section 122(f)(6)(A)). Acushnet River and New Bedford Harbor: Proceedings Re PCB Pollution, 712 F.Sup. 1037-38 (D.Mass. 1989). As the Court explained:

> The thrust of this subsection is to ensure that the federal government, and thus ultimately the taxpayer, does not bear the costs of future unknown damages. Rather, such costs appropriately should be borne instead by those responsible for the pollution. This is in keeping with Congress' intent to make responsible parties pay for the problems caused by their own pollution.

Id. at 1037. The Court went on to hold that even if the actual specific terms of CERCLA requiring a reopener did not apply to

the settlement there at issue, the policies underlying Congress' adoption of the reopener provision rang as true for that settlement as they did for CERCLA cleanup settlements. The Court explained that

> Admittedly, requiring such a [reopener] provision will make settlements somewhat more difficult to achieve. Beyond peradventure, however, Congress is willing to accept such a trade-off in return for greater security that the settlement will adequately resolve a pollution problem in the cleanup context and no reason is evident why that intent should not apply to the natural resource damages context.

Id. at 1038.

In the case of the Exxon Valdez settlement, the "Governments release and covenant not to sue ... with respect to any and all civil claims, including claims for Natural Resource Damages, ... [and] including, without limitation any and all civil claims under all federal or state statutes...." Agreement paragraph 13 (emphasis added). Thus, it is clear that the United States has granted a covenant not to sue Exxon for natural resource damages under CERCLA.[28] In order to do so, the United States must include a reopener as required by CERCLA section 122(f)(6)(A) and the New Bedford Harbor decision. Unfortunately, the reopener as drafted is so narrow as to render it meaningless, and includes a

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[28]While it is arguable that Superfund does not apply to a spill of oil, recent allegations have been made that supertankers in the TAPS trade, including the Exxon Valdez, carry hazardous waste water in addition to crude oil. "Exxon Confirms Waste Water Charges; Move May Impede a Valdez Settlement," Wall Street Journal February 19, 1991 (Appendix 8). If it were true that the Exxon Valdez were carrying hazardous waste or other CERCLA hazardous substances, CERCLA's liability provisions would clearly apply.

In addition, the settlement specifically waives all natural resource damage claims under any federal statute--obviously including CERCLA. Thus, to the extent that the settlement waives CERCLA claims, it must abide by section 122 of CERCLA's limits on settlements, including the reopener provision, and the provision in section 122(j)(2) requiring the polluter to take necessary steps to protect and restore injured resources. See New Bedford, 712 F.Supp. at 1032-38. Finally, it is clear that the policies enunciated by Congress for hazardous substance spills are equally applicable in the context of an oil spill. The polluter, rather than the taxpayer, should bear the risk that there is unknown damage.

cap that eviscerates the purpose of the provision. The reopener must be revised to allow the government to reopen the agreement for unexpected damages at any time without the $100 million cap.

Finally, it should be noted that Clean Water Act sections 311(f)(4) and (5) require that the Trustee restore the natural resources injured by the spill. If natural resources are injured by unexpected impacts of the spill, the narrow reopener combined with the inadequate payment schedule for restoration virtually assures that these obligations will be unfulfilled.

Working for the Nature of Tomorrow.

NATIONAL WILDLIFE FEDERATION

1400 Sixteenth Street, N.W., Washington, D.C. 20036-2266 (202) 797-6800

COMMENTS OF THE NATIONAL WILDLIFE FEDERATION

ON THE DRAFT 1991 RESTORATION WORK PLAN

REGA

THE EXXON VA

[56 Federal Register 1, 1991]

Prepared By:

Douglas Wolf
Erik Olson

April 15, 1991

Printed on Recycled Paper

NWF Comments
1991 Work Plan

INTRODUCTION

The National Wildlife Federation ("NWF" or "the Federation") is very concerned about the failure of the Exxon Valdez oil spill 1991 Restoration Work Plan to provide urgently needed protection to wildlife habitat in and around Prince William Sound which is threatened by clear-cut logging (and other threats). The natural resources Trustees must take immediate steps to ensure habitat protection as part of the 1991-92 restoration program for the catastrophic Exxon Valdez spill[1]. In order to satisfy this critical need, the Trustees should defer recovery of past costs from the payments pursuant the proposed settlement and/or use their own money and seek compensation from the tail end of the settlement payments. The Trustees should act quickly and ensure that there are adequate funds to restore the stressed environment in the Sound or face a collapse in critical elements of these fragile ecosystems.

NWF is the nation's largest private conservation education organization. Founded in 1936, the Federation, its 5.5 million members and supporters, and 51 affiliated organizations, educate, empower, and inspire individuals and organizations to conserve fish, wildlife and other natural resources, to protect the environment, and to build a globally sustainable future.

For several years, NWF has been involved in oil spill and natural resource damage issues. The Federation is actively working on oil spill issues and is on the forefront in urging safeguards to prevent damages such as those associated with the Exxon Valdez oil spill. NWF, the Wildlife Federation of Alaska and the Natural Resources Defense Council, represented by the Trial Lawyers for Public Justice, have filed suit against Exxon and Alyeska Pipeline requesting the court create a trust fund which would aid in restoring the natural resources damaged by this catastrophe. In addition, the Federation continues to participate in the Valdez spill natural resource damage assessment process via comments submitted in the public record.

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[1] Under the scheme set out in the Clean Water Act and the Superfund statute, trustees must be appointed to represent injured natural resources. In the case of the Exxon Valdez oil spill, there are both federal and state trustees (collectively, the "Trustees"). The federal trustees are: Department of the Interior, Department of Commerce (through the National Oceanic and Atmospheric Administration, NOAA), and the Department of Agriculture (the "Federal Trustees"). The Alaska state trustees are: Department of Fish and Game, Department of Environmental Conservation, and Department of Law (the "State Trustees").

NWF Comments
1991 Work Plan

The Federation welcomes this opportunity to provide input on the 1991 Restoration Work Plan for the Exxon Valdez oil spill. This Work Plan is important to NWF, its members and supporters. As one of the principal plaintiffs in the State of Ohio et al. v. Department of the Interior, 880 F.2d 432 (D.C. Cir. 1989) and State of Colorado et al. v. Department of Interior, 880 F.2d 481 (D.C. Cir. 1989) (collectively, "Ohio case"), NWF confirmed that restoration, replacement, and acquisition of the equivalent (hereinafter sometimes referred to simply as "restoration") of damaged natural resources in the paramount goal of governmental Trustees representing those resources. Similarly, in In Re Acushnet River and New Bedford Harbor: Proceedings Re: Alleged PCB Pollution, 712 F.Supp. 1019 (D. Mass 1989), NWF intervened and successfully established the important precedent that natural resource damage settlements must include measures to assure restoration and must include a "reopener" for certain long-term damages.

IMPLEMENTATION PROJECT 4, ACQUISITION OF HABITAT, WARRANTS HIGHEST PRIORITY AND IMMEDIATE ACTION

The Exxon Valdez oil spill was a colossal assault on the Prince William Sound ecosystem[2]. As the eleven million gallons of oil spread through the Sound and into the Gulf of Alaska and other areas, a parallel assault began on the same ecosystem. In various locations across the Sound, logging activities were planned or initiated. Due to the steep slope of the forests surrounding Prince William Sound and the clear-cutting practices employed by loggers, this logging compounds the serious threat posed to the entire ecosystem. Critical components of the area's ecosystem brought to the brink of devastation by the spill could be overcome by the added environmental insults engendered by clearcutting.

Clear-cut logging causes erosion which threatens water quality and thus threatens fish that depend on the streams and

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[2] This assault is more tragic because it was completely avoidable. Investigations concluded that Exxon's negligence in pushing its small crews to high-speed transit and exhaustion in dangerous conditions combined with disregard of Captain Hazelwood's severe alcohol problem contributed to the grounding. Further, documents recently released by California's Representative to Congress, George Miller, conclusively demonstrate that Alyeska Pipeline Service Corporation unilaterally abandoned it legally-binding obligation to fully protect Prince William Sound from spilled oil.

coastal areas in the Sound. Logging also eliminates or degrades habitat for much of the wildlife hardest hit by the spill, including eagles, seabirds, anadramous fish, and other marine and terrestrial fauna. Summaries of natural resource damage assessment studies conducted by the Trustees and recently released by the Federal Trustees, while conclusory and not accompanied by actual data or studies, suggest the magnitude of impact from the spill and reveal the extent to which these effects are likely to last. These ecosystems are reeling from the effects of an eleven million gallon oil spill compounded by environmental degradation associated with extensive clear-cut logging.

Fortunately, the degradation caused by the logging is completely avoidable. As "Project 4" in the Federal Register notice makes clear, one of the principal restoration options available to the Trustees is acquisition of equivalent resources. 56 Fed. Reg. 8899 (March 1, 1991). As in the case of the Exxon Valdez spill, where damage to the natural resources is so extensive that direct restoration and replacement activities cannot fully put the ecosystem back on its feet, equivalent resources "that provide[] the same or substantially similar services as the injured resources" must be acquired. Id.; see also, Ohio case. And where the cost of direct restoration and replacement activities and acquisition of equivalent resources does not equal the total amount of direct, use and non-use damages caused by the spill[3], the damages recovered for lost use and non-use value must be used to compensate the public and the injured ecosystem through additional restoration and acquisition.

One of the Trustee agencies, the Alaska Department of Fish and Game, recognized logging as a threat to the Prince William Sound and persuaded the Governor to request a $40 million appropriation from the Alaska Legislature to acquire timber rights to the trees most likely to be felled. The Department's goal is to commence acquisition of equivalent resources in order to avoid the deleterious effects of planned logging. As the 1991 Work Plan Federal Register notice correctly explains:

> Failure to undertake timely restoration may allow damages initiated by the spill to continue or

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[3] Recent press reports indicate that the economic use and non-use damages caused by the spill are in the range of $3-8 billion. See Attachment A. "Non-use" damages, which are recognized by statute and by federal courts, are damages suffered by individuals through interference with their option to visit the injured resources or through destruction of those resources.

> accelerate, as in the case of the loss of stabilizing vegetation on beaches. In other cases, protection of strategic habitats, subject to land-use changes, can reduce cumulative stresses on injured resources and maintain, in the near term, a full range of restoration options. Finally, the importance of a resource for subsistence, commercial, or recreational purposes may justify prompt restoration action.

Id. at 8902.

The Governor's first proposal of this project to the Alaska Legislature, and a December 21, 1990 draft of the Federal Register notice on the 1991 Work Plan obtained by NWF, provided $40 million for such initial acquisition. There are few differences between the December 21 draft and the final March 1, 1991 Federal Register notice; one critical difference, however, is that this $40 million price tag for implementation project four, "Protection of Strategic Fish and Wildlife Habitats and Recreation Sites," has been deleted. NWF is deeply concerned that this deletion may signal a retreat from the Trustees' commitment to swift acquisition of critical habitat.

Experts who have analyzed restoration options recognize its importance and conclude that $40 million could pay for no more than a pilot project. This sum would likely be able to protect only a small fraction of the most threatened habitats; at least $300 million is needed in the short term just to protect certain Prince William Sound and upper forests from logging[4].

Thus, the $40 million price tag could have been deleted from the Federal Register notice because the Trustees recognized that the figure is too low. Unfortunately, it is probable that the number was deleted pending receipt of information regarding the amount of money which will be available from the proposed settlement.

Thus, it appears that the Trustees failed to analyze what measure of restoration is necessary; instead they are tailoring the restoration program to the small amount of funds projected to become available in the short term from the settlement.

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[4] A single study regarding the cost of purchasing timber rights for Prince William Sound and the Upper Kenai Peninsula concludes that $200-300 million is needed. See Attachment B. N.B. this does not include timber rights for other areas and does not analyze threats to habitat other than logging.

NWF strongly objects to this backward thinking. Instead of attempting to decide the extent of restoration and acquisition that is possible with the funds recovered through settlement, the Trustees are under an obligation to determine the costs of restoration, replacement, and acquisition necessary to return the ecosystem to full productivity and diversity, plus the lost value of the resources. Then, the next step is to ensure that funds are sought to fulfill these obligations. See, Ohio case.

The Federal Register notice states: "When the full amount of restoration funds that will be recovered has been resolved, final determinations will be made concerning the nature and scope of the remaining phases of restoration." Id. at 8899. Thus, due to the settlement's limitations, under the approach announced in the Federal Register notice, the Trustees may not be able to prevent extensive clear-cut logging from permanently crippling Prince William Sound's ecosystem and recreation values.

Contrary to the appropriate approach, the Federal Register notice also acknowledges that "[w]here the nature of the resource injury is reasonably clear, it may be desirable to begin restoration prior to receipt of funds from the parties responsible for the oil spill." Id. at 8902. NWF strongly urges the Trustees to proceed with a greatly expanded version of project four: the immediate threat of logging to Prince William Sound is clear[5]. This is, at a minimum, the fiduciary obligation of the Trustees.

THE SCIENTIFIC STUDIES OF THE SPILL'S IMPACTS MUST BE RELEASED TO ALLOW MEANINGFUL PUBLIC PARTICIPATION AND TO ENSURE PROPER RESTORATION.

One of the most important problems with the restoration plan is the complete failure of the Trustees to release the basic scientific data upon which any restoration plan must be based. Without the scientific analyses and data on the spill's impacts, the public and independent scientists who are not privy to the massive data banks accumulated by the Trustees and Exxon cannot provide meaningful comments on the plans for restoration, replacement, and acquisition. The data and analyses must be released now.

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[5] Logging is the most dramatic threat to the ecosystem. Similar protection should be applied in the context of existing and planned mining and development efforts. These additional threats underscore the insufficiency of the original $40 million price tag attributable to Project Four.

The federal government's recent decision to release a brief summary of these data as part of the settlement is a small step in the right direction. However, the information provided in this summary is oversimplified and conclusory, and is not accompanied by the actual basic data or scientific analysis necessary for the public and outside scientists to understand and comment upon the results. Without these data and analyses regarding the extent of the injuries to the important elements of the ecosystem at locations throughout the affected area, the public cannot assess likely past and future impacts of the spill. Therefore, in many cases it is impossible to advise the Trustees regarding the optimum restoration approaches. This is a violation of the legal requirements to provide opportunity for public participation in the restoration planning process pursuant to the Administrative Procedures Act, the National Environmental Policy Act, and the Clean Water Act.

THE PROPOSED SETTLEMENT SHOULD NOT DISRUPT THE DAMAGE ASSESSMENT AND RESTORATION PROCESS

On March 13, 1991, the United States and Alaskan governments announced a proposed settlement agreement reached with Exxon Shipping and Exxon Corporation[6]. The prospect that the settlement may provide money to finance restoration activities should not short-circuit or distort the essential program of scientific studies of the on-going damage to the Prince William Sound caused by the Exxon Valdez. In the absence of this scientific program, comprehensive restoration is impossible. Furthermore, surrendering this program also surrenders the already very limited value of the rigid reopener provision contained in the Consent Decree.

The proposed settlement includes a criminal plea agreement[7] and a settlement of civil claims memorialized in a Consent Decree and a Memorandum of Agreement. The agreements would allow Exxon to extend its payments, and the governments' proposal for implementing the agreements creates perverse incentives to short-circuit crucial elements of the damage assessment and restoration process.

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[6] Alyeska Pipeline achieves significant benefits from the settlement terms. The Company is relieved of criminal liability, despite recently disclosed evidence of criminal behavior in connection with developing its contingency plan. The Company is also absolved from paying damages pursuant to civil claims by the governments for natural resource damages.

[7] See Attachment C -- NWF comments on the plea agreement.

The Settlement Terms

If approved, the criminal plea agreement requires a criminal restitution payment of $50 million to the State of Alaska. The plea agreement restricts use of the monies to restoration activities[8]. The civil Consent Decree also requires payments of monies which are limited to restoration expenditures[9]. According to the Decree, Exxon must pay $900 million over a ten and a half year period. Theoretically, an additional $100 million could be available via a narrowly drawn reopener provision. The governments are authorized to deduct up to $134 million in costs incurred and paid in the past and most of these deductions would be applied in the first few years of the payout schedule.

The Consent Decree provides that the agreement can be reopened to pay damages discovered after the settlement is lodged with the court (between September 1, 2002 and September 1, 2006).

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[8] The agreement provides that the money is to be used:

> exclusively for restoration projects 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.

Plea Agreement at 8, United States v. Exxon Shipping and Exxon Corp., No. A90-015 CR. (D. AK March 13, 1991) ("Plea Agreement").

[9] The Consent Decree requires that the settlement money be used:

> to assess injury resulting from the Oil Spill and to plan, implement, and monitor the restoration, rehabilitation, or replacement of Natural Resources or natural resource services injured, lost, or destroyed as a result of the Oil Spill, or the acquisition of equivalent resources or resource services.

Agreement and Consent Decree at 10-11, United States v. Exxon Corp., Exxon Shipping, Exxon Pipeline, and T/V Exxon Valdez, No. A91082 Civil and State of Alaska v. Exxon Corp., Exxon Shipping, Exxon Pipeline, and T/V Exxon Valdez, No. A91083 Civil (D. AK March 13, 1991) ("Consent Decree").

If the reopener is exercised, an additional $100 million is provided to restore "one or more populations, habitats, or species which, as a result of the Oil Spill, have suffered a substantial loss or substantial decline in the area affected by the Oil Spill." Consent Decree at 17. However, reopener cannot be invoked unless the governments show that the cost of the remediation is not grossly disproportionate to the benefits to be achieved and that the injury "could not reasonably have been known nor ... anticipated by any Trustee from any information in the possession of or reasonably available to any Trustee" at the time the Consent Decree is approved. Consent Decree at 18 (emphasis added).

More Money Is Required For Needed Restoration

This proposed settlement may sound like it provides a lot of money for Prince William Sound, as much as $1.1 billion, and the terms specifying uses for the money appear to limit the spending to needed restoration projects. However, after closer review a very different picture emerges.

In fact, pursuant to the agreement, only about $55 million will be available for replacement and acquisition of natural resources from 1991 through most of 1992. Another $15 million will be available for restoration planning and to initiate restoration projects.[10]

Thus, the Trustees have created a dilemma for themselves. The proposed settlement, with its small yearly payments, and the Trustees' apparent decision to recoup their past expenses from the settlement payments in the first few years[11], combine to prevent the Trustees from addressing the most critical threat to

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[10]This amount includes the $50 million criminal restitution payment, and the $90 million first payment under the consent decree minus approximately $45 million in past costs. Of this $95 million, a NOAA fact sheet (Attachment D) indicates that $25 million will be used to continue the science program and $15 million will be used for restoration planning and to initiate restoration pilot projects. This leaves only $55 million for any replacement or for acquisition of threatened habitat in 1991 through most of 1992 -- if the Trustees are willing to address these critical needs.

[11] According to NOAA, the deductions from settlement payments to recoup past costs, totaling $134 million, will be exacted under the following schedule: 1991, $45 million; '92, $40m; '93, $40m; '94, $5m; '95, $5m. (These amounts are approximate.)

Prince William Sound since Exxon spilled eleven million gallons of oil: the clear-cut logging that threatens the ecosystem and recreation values of the Sound.

Alaska Trustees Want To Dismantle The Science Program

According to recent press reports (Attachment E), the Alaska Trustees are seeking to end the damage assessment and restoration studies so that more funds will be available to pay for restoration implementation. According to press reports, John Sandor, Commissioner of Alaska's Department of Environmental Conservation, and Carl Rosier, Commissioner of Alaska's Department of Fish and Game, argue that most of these studies are "litigation-driven" and must be cut. However, these studies are important. Completion of the studies will reveal information about the full impacts of the spill, enabling the Trustees to invoke the reopener in the settlement, if necessary, and to effectively carry out restoration.

The Science Program Is Essential

Ironically, the greatest threat to the restoration program has been the litigation process. Short-sighted lawyers have dominated the scientific program and prevented scientists from publishing results, prevented public review, and have cut or eliminated necessary studies. The lawyers, generally, have focused the program on counting dead bodies instead of looking at the whole ecosystem -- missing the forest for the trees. It would be tragic if a settlement should somehow create financial incentives to entirely eliminate an already narrowly drawn science program.

Abandoning the science program would be tantamount to abandoning any hope of making use of the narrow reopener provision in the proposed settlement[12]. Any proposal to reopen the settlement in 2001 or 2002 has to be based on scientific data that could not have been reasonably anticipated by any Trustee as of the date of the settlement. If the science program is terminated, the narrow conditions of the reopener provision become completely useless. Thus, impacts of the spill which are presently unknown could not be remedied with settlement funds.

The science program must guide restoration planning. It is impossible to restore the ecosystem unless there is knowledge

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[12] As is more fully discussed in our comments on the civil settlement, NWF is deeply concerned with the legality and appropriateness of the narrow reopener and the $100 million cap on it.

about the nature and extent of injuries[13]. Otherwise, restoration will be inadequate because of the small yearly payments this proposed settlement would provide. The Trustees can ill afford this approach.

The Solution

NWF urges the Trustees to adhere to the science program, and use all other available funds for acquisition of threatened habitat. It is urgent that the Trustees forego collecting previously incurred or paid costs until threatened habitat is protected and spend their own money NOW to protect habitat. The Trustees should postpone reimbursement of these costs until prospective payments are made in later years. Any other approach could doom Prince William Sound's fragile ecosystem.

UNACCEPTABLE DELAY BY THE STATE CRIPPLES PUBLIC PARTICIPATION IN DEVELOPING THE WORK PLAN

On November 19, 1990 the Trustees published a Federal Register notice which announced that on December 28, 1991, there would be another Federal Register notice announcing the 1991 Restoration Work Plan. 55 Fed. Reg. 48160 (November 19, 1990). NWF applauded this November notice as an earnest effort by the Trustees to ensure meaningful public participation and comment on this important document. Unfortunately, this second Federal Register notice did not appear until March 1, 1991 -- two months late.

There is no substantial reason for delay which cripples public efforts to comment on the Work Plan and the Trustees' efforts to carry out critical restoration duties.

NWF has obtained a draft December 21, 1990 of the Federal Register which was planned to be published on December 28. There are few differences between this draft and the final version that appeared over two months later. Clearly, the December 21 draft could have been printed in the Federal Register on December 28 as planned.

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[13] In its state court lawsuit, NWF and its co-plaintiffs have asked the Court, by motion, to order all parties to submit their scientific data into a central, public repository. Attachment F is one of several affidavits which were filed in support of this motion. Paragraphs 3-10 are particularly informative regarding the value of open science and the need for broad, multi-disciplinary ecosystem studies.

The delay remains unexplained. The result: the public has lost any meaningful opportunity to comment on the Work Plan and the Trustees will lose some of the scarce good weather available for conducting restoration studies and implementation projects suggested by the public[14].

The 1991 Work Plan was not announced in the Federal Register until March 1, and the comments will not reach the Trustees until April 15 -- over a week after the 1991 NRDA Plan was released. The 1991 NRDA Plan contains no new information about restoration planning. The Trustees are currently hoping to publish an additional Federal Register notice regarding restoration plans by May 3, with comments due one month later, the same day as comments for the 1991 NRDA Plan are due. This new schedule will require the Trustees to digest all public comment received on the 1991 Work Plan and prepare a Federal Register notice in less than two weeks.

This skewed schedule places the Trustee agencies in a very difficult position. If they value public comment and their obligation as public servants to listen to public concerns, they risk delaying critical restoration projects. Every day they delay commencing needed restoration studies and implementation projects, is a day of loss to the environment of Prince William Sound.

NWF urges the Trustees to accept public comment regarding a revised restoration plan on an accelerated timetable so that the 1991 field season will not be missed.

ADDITIONAL NWF CONCERNS

The Restoration Program Should Focus on

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[14] The first opportunity for public comment on the natural resource damage assessment and restoration planning process occurred in August, 1989. The public "opportunity" was a comment period pertaining to a set of studies that had already been conducted the previous summer. Although the Trustees argue that they had little alternative given their immediate need to commence studies once the spill took place, this argument fails when applied to the 1990 studies; although a draft version of the document describing the studies was completed in the spring of 1990, it was not released for public comment until August -- again, too late for meaningful public comment. Nothing exonerates excluding the public in 1989; the Trustees could have used alternative means to solicit public comment, including holding public meetings and circulating draft documents.

Species Most Affected By The Spill

The recently released damage assessment summaries suggest that the spill has had and will continue to cause dramatic impacts on several species. Because of the secrecy pervading the scientific damage assessment process, it is impossible for the public to assess the extent of damage and to comment upon the proposed program to restore the resources. However, from the limited summary information available, it appears that the most dramatic impacts are on the murre colonies. The summaries indicate that about 300,000 murres died and that at least 215,000 chicks were not born because of the spill's various effects. Prince William Sound eagles were also hit hard, and a very poor breeding season in 1989 will probably have long-term effects on the eagle population.

The summaries also indicate that the oil continues to effect many species including sea and river otters and harbor seals. In addition, work is continuing in terms of analyzing the effects of the spill on the sea lion population, which was already in decline, probably due to multiple development and pollution-related factors. Finally, the summaries describe very significant impacts in the intertidal and, to a lesser degree, the subtidal habitats.

NWF urges the Trustees to devote their energies to developing restoration and acquisition programs to address these significant injuries.

Factors For Evaluating Restoration Alternatives

The Federal Register notice sets forth several factors proposed by the Trustees to evaluate potential restoration alternatives. 56 Fed. Reg. 8899 (March 1, 1991). These factors include "adequacy of natural recovery." Id. However, the exigency of the restoration work is not included as a factor for evaluation.

NWF believes there are substantial difficulties associated with predicting future natural recovery. Therefore, NWF urges the Trustees to limit consideration of natural recovery as one of the routine factors used to determine restoration options. Any use of natural recovery in analyzing restoration alternatives should place a heavy emphasis on the burden of proving, through strong scientific evidence, that natural recovery would occur subsequent to the spill. Uncertainties about future recovery of the ecosystem should be resolved in favor of active restoration programs, such as acquisition of equivalent resources.

NWF urges the Trustees to include an additional key factor: exigency of the restoration work. Some restoration projects are

more urgent than others due to prospective effects of outside events, such as actual and planned logging in the impacted area. The potential adverse environmental impact of outside events highlights the importance of timing restoration work to enhance benefits to the affected area.

In addition, the Federal Register notice suggests that the Trustees would evaluate the "reasonableness of the cost of the restoration project in light of the value of and ecological significance of the resource" 56 Fed. Reg. at 8899. This criterion may only be applied in accordance with the mandate of the Ohio case, which states that restoration or replacement is required when its cost is "grossly disproportionate to lost values."

CONCLUSION

NWF urges the Trustees act immediately and to ensure the availability of sufficient funding to protect Prince William Sound from the immediate threat of clear-cut logging. The Trustees also must release the scientific studies. Added to the significant insult from the Exxon Valdez oil spill, this logging could be fatal to the Sound's damaged ecosystem. The Trustees bear a special responsibility and have a unique opportunity to avert this additional tragedy. Furthermore, if the settlement is approved, the Trustees should first fulfill their obligation to protect the interests of the environment by deferring until later years recouping previously incurred or paid litigation and investigation costs.

ATTACHMENT A

Value of Intangible Losses From Exxon

Valdez Spill Put at $3 Billion

By John Lancaster
Washington Post Staff Writer

Confidential government studies have estimated the "social cost" of the Exxon Valdez oil spill at $3 billion, nearly three times the $1.1 billion that Exxon has agreed to pay to settle criminal and civil charges arising from the accident.

The controversial economic studies, conducted for the state of Alaska and the federal government, are an attempt to assign a dollar value to intangible losses said to have been suffered by the American public as a result of damage to wildlife and natural habitat. Economists polled households nationwide to arrive at the estimate, which would have figured prominently in Exxon's trial had the case not been settled out of court.

There is no guarantee that a judge and jury would have accepted the $3 billion estimate, which was provided to The Washington Post by one of the economists involved in the studies. Federal officials defended the settlement as a landmark penalty that avoids a costly and uncertain trial while providing immediate cash for cleanup and restoration.

But critics noted that several recent court decisions have upheld the validity of social cost studies for valuing environmental catastrophes, suggesting that Exxon may have gotten off too lightly. "The federal government has a fiduciary responsibility to the citizens to look out for these resources, to provide a market signal that if you do damage, this is what it's going to cost you," said an economist familiar with the studies.

In affirming the method two years ago, a three-judge federal appeals court panel ruled that although "the extent of damage to natural resources from releases of oil and hazardous substances varies greatly . . . it is in the mission of [federal law] to assess the public loss."

Exxon declined to comment on the studies.

William K. Reilly, administrator of the Environmental Protection Agency, said in an interview that while such studies "have their place . . ., they're new, there's not a lot of litigation, and courts haven't awarded anything on the basis of how much somebody says they're willing to pay to save a river otter."

State and federal officials, citing unresolved claims from third parties such as fishermen and Native Alaskans, have refused to make any information from damage studies available to the public. "We won't do so unless we get a commitment from the plaintiffs that they won't sue us with the information," said a spokesman for Alaska Gov. Walter J. Hickel (I).

If nothing else, the debate over the economic studies illustrates the difficulty of assessing damage to natural resources from accidents such as the Exxon Valdez spill, the nation's worst. Some values, such as cleanup costs and measurable financial damage to tourism and commercial fishing, are relatively easy to calculate. But the question of intangible losses has proved harder to resolve.

What, for example, is the price of a dead sea otter or sea bird, both of which society presumably holds dear even though they have no commercial value?

In the past, the federal government has assigned market values to dead wildlife, such as $15 for a fur seal or $35.74 for a Canada goose. But the appeals court decision found that such methods did not adequately compensate the public, and ordered federal agencies to give more weight to intangible losses in figuring the bill for environmental catastrophes.

Norman Meade, chief economist of the damage assessment branch for the National Oceanic and Atmospheric Administration, declined to comment on the substance of the economic studies and said he feels "fine about the settlement."

But he also defended the methodology of so-called contingent value studies, describing them as "the only way to get at these kinds of values." He added, "When these [resources] are interfered with, there is a social cost, the public has lost some general welfare, and that's what we're trying to estimate."

In evaluating the losses, economists hired by the state of Alaska developed elaborate surveys aimed at calculating the public's "willingness to pay" for a clean Prince William Sound. Beginning in 1989, the economists met with "focus groups" in Seattle, San Diego and Baltimore with the aim of exploring "how people think about the oil spill and its consequences," one of the surveyors said. "You use these to find out the language and assumptions people use so you can frame your questions accordingly."

After pilot surveys in San Francisco, Toledo and rural Georgia—"They're sort of middle America," the economist explained—the contractors surveyed 1,600 households nationwide. Surveyors conducted face-to-face interviews in which they displayed photographs and other information about the spill, then asked respondents how much they would be willing to pay to protect Prince William Sound from future spills.

Preliminary results from the survey, conducted in January and February, showed a median amount of $30 for each household, or—figuring there are 100 million households in the country—$3 billion for the American public as a whole, according to one of the economists. Although the federal government had not progressed as far with its studies, a federal official said the $3 billion figure was "in the ballpark."

Anchorage Daily News
3-31-91

Information believed to be in spill studies

By CHARLES WOHLFORTH
Daily News reporter

Studies commissioned by the state and federal government on the Exxon Valdez oil spill reportedly suggest serious, long-term damage to Alaska's coastal environment and an astronomical price tag for that damage.

The governments have spent more than $70 million on the studies, but their results remain secret. But some information has leaked out, including these points:

- Seaweed beds in Prince William Sound that provide the basic fuel for the ecosystem of sheltered bays were badly damaged;
- Recovery is in doubt for colonies of murres on islands south of the Kenai Peninsula hit hard by the spill because the oil caused long-term disruption to their reproductive process;
- And economic surveys designed to show the cost of the spill to society as a whole placed the price Exxon could be made to pay at $3 billion to $8 billion.

The economic studies used a method called contingent valuation to survey a cross-section of Americans on the value they place on natural resources. A federal court validated the method.

Workers on the studies anonymously told The Washington Post that one of the studies set a damage figure of $3 billion, the newspaper reported March 20. That figure was partly confirmed when Tom Campbell, general counsel for the National Oceanic and Atmospheric Administration, told a U.S. House committee the study's $3 billion to $5 billion finding might be hard to prove in court, said National Wildlife Federation attorney Doug Wolf.

A source working on the case told the Daily News Friday those numbers were low. More recent data indicate damages of $3 billion to $8 billion would be defensible in court, the source said.

The information on murre colonies first was reported in a Post article Feb. 21. It cited leaked documents that said murre colonies had suffered a total reproductive failure and might not recover for 70 years. The cause of the failure was said to be a lack of adult birds to defend eggs.

David Nysewander, investigator of the colonies for the U.S. Fish and Wildlife Service, appeared inadvertently to confirm that conclusion when he explained murre reproduction to a reporter last week.

Nysewander said murres' reproductive success depends on synchronized egg laying, which allows them to band together to defend nesting birds. Laying usually takes place all in one month. But his group has had to change plans, extending its visits to the colonies across several months -- and that suggests the egg laying is no longer well-synchronized.

"If there were changes, you have to look at it different," he said. "But I can't tell you about that."

The information on seaweed in Prince William Sound comes from environmental attorneys.

"It's only just very vaguely being leaked out by the concerned scientists involved," said Bill Rossbach, an attorney representing environmental plaintiffs against Exxon. "There are a number of scientists who are concerned.

"They're finding what the inside people say is very substantial deterioration of that crucial part of the food webb," Rossbach said.

ATTACHMENT B

The Coastal Coalition

Box 2424, Cordova, Alaska 99574
907-424-5509 FAX 907-424-5246

Dear Friends,

July 4, 1990

Enclosed is a "Draft Proposal for a Comprehensive Settlement of Natural Resource Damages from the 'Exxon-Valdez' Oil Spill" and an attached discussion paper on the "Acquisition of Timber Harvesting Rights for Restoration".

This document was developed in response to requests from commercial fishermen, Alaska Natives, environmental groups, tour operators, recreationalists, and biologists that we now join together to formulate a constructive resolution to this disaster. It is intended to serve as a catalyst for settling natural resource damages in a fair and expeditious manner. As such, it is being circulated for review to the private and public plaintiffs and the defendants in the case.

It is hoped that a consensus will emerge among the parties involved to proceed in negotiating and finalizing such a settlement this year.

The Coastal Coalition is an informal network of concerned citizens that formed in response to the spill in order to provide a constructive focus for citizen input. Presently, our goal is to help formulate a comprehensive settlement for natural resource damages that is agreeable to all parties. Such a settlement would side-step years of costly litigation, provide for environmental restoration, and allow all of us to get on with life.

Our intent with this inquiry is to plant the seed and get some indication of your interest in having such settlement negotiations proceed. Please let us hear from you as soon as possible concerning any comments you might have on the enclosed document, and whether or not you agree to it in principle. Your thoughts are very important to this process. It is our intent that any final agreement should be molded to accomodate the most broadly based constituency possible.

We will be in touch with you regarding a meeting with other public and private plaintiff's representatives to discuss all of this, probably sometime in early August.

Let's join together to put this thing behind us.

Sincerely,

Rick Steiner, The Coastal Coalition

DRAFT PROPOSAL

for a

COMPREHENSIVE SETTLEMENT OF NATURAL RESOURCE DAMAGES FROM THE "EXXON-VALDEZ" OIL SPILL

TO: State/Federal Trustees for Natural Resources Damages

FROM: THE COASTAL COALITION
July 1990

It has become evident that all parties, both plaintiffs and defendants, involved in litigation for natural resource damages arising from the Exxon-Valdez oil spill would be best served by reaching a comprehensive settlement as soon as possible. This realization is predicated upon several considerations.

First, even after years of exhaustive impact assessment research, it would remain difficult to arrive at any consensus concerning how to quantify the extent of damage or how to value the damaged resources (i.e., how much to collect in damages).

Secondly, research should be driven by fundamental scientific interest in the behavior and response of this ecosystem to such a perturbation--not by the need to collect evidence for litigation.

Thirdly, restoration of the impacted environment can and should commence immediately. In addition to direct restoration efforts, there is an immediate opportunity to protect, through acquisition, threatened habitat within the region.

And, finally, expensive, drawn-out litigation would only prolong and exacerbate the degree of psychological, social, and political impact of the spill. A settlement will provide a sense of resolution and relief from an otherwise quite protracted and tense process.

In light of such considerations, it is proposed that the Natural Resource Trustees seek immediate settlement of all natural resource damages. Such settlement should extinguish all criminal liability (i.e., the Federal indictments) and all civil liability for natural resource damages. This settlement should be carefully structured so as not to influence the case for compensatory damages.

We respectfully suggest that a comprehensive disposition of this case should collect $2 billion to endow an Alaska Restoration Fund.

The Alaska Restoration Fund should be managed by a non-profit corporation governed by a court-approved Board of Directors, so that people from the impacted region can be directly involved in the management of the Fund, and thus their own future.

The Fund should support the following principle elements:

1. Direct Restoration

   The Fund should be used to support direct, on-site efforts to restore or replace damaged resources to their pre-spill condition. This would include such things as supplementing injured salmon runs, reinnoculating areas with herring, breeding and release programs for damaged bird populations, reestablishing plants in injured salt marshes, and improving or protecting the habitat of other spill-impacted species.

2. Acquisition of Equivalent Resources

   The Fund should purchase or otherwise protect resources that are similar or related to the injured resource in terms of ecological value, functions, or services provided. Priority should be given to the acquisition of certain development rights (e.g., timber, minerals, oil, etc.) in order to protect threatened habitat. An example of such acquisitions is presented in more detail in the attached discussion paper.

3. Research

   The Fund should support a broad array of scientific research projects that address critical resource issues and fundamental scientific pursuits within the region. A comprehensive program of baseline and monitoring studies should be initiated with which to more precisely understand the effects of future such events on this ecosystem.

4. Education

   A variety of natural resource education initiatives should be supported by the Fund. Particularly, a scholarship Fund should be established to support the education of residents from the region in natural resource science, management, economics, and conservation.

5. Sustainable Economic Development

   The final goal of the Fund should be to design and implement economic development projects within the region that are compatible with the natural and cultural environment, and that are sustainable over the long-term. Inherent in this is a larger economic theme--that Restoration should, in some sense, assist the region in attaining long-term economic stability through sustainability. An important component of this should be the establishment of an Alaska Native Employment Fund.

Valuing the Case

It will always be difficult to establish the value of natural resource damages with precision in cases such as this. We suggest that the amount of $2 billion would represent a fair and equitable disposition of natural resource damages in this case for several reasons.

First, this amount represents a workable approximation of what damages would come to if calculated as the average of damages derived by three principle economic valuation methodologies—Contingent Valuation, value of charismatic species, and public use value.

Secondly, $2 billion is approximately the amount of money that will be needed to accomplish the various objectives of the Fund. It is envisioned that of the total amount collected, a portion would be expended immediately for acquisitions. The remaining balance would be maintained as a permanent endowment whose inflation-proofed interest income would support the other elements of the Fund. Such an endowment, providing substantial annual interest dividends, would provide stable support in perpetuity for these other restoration, research, education, and sustainable economic development initiatives.

Thirdly, the severity of impact adds considerable support for a settlement of this magnitude. For instance, it is theoretically possible that this ecosystem will never return to its pre-spill condition. Even small perturbations in natural systems are known to produce large, unpredictable and long-lasting consequences. It is possible that the impacted system will stabilize at an entirely different equilibrium than that existing before the spill. Additionally, it is probable that the population structure of certain long-lived, less fecund species will take several decades to return to pre-spill conditions.

And lastly, this amount of money is entirely proportionate to the value that could be assigned to the permanent loss of the pristine quality of this ecosystem. That the area is an aesthetic resource of global significance is attested to by the extraordinary amount of public attention paid to this spill throughout the world. In the same way that a rape victim can not be "un-raped," the lost pristine character of this region is, unfortunately, irreplaceable.

Thus, this settlement will afford the impacted environment a sufficient amount of care and protection; it will give science a better understanding of ecosystem dynamics; and it will provide the impacted communities more economic and educational opportunity as well as a sense of certainty in looking toward the future. It is, quite simply, the right thing to do.

ACQUISITION OF TIMBER HARVESTING RIGHTS FOR RESTORATION

- A Prerequisite for Recovery -

I. Introduction

II. Biological Characteristics of the Forest within the Region

III. Justifications for Acquisition

- A. Biological
- B. Economic
- C. Psychological
- D. Socio-Political

IV. Timber Ownership

- A. Prince William Sound
- B. Lower Kenai Peninsula

V. Additional Considerations

by
Rick Steiner

THE COASTAL COALITION

P.O. Box 2424
Cordova, Alaska 99574

I. INTRODUCTION

As the clean-up of the Exxon-Valdez oil spill progresses toward completion, we must now decide what more can be done to aid the recovery of the impacted environment.

In the context of the Clean Water Act and the more extensive damage provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly know as the Superfund, Federal law clearly directs that funds be collected from responsible parties to be used "to restore, replace, or acquire equivalent resources."

In the case of the Exxon-Valdez, in addition to what can be done in the way of direct restoration and replacement of damaged resources, the most practicable mechanism to compensate for natural resource damages is to offset this loss with a substantial "acquisition of equivalent resources." This entails purchasing or otherwise protecting resources that are similar or related to the injured resource in terms of ecological value, functions, or services provided.

The several hundred thousand acres of old growth forest along the coastline of the spill-impacted region, having been scheduled before the spill for logging, now represent an ideal opportunity to exercise this Restoration option. The following is an overview of the concept of acquisition and retirement of timber harvesting rights to protect the impacted ecosystem from any further deterioration. This discussion is meant to provide a basis for further development of the idea, and to serve as an example of how other such acquisitions might work.

Conceptually, before trying to treat anything that has been injured, we must first protect it from any further injury. In the spill-impacted zone, marine, freshwater, and terrestrial systems are tightly connected through biogeochemical cycles into a functionally interlocking ecosystem. Perturbations (i.e. injuries) in one component usually produce significant secondary effects in the others. What's more, compound injuries often operate synergistically--that is, their combined effect is much more than the sum of the two injuries occurring independently. And regardless of how carefully it is carried out, the planned removal of old-growth forests from several hundred thousand acres of the region's coastline cannot help but to have a profound effect on the ecosystem as a whole. The clearcutting proposed for the region would represent an ecological alteration unmatched since the glacial retreat at the end of the Pleistocene. It is widely felt that the scars from logging will be even more persistent than those of the oil spill. This sort of massive perturbation, superimposed upon the deleterious effects of the spill, is likely to produce significant biological, economic, psychological, and socio-political effects far beyond what either one might have caused alone. A consensus is now emerging among many fishermen, biologists, tour operators and other local residents that, while this ecosystem might have been able to recover from either one of these rather large impacts in isolation, their combination could so seriously weaken the health and integrity of the system that its ability to recover would be severely compromised.

CLEARLY, THE FIRST STEP TOWARD FULL RESTORATION AND RECOVERY IS TO PROTECT THE ENTIRE SYSTEM AS COMPLETELY AS POSSIBLE FROM ANY FURTHER SIGNIFICANT HUMAN-INDUCED DISTURBANCE. And, aside from the

threat of additional oil spills in the area, the most immediate threat to the integrity of this ecosystem appears to be the planned removal of over one billion board feet of old-growth timber throughout the coming decade. The acquisition of timber to protect undamaged but threatened wildlife habitat in the impacted region is considered by many to be the single highest priority for Restoration.

Biologically, timber acquisition would protect the terrestrial, freshwater, intertidal, and nearshore habitat of many populations impacted by the spill (e.g., sea otters, diving birds, salmon, herring, eagles, bear, deer, etc.). It would also prevent the diminution of the hydrocarbon metabolizing marine bacterial flora that depends upon natural hydrocarbons washing into nearshore waters from coastal forests. Economically, timber acquisition would maximize profits and minimize risk for timber owners, protect existing commercial and subsistence economies, protect the future of tourism and recreation in the region, and preserve other in-absentia values of the region. The acquisitions would also go a long way toward relieving an overwhelming sense of despair in the region's residents, and would clearly help mitigate other socio-political impacts of the spill.

It should be emphasized that before the spill, timber development represented a legitimate economic opportunity for the region. However, we must now reassess all prior development plans in terms of what is in the best interest of the impacted ecosystem.

Restoration without full protection would be as futile as applying band-aids on a victim with one hand while continuing to inflict serious wounds with the other. And, in a larger sense, Prince William Sound has come to symbolize a violated relationship between humanity and nature. The only way to regain this relationship is to protect the area as completely as possible. This is the least, and perhaps the most that we can now do. Without such protection, full recovery--biological, economic, psychological, and socio-political--will be impossible.

II. Biological Characteristics of the Forests Within the Region

These old-growth forests are stable biological communities that have developed over several centuries essentially free from catastrophic (including human) disturbance. They support a rich diversity of highly specialized and adapted organisms such as cavity nesting birds, canopy-dwelling animals, understory saprophytic plants, and epiphytic lichens. These undisturbed forests support two or three generations of dominant tree species, forming a highly partitioned, broken, multi-layered canopy. They are highly retentive of nutrients, both in living and dead organic matter, giving rise to significant detritus-based food webs. For example, small to medium sized streams depend almost entirely upon decaying forest litter as an energy base.

In addition to live spruce and hemlock, these forests are characterized by standing dead snags, and fallen logs on land and in streams. As such, they form a rather unique habitat for a large number of bird, mammal, fish and invertebrate species. With so much production high in their canopy, they provide ideal habitat for flying and climbing consumers, such as foliage-consuming insects, and insectivorous birds. Large snags are valuable as habitat for a variety of vertebrates (e.g. bald eagles) and invertebrates. Logs and bark slabs on the forest floor are important for small mammals that disperse seeds and fungi, for nitrogen-fixing bacteria, and as seed beds for trees and shrubs.

Fallen logs are also critical to the maintenance of the physical and biological stability of headwater streams. Debris dams, for instance, create stepped stream profiles that effectively dissipate energy that would otherwise go into transporting sediment, downcutting of stream channels and washouts. The associated pools and gravel beds provide a range of habitat requirements--temperature, shade, cover, current velocity, and oxygen - for a wide array of aquatic organisms.

The forests in the spill-impacted region are generally confined by steep mountain slopes to a relatively narrow band along shorelines. Three primary forest plant associations are found in the region:

1. The Sitka spruce series--occupies beachfront terraces and alluvial bottomlands. Common understory plants are blueberry, devil's club, skunk cabbage, lady fern, oak fern, and shield fern. Alder are dominant along streams.

2. The mountain hemlock series--found on lowland rolling hills, raised knolls in muskeg, and steep side slopes. Principal understory species on lowland hills are blueberry and devil's club; on raised knolls are copperbush, crowberry, bog blueberry, and deer cabbage; and on steep sideslopes are marten's cassiope, luetkea, shield fern, lady fern.

3. The western hemlock series--occupies some beachfront terraces and lowland rolling hills. It's understory consists of blueberry, rusty menziesii, devil's club, bunchberry, five-leaf bramble, and twisted stalk.

It is important to remember that the coastal forests of south central Alaska are rich, complex systems that produce more than just wood. They are important habitat for about one hundred species of birds, over 30 species of mammals, and several hundred species of invertebrates and plants.

III. JUSTIFICATIONS FOR ACQUISITION

A. Biological

There are seven principle biological arguments for using Restoration funds to retire timber harvesting rights in the region:

1. Protection of forest habitat for several spill-impacted species

   Several of the bird and mammal species that depend to some extent on the old-growth forests in the region are known to have been impacted by the oil spill: (e.g. eagles, loons, murrelets, deer, bear, etc.). Removal of large tracts of this habitat through logging will only make it more difficult for these species to recover. (See #3 below)

2. Hydrological characteristics of watersheds

   Regardless of how well buffer requirements are adhered to, the clearcutting planned for many steep sideslopes in the area would seriously alter the erosion, runoff, and sedimentation characteristics of entire watersheds. Watersheds disturbed by logging have dramatically altered hydrological characteristics. The removal of such large amounts of plant biomass, and

compaction of soils causes a dramatic reduction in the water-holding capacity of the area. This can affect the size and even timing of peak flows in nearby streams. This is evident where recent logging in Two Moon Bay has increased the frequency and magnitude of flooding, mudslides, soil erosion, and sediment loading in nearshore waters. Again, regardless of adherence to buffer requirements, percolation can still increase storm flow in streams, and the loss of forest shading will accelerate both the magnitude and timing of spring meltwater runoff. High storm flow can have devastating effects on salmon eggs and fry in streambed gravel.

Increased sedimentation of the intertidal and nearshore environments can be expected if upland forests are clearcut. These nearshore areas are critical habitat for outmigrant salmon smolts, herring spawning, clam and mussel production, and sea otter and bird feeding--all of which were impacted by the spill. Increased sedimentation of this environment could seriously reduce its biological productivity and habitability. Herring eggs and larvae, for instance, are very susceptible to reduced oxygen availability caused by increased sedimentation. Likewise, salmon fry migration and feeding can be affected by increased turbidity of nearshore waters. Also, any reduction in clam, mussel, or other invertebrate populations due to increased sedimentation from logging could have significant negative consequences for the recovery of sea otters, especially weanlings, and diving birds from oil spill impacts.

3. Habitat fragmentation

Logging causes a significant reduction in the most accessible, highest density timber stands, and as such, increases the fragmentation of old-growth habitat. Such habitat fragmentation is known to be a significant cause of reduced genetic variability within individual species. The theory of island biogeography substantiates the concern for reduced biodiversity caused by such habitat fragmentation. Because of their isolation from each other and resultant interruption in gene flow, habitat islands have been found to decline both in number of species present and genetic diversity. A reduction in genetic variability within certain populations of mammals, bird, and plant species would reduce the stability of that particular population, and the ecosystem as a whole. This means that the system would be much less capable of recovering from other perturbations such as insect pests, disease, earthquakes, etc.

It's important to realize that habitat fragmentation is a much more significant threat to the ecological stability of old-growth forests in this particular region because here, these forests constitute a smaller, patchier component of the entire ecosystem than do the forests in the Tongass, British Columbia, and the Pacific Northwest. Additionally, the high noise levels generated by logging operations expand the edge of habitat impacts far beyond the boundaries of the clearcut. Many mammals and birds will attempt to avoid such acoustic disturbance, and in so doing, be pushed further away from their preferred ranges and confined to progressively smaller refugia. Several forest species, such as deer, find it difficult to cross clearcuts, particularly during periods of heavy snow.

4. Regeneration

Because these forests are at the northernmost edge of their range, regeneration of critical habitat structure, composition, and functions in second growth forests is extremely slow. Such slow regeneration rates are due to short growing seasons, low solar irradiance, and soils with low fertility and poor structure due to comparatively recent glaciation. Soil fertility is further reduced by leaching of nutrients after logging. And, although there are a few isolated examples of clearcuts in the Sound that have regrown relatively densely within 50 years or so, these dense second-growth stands have been found to provide unsuitable habitat for many of the original bird, mammal, and plant species that inhabited the area before logging. With no snags, fallen logs, large live trees, or canopy heterogeneity for habitat, these second-growth areas are generally poor in species diversity.

5. Global significance

The forests in this region are unique globally in that they constitute the highest latitude temperate rain forests anywhere in the world. Temperate rain forests worldwide are rare and severely threatened ecosystems. In their original extent, they were distributed in 10 regions in the world covering an area of approximately 70 million acres; only 2-3% of the area of tropical rain forests. Four of the original areas in which they existed historically--western Scotland, Ireland, a small area in the French Alps, and the southwest coast of Norway have been eliminated entirely.

In addition to the forest system extending from Kodiak to central Oregon, the only other significant stands left are found along the coasts of southern Chile, southern Australia, Tasmania, New Zealand, and Japan. It has been estimated that 60-80% of temperate rainforests worldwide have been logged in recent history.

For this reason alone, the forest in the spill zone should be conserved as a precious representative of disappearing temperate rainforest ecosystems worldwide.

6. The forest/marine bacteria/oil-spill connection

Oceanographers now believe that the large populations of hydrocarbon metabolizing bacteria that have been so important in degrading oil from man-made sources in the region (e.g., the Exxon-Valdez spill and the effluent from the ballast water treatment facility at the Alyeska Terminal) flourish precisely because of the continuous input of biogenic hydrocarbons from the coastal forest. Measurements of the hydrocarbon terpene dissolved in the canopy drip from spruce trees and in nearshore waters suggests that this is the primary energy source for naturally occurring hydrocarbon-oxidizing marine bacteria in the region. In this sense, the coniferous forest actually "immunizes" or prepares this marine system for oil spills. Removal of large tracts of these forests would, theoretically, reduce terpene input and thus the bacterial populations depending upon this

input, causing the waters in the region to become less capable of self-cleansing or bioremediation.

7. Cumulative impact

And finally, all these biological effects need to be understood in the broader long-term ecosystem context. Many local residents and biologists have observed a gradual but continuous reduction of certain wildlife populations associated with increased human use of the region over the past 30 years. Superimposed upon this gradual deterioration in the environment of PWS, the Exxon-Valdez oil spill in 1989 threw the system into a profound state of disequilibrium. Shocking the system with yet one more massive human-induced perturbation--the destruction of vast areas of old-growth forest habitat--would likely produce such a destabilizing effect that the resiliency of the entire ecosystem will be depressed for many decades. Also, it must be remembered that despite how well we think we might understand a particular biological system, even small perturbations can have large and unpredictable consequences (i.e. Chaos Theory). Beyond any doubt, the health and vitality of this coastal ecosystem would be best served by preserving its existing flora and fauna intact, in full interaction.

B. Economic

The economic advantages of the acquisition of timber for Restoration purposes are quite straightforward:

1. Profit Maximization

The timber owners would simply make more money by selling their trees for Restoration purposes than by harvesting them. By having money from such a sale up front, the corporations and shareholders could enjoy perhaps 50% more profit over 10 years from reinvestment income. To begin realizing significant dividends from logging, they would probably have to wait several years. Such a windfall of profits would open up many other personal and corporate economic development options. Also, the owners would not incur the expense and risk of operation, and Native Corporations would not have to begin paying taxes on these tracts as developed lands.

2. Market risk minimization

Timber markets are extremely volatile. Though they are now relatively strong, they are subject to at least the same magnitude of reduction that they experienced in the mid 1980s. Purchasing this timber now will allow timber owners to avoid the substantial risk of softening markets in the future.

3. Protection of existing economy

Any potentially negative effect that logging might have on either commercial fisheries or on local subsistence economies would be avoided.

4. Recreation and tourism development

It is widely agreed that the development of recreational and tourism economic opportunities in this region would be seriously impeded by timber harvesting. The scenic/aesthetic value of the area would be reduced in proportion to the number of vistas containing at least one noticeable clearcut. And, because areas planned for logging are relatively steep, virtually all can be seen from afar. It is widely felt that, in addition to commercial fishing, the recreation and tourism industry offers the PWS/Kenai Peninsula area its best opportunity for sustainable economic development that is compatible with the local environment. What is already a multi-million dollar industry probably has, in the absence of timber development, the potential to triple in size over the next decade. Recreation and tourism would also provide more local jobs on a sustainable basis than would a short-lived timber industry.

5. Timber price support

Because this acquisition would take a substantial amount of timber off the market, it is reasonable to expect timber prices elsewhere in the State to be enhanced somewhat.

6. Noncommercial economic value

And lastly, in the context of current economic theory (i.e., "Contingent Valuation") the actual economic value of a resource like the old-growth forests in this region is much more extensive than just its immediate commercial value. In addition to the commercial value of on-site recreation and timber harvesting, these forests offer many off-site, or "in-absentia" user values, including option, existence, and bequest value. Option value is essentially what people would pay to insure the availability of the forest system for future recreational opportunities. Existence value is the benefit derived from simply knowing that the forest exists. And bequest value is the willingness to pay for the economic benefits of saving forest resources for future generations. Timber harvesting could conflict with all nontimber values of these forests--subsistence, sport fishing and hunting, commercial fisheries, recreation, tourism, option, bequest, and existence value. And because the Restoration process should satisfy timber owners financially, it is clear that from a strict economic standpoint, it is in the highest public interest to preserve these forests. This acquisition would ensure a maximum flow of benefits to the greatest number of people.

C. Psychological

The psychological impact of the oil spill, has been, and will continue to be enormous. The pristine natural environment of the region comprises a powerful aspect of local residents' sense of identity, place, and purpose. Most of the people who make the region their home live here just because of its natural bounty, beauty, and wilderness quality. Native culture evolved within the fabric of forest and marine biological systems in the region. The area is, for many people, a sacred place.

The oil spill caused this sense of identity in local residents to rapidly disintegrate. Initial studies have clearly documented widespread perceptions of uncertainty about the future, deteriorating family relations, and Post Traumatic Stress Disorders in impacted communities. Even now, residents still feel a great deal of anger, remorse, and loss for what the spill did to their home. We must now allow these wounds to heal.

The most we can probably do to restore the psychological sense of well-being among local residents is to afford the impacted area as much protection as possible from further human insult. The psychological impact of clearcutting, superimposed upon that of the oil spill, would be devastating.

Prince William Sound has, in a very real sense, come to epitomize the plight of the Global environment. The phenomenal worldwide media attention given the area during the spill attests to the high degree of sympathetic identification felt by people throughout the world for such a spectacular pristine natural area essentially "lost" through corporate and governmental ineptitude. Many people, locally and elsewhere, express a sense of disbelief, indignation and even outrage that now, after perhaps the single greatest environmental disaster in our nation's history, humanity seems poised to inflict yet more environmental damage to the very same area through timber extraction, almost as if nothing had ever happened.

It is important to acknowledge that these are very real emotions and as such they must be addressed by the Restoration process. It should be a priority of the Restoration program to minimize any activity that might detract from an already damaged sense of psychological well-being throughout the region and the world. Another compelling reason, then, to retire timber harvesting rights in the region is to help restore the sense of solace and well-being that is so essential to the quality of life.

This acquisition would allow people to look forward with certainty to the full recovery of the natural environment, rather than despair over its continued degradation. This acquisition is absolutely essential for psychological recovery—without it, full recovery will be impossible.

D. Socio-Political

The oil spill has caused an overwhelming loss of faith in the institutions that manage our society.

The socio-political fallout from the spill has been characterized by bitterness and divisiveness within and between communities, anger toward the oil industry in Alaska and elsewhere, lack of confidence in government, and skepticism regarding economic development in general.

The social challenge for Restoration then, is to restore the cohesiveness within and between communities. Peoples within the impacted region now need a sense of solidarity, of being on the same side of an issue and of belonging to a joint enterprise together. It is now imperative to protect residents in the region from other highly divisive issues, such as logging.

The political impacts of this spill will undoubtedly reverberate through the halls of Juneau and Washington D.C., oil company board rooms, and the minds of voters for quite some time. If something powerful and persuasive isn't done to make amends for this environmental disaster, its dark shadow will continue to loom over such major public policy issues as ANWR, offshore oil leasing, and other important development proposals.

The public wants a clear sign that industry and government will make every effort to "right-their-wrongs." A positive outcome with the acquisitions set forth in this proposal would send a loud and clear message to people everywhere that corporate and political institutions can and do act responsibly--that they do indeed care about the natural environment. The public relations value of such an initiative would benefit the timber industry, Native corporations, government, and the oil industry.

It is increasingly evident that these acquisitions would be enormously popular throughout the nation, and would renew public confidence in our governmental and corporate institutions. Underlying such sentiment is the growing body of public opinion that old-growth rainforests worldwide are a precious, highly-threatened resource that deserve protection, and a greater sensitivity toward the environment in general, (e.g., "Earth Day, 1990").

In a very real sense then, this acquisition for Restoration has, for many, become the "canary in the mine shaft" concerning mankind's commitment to the environment. It's really quite simple--either we do care, or we don't. This will be the legacy we leave for future generations and should be pursued accordingly.

IV. TIMBER OWNERSHIP

The primary land owners in the region are the Federal government, Alaska Native Corporations, and, to a lesser extent, the State of Alaska. All own valuable tracts of old-growth forest. A decision to not allow timber harvesting on these public lands can be obtained simply through an administrative decision on the part of the U.S. Forest Service and the State of Alaska Department of Natural Resources. At this time, the Forest Service has no plans to sell or harvest any of the timber within the Chugach National Forest. The ADNR is considering classifying several of its isolated land parcels within the region for timber harvesting. The Trustees should seek a Memorandum of Understanding or other legally binding agreement from these two agencies that, in the interest of Restoration, they will not permit any timber harvest on their lands in and around the spill zone.

The more important challenge for Restoration will be to retire the timber harvesting rights on the several hundred thousand acres of lands owned by Alaska Native Corporations in the region. Timber on these private lands is considered to be a valuable financial asset and thus timber owners will have to be sufficiently compensated in exchange for an agreement to extinguish any and all harvesting rights. The approach here should be to make it financially advantageous for the timber owners/land owners to enter into such an agreement, by providing them as much money as they would have earned in profits by harvesting their timber. The two principle areas of concern for acquisition purposes are Prince William Sound and the lower Kenai Peninsula.

Prince William Sound

The Native Corporations with land holdings in Prince William Sound itself are as follows:

Eyak Corporation PO Box 340 Cordova AK 99574 Phone: 424-7161	64,000 acres	(Note: acreages here are approximate)
Tatitlek Corporation PO Box 650 Cordova AK 99574 Phone: 424-3777	65,000 acres	
Chenega Corporation General Delivery Cordova AK 99574 Phone: 573-5118	76,000 acres	
Chugach Alaska Corporation 3000 A Street, Suite 400 Anchorage AK 99503 Phone: 563-8866	57,000 acres in S.W. PWS	

Approximate total area proposed for timber acquisition in Prince William Sound = 262,000 acres

Most of the timber on these lands has been sold, in connection with Net Operating Loss Sale provisions of federal tax laws, and is now owned by the following companies:

Sherstone, Inc. PO Box 828 Cordova AK 99574 Phone: (907) 424-5524	Owns timber on Eyak lands
Citifor, Inc. 7171 Columbia Center 701 Fifth Ave. Seattle WA 98104-7090 Phone: (206) 622-3770	Owns some of the timber on Tatitlek lands between Fidalgo & Gravina
Koncor Forest Products, Inc. 3501 Denali Anchorage AK 99503 Phone: (907) 562-3335	(Timber Trading Company) owns timber on Chugach Corp. lands on Montague & Knight Islands and on Chenega lands

Tatitlek Corporation still retains title to some of their timber, and Chugach Alaska Corporation has purchased timber on Tatitlek lands at Fish Bay in Pt. Fidalgo.

Lower Kenai Peninsula

Beyond PWS itself, three village corporations on the Kenai Peninsula have considerable land holdings with timber that should be considered for acquisition:

English Bay Corp. PO Box 8058 English Bay via Homer Homer AK 99603 Phone: (907) 281-2220	45,000 acres at southern tip of Kenai Peninsula and 22,000 acres within the Kenai Fjords National Park
Port Graham Corp. PO Box PGM Pt. Graham AK 99603 Phone: (907) 284-2227	66,000 acres at southern tip of the Kenai and 55,000 acres also within the Kenai Fjords National Park
Seldovia Native Ass'n. PO Box 185 Seldovia AK 99663 Phone: (907) 234-7625	23,000 acres within Kachemak Bay State Park across from Homer and 423 acres on Island Peninsula

Approximate total area proposed for timber acquisition on Lower Kenai Peninsula = 221,000 acres

These corporations have sold much of their timber, as in Prince William Sound, to the following companies.

Koncor Forest Products, Inc. 3501 Denali Anchorage AK 99503 Phone: (907) 562-3335	(Timber Trading Company) owns the timber on Seldovia Native Ass'n. land holdings within Kachemak Bay State Park
Chugach Alaska Corporation 3000 A Street, Ste. 400 Anchorage AK 99503 Phone: (907) 563-8866	owns the timber at Windy Bay, on Pt. Graham lands
Kolon California, Inc. c/o Ceretech International 515-16th Ave., Ste. 155 Bellevue WA 98004 Phone: (206) 455-4850	owns the timber on English Bay lands

This would also be the appropriate forum to consider purchasing timber and possibly certain other development rights from Native Corporations with lands along the coastline of the Kenai Fjords National Park. Together, the Port Graham and English Bay Village Corporations have selected approximately 77,000 acres of waterfront land surrounded by the Park. The Chugach Alaska Corporation will receive the subsurface rights. These selections are yet to be conveyed, pending negotiations with the U.S. Bureau of Land Management. The development of timber and minerals on these lands would seriously conflict with the quality of the area as a National Park. Thus, it should be a high priority for Restoration purposes to acquire at least the timber, and perhaps the mineral rights on these lands.

V. ADDITIONAL CONSIDERATIONS

1. Cost of Acquisitions

While it is difficult to estimate, the timber acquisitions outlined above would probably cost on the order of $200-$300 million. An independent timber appraisal should be conducted to determine fair market value of timber assets in the region.

2. Urgency

Timber harvesting has already begun on three parcels within the region: one near Cordova, at Two Moon Bay near Tatitlek, and at Windy Bay on the lower Kenai. Several more areas are scheduled to begin cutting within a year.

Additionally, foreign timber buyers, who might be less sympathetic to selling timber assets for Restoration purposes, are reportedly very interested in purchases within the region.

If the Trustees decide to pursue timber acquisition, it should be done soon.

3. Short Term Contracts

The timber owners generally have rights to the timber only over short-term (10-15 year) contracts. After these contracts expire, the timber rights revert to the land owners. Thus, in negotiating to retire timber harvesting rights in perpetuity, the land owners will also have to enter into any agreement between current timber owners and the Trustees.

4. Lands selected but not conveyed

An additional aspect that has to be considered is Native Corporation lands in Prince William Sound that have been selected but not yet conveyed. Some of these contain timber that should be purchased in the context of Restoration.

5 Individual Allotments

Funds should also be made available to Native shareholders with individual land allotments who might wish to sell their timber assets for Restoration purposes.

6. Displaced jobs

A very legitimate concern exists over the jobs, particularly of Native shareholders, that would be displaced by this acquisition for Restoration. This concern is addressed by the Sustainable Economic Development section of the proposed comprehensive settlement. An "Alaska Native Employment Fund" should be established to provide on the order of $5 million annually to be used to employ shareholders in jobs that, as determined by themselves, are sustainable and compatible with their cultural heritage and local environment.

7. Seward Sawmill

Withdrawing these forests from timber production will reduce the flow of raw logs to the newly constructed Chugach sawmill in Seward. Clearly, the Chugach Corporation deserves compensation for this loss. Either a genuine offer should be made for an outright purchase of the mill, or some other subsidy/settlement must be offered.

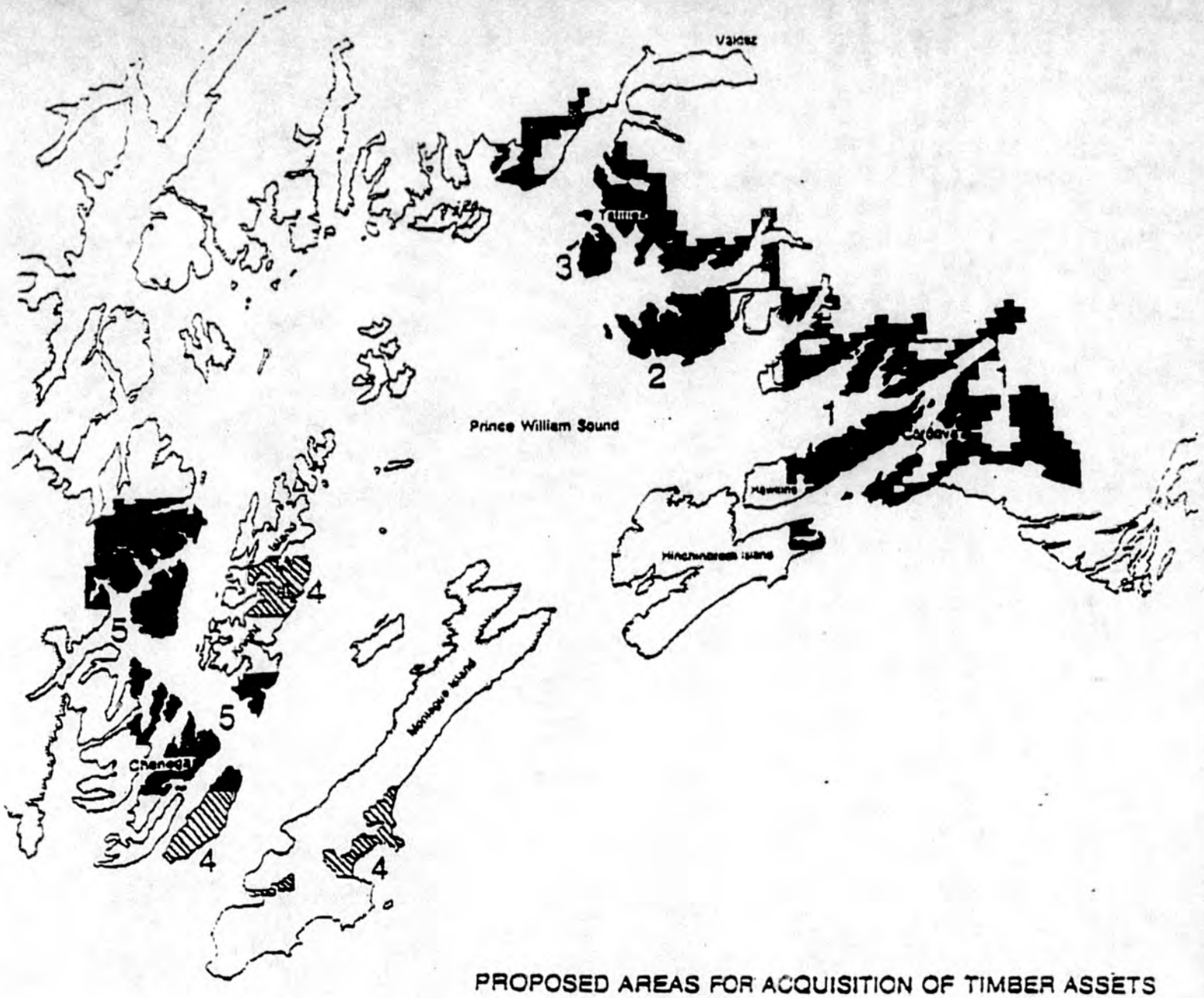
8. Protection of Native Sovereignty

One of the most important considerations for this initiative is to protect the right to self-determination of local Native people. As the principle private land owners in the region, they have the most at stake relative to this issue. It is essential that all the shareholders of each Native corporation in the region be fully informed concerning their options here, and that they come to some agreement among themselves as to what is in their own long-term interest. Presently, some shareholders support timber acquisition for Restoration, others oppose it.

It is incumbent upon the Restoration planning process to provide the corporations and their shareholders with an objective assessment of the implications of supporting or opposing such acquisitions.

IT IS ESSENTIAL THAT THE TRUSTEES REMAIN SENSITIVE TO THE DESIRES OF NATIVE SHAREHOLDERS ON THIS ISSUE, AND PURSUE ACQUISITIONS ONLY WITH THOSE CORPORATIONS THAT SUPPORT THE CONCEPT.

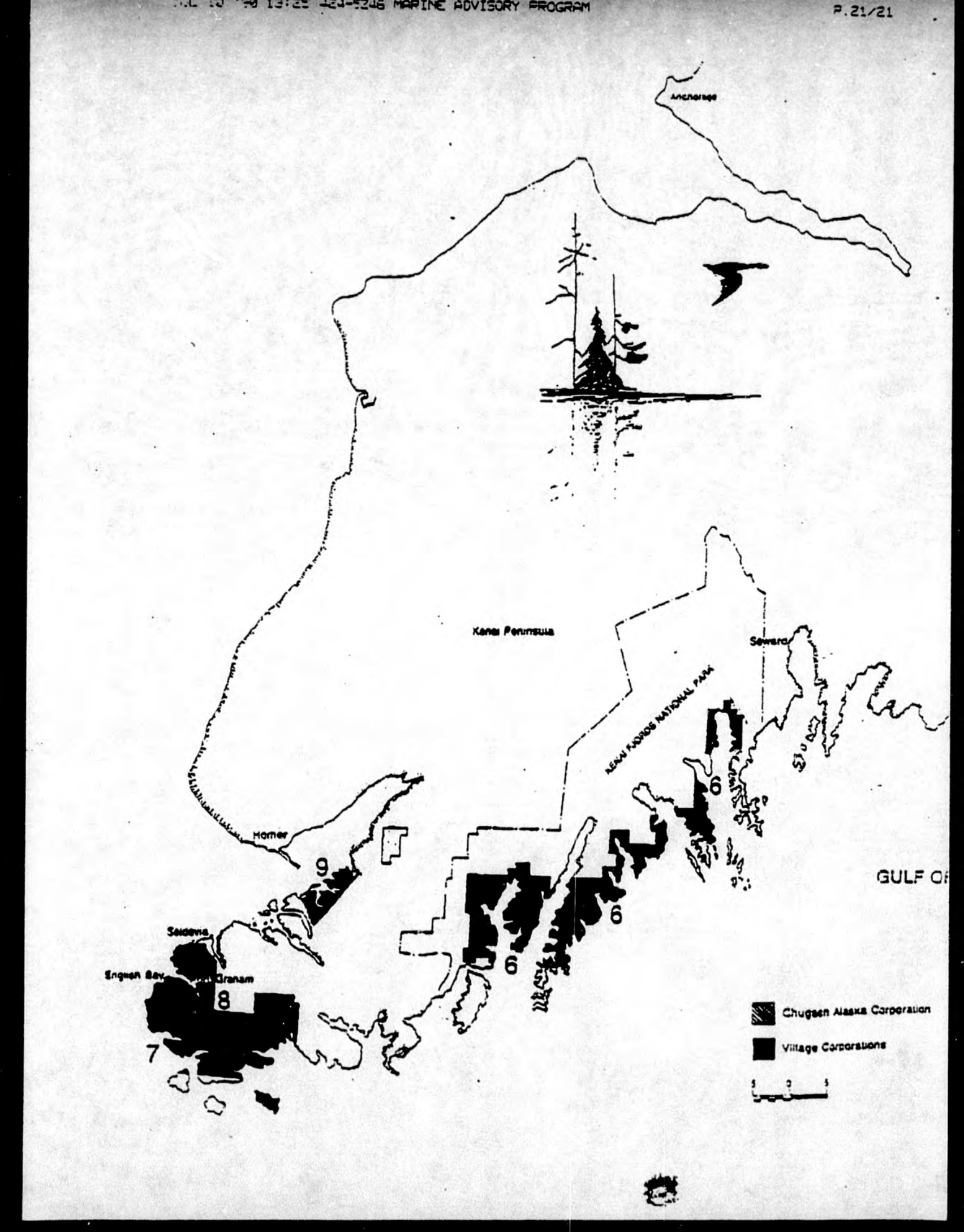
It should be recognized that, before the spill, timber development plans represented sincere and genuine commitment on the part of corporation managers to provide economic opportunity for their shareholders. Acquisitions for Restoration should be presented as a unique opportunity to redirect such development plans in light of the spill.



PROPOSED AREAS FOR ACQUISITION OF TIMBER ASSETS

1. EYAK/SHERSTONE
2. CITIFOR
3. TATITLEK
4. CHUGACH/KONCOR
5. CHENEGA/KONCOR
6. PORT GRAHAM/ENGLISH BAY SELECTIONS
7. ENGLISH BAY/KOLON CALIFORNIA
8. PORT GRAHAM/CHUGACH
9. SELDOVIA NATIVE ASSOCIATION/KONCOR

APPROXIMATE TOTAL AREA PROPOSED — 483,000 ACRES.


Anchorage
Kenai Peninsula
Seward
KENAI FJORDS NATIONAL PARK
Homer
Seldovia
Port Graham
9
8
7
6
6
6
GULF O
Chugach Alaska Corporation
Village Corporations

ATTACHMENT C

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF ALASKA

UNITED STATES OF AMERICA	)	
vs.	)	No. A90-015 CR.
EXXON SHIPPING COMPANY, AND EXXON CORP.	)	

COMMENTS OF THE NATIONAL WILDLIFE FEDERATION ON THE PLEA AGREEMENT OF THE UNITED STATES, EXXON SHIPPING, AND EXXON CORP.

Erik Olson
Douglas Wolf
National Wildlife Federation
1400 16th Street, N.W.
Washington, D.C. 20036
April 11, 1991

INTRODUCTION

The National Wildlife Federation ("NWF" or "the Federation"), the nation's largest private conservation education organization with 5.6 million members and supporters, welcomes this opportunity to comment on United States of America v. Exxon Shipping Company and Exxon Corporation (No. A90-015 CR.) (the plea bargain)[1]. Such public comment is particularly appropriate given the overwhelming public interest in and concern with this oil spill and the important legal and public policy issues this plea bargain raises.

NWF is very concerned that the proposed plea bargain would let Alyeska Pipeline Service Company (Alyeska) off the hook entirely. This deal in Alyeska's favor was struck despite recent evidence of what a Congressional investigation has suggested was criminal behavior by Alyeska. NWF urges that the Court strike all provisions in the plea agreement which shield Alyeska from punishment. In addition, NWF urges the Court to require a magistrate investigation, or to name an independent counsel or special master to investigate the recent allegations of Alyeska's alleged criminal conduct, and recommend to the Court whether the plea agreement's immunization of Alyeska from criminal prosecution is justified and in the public interest.

NWF also urges that this Court order the government and Exxon to release all scientific and economic data documenting the extent of damage caused by the crimes, in order to assure the public and this court that the fines and restitution are appropriate to the offenses committed. These comments will discuss these and other concerns.

ALYESKA SHOULD NOT BE MADE IMMUNE FROM FUTURE PROSECUTION

In a very unusual provision which may be without precedent, paragraph III A of the Plea Agreement specifically waives the United States' right to prosecute a third party, Alyeska, which is not a defendant in this or any related criminal action, for any criminal violation of federal law arising out of the Valdez spill, the cleanup, or its preparations for a cleanup. This unusual promise was made without any plea, fine, restitution, admission, or extraction of any other benefit to the public or to the government from Alyeska. Our research has been unable to

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[1] NWF, with the Wildlife Federation of Alaska and the Natural Resources Defense Council, and represented by the Trial Lawyers for Public Justice, has sued Exxon and Alyeska Pipeline in state court in Alaska to seek creation of a trust fund which would help restore the natural resources damaged by this catastrophe. NWF has actively commented on the natural resource damage assessment process in response to the Valdez spill.

document any previous case in which a corporate defendant has been provided a promise of no prosecution for environmental or other crimes as part of a plea bargain with some other legally separate company, particularly when that third party corporation has failed to provide any benefit to the government for such a promise.

This provision is particularly troubling in light of recent evidence of Alyeska's alleged criminal conduct. If Alyeska is not punished, the fundamental retributive, rehabilitative, and deterrent goals of criminal law with respect to Alyeska's alleged criminal behavior will not be served.

Documents recently submitted to this Court by the U.S. House Interior and Insular Affairs Committee Vice Chairman George Miller (collectively, "the Alyeska materials") establishes that eleven months before the Exxon Valdez spill, Alyeska knew that it could not adequately respond to a major spill in Prince William Sound.[2] In fact, these documents show that Alyeska unilaterally decided that it would only respond to spills in the Valdez Arm and Valdez Narrows and that it would rely on dispersants and cleanup efforts by the spiller to attempt to take care of any other spills[3]. In other words, Alyeska unilaterally abdicated a large part of its responsibility to protect the environment[4].

The outrageous nature of this conduct becomes even clearer when one compares these internal statements with those Alyeska made in many public forums[5] and makes in its Contingency Plan for Prince William Sound. In the Contingency Plan, Alyeska asserts that it can and will respond to all spills, no matter where they occur in the Sound and no matter what size[6]. The Congressional

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[2] T.L. Polasek, [Alyeska] "Oil Spill Issues," (April 6-7, 1988)(filed with this Court with Alyeska materials).

[3] See Cable from Stanley Factor, ARCO Marine, to Roger Gale, Sohio (July 6, 1988)(in Alyeska materials). Further, this document indicates that the Alyeska owner companies were unable to agree to even this incredibly low level of commitment.

[4] In fact, Alyeska didn't even acquire and deploy the additional equipment that the documents indicate they were planning to purchase. Rep. Miller's April 8, 1991 letter to the Court, at 8-9.

[5] Id. at 2-3 The misstatements made before the pipeline was approved are particularly significant as the pipeline was ultimately approved by only one vote in the United States Senate, with then-Vice-President Spiro Agnew casting the deciding vote.

[6] Id. at 3-6.

investigators suggest that these were willful misstatements and probably were criminal violations of Alyeska's duty under the Clean Water Act and other laws.[7]

The plea bargain, in section III A, specifically exempts Alyeska from any criminal liability for any acts associated with the grounding of the Exxon Valdez as well as any "conduct in connection with the preparation or submission of oil spill contingency plans or related documents, by Alyeska Pipeline Service Company to the federal or state government." The plea bargain exacts nothing from Alyeska in return for this beneficence. Plea bargains often are described as contracts; Alyeska has been given all of the benefits of such a contract without having provided any consideration.

NWF invites the Court to examine its law books to find a similar example of a third-party, legally separate from the accused, gaining the benefit of the plea bargain without suffering any detriment. The governments appear to have surrendered all criminal charges for Alyeska's incredible conduct because Exxon insisted.[8] The record before this Court at a minimum suggests that Alyeska likely is an appropriate target of a criminal investigation. The record is completely devoid of any support for the promise not to prosecute Alyeska. This Court, therefore, has insufficient information for it to evaluate, pursuant to its obligations under Federal Rules of Criminal Procedure 11 and 32, whether the plea is in the public interest and whether the sentence fits the crime.[9] NWF urges the Court to

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[7] The Act makes "[a]ny person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this chapter," such as the Contingency Plan, liable for fines and/or prison. 33 U.S.C. §1319(c)(4). See also 18 U.S.C. §1001 (penalties for knowingly submitting false information to any agency of the United States).

[8] In public testimony before several of the House Merchant Marine and Fisheries Committee's Subcommittees, which met in joint session on March 20, 1991 to examine the proposed settlement, United States Assistant Attorney General, Richard Stewart, asserted that the negotiators for the governments added Alyeska to the plea bargain and the consent decree between the United States and Alaska governments and Exxon Corp. and Exxon Shipping, simply because Exxon insisted they do so.

[9] See generally, J.E. Bond, Plea Bargaining and Guilty Pleas § 6 (1983 & Supps.); W. R. LaFave & J.H. Israel, 2 Criminal Procedure: Criminal Practice Series § 20 (outlining rights and duties of court in reviewing plea bargain).

strike these unjust provisions from the plea bargain. Alyeska's cavalier and criminal actions must not go unpunished.

THE COURT SHOULD APPOINT A MAGISTRATE, SPECIAL MASTER, OR INDEPENDENT COUNSEL, TO REVIEW ALYESKA'S ACTIONS

The Court should request that a magistrate, special master, or independent counsel[10] review the allegations of Alyeska misconduct. The results of such an investigation would inform the Court's determination regarding whether the plea's provision exempting Alyeska from criminal prosecution is in the public interest and should be approved.

OTHER CONCERNS

1. Important Scientific Data Must Be Released

The plea agreement requires Exxon Corp. and Exxon Shipping to pay a total of $100 million in criminal fines and restitution payments. However, there is no way the public or this Court can meaningfully assess the amount of restitution needed or economic impacts of the spill, to measure against this figure. The federal government's scientific study summary released this week regarding the biological impacts of the spill fails to include any estimates of the economic impacts of the spill or of the restoration costs. None of the numerous economic studies conducted by the government have been released, no information on the findings of Exxon's studies has been made available, and the public, independent experts, and this court are in no position to judge the accuracy even of the summary of biological impacts filed by the government since the studies themselves and all underlying data remain secret.[11]

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[10] See, Bond, Plea Bargaining and Guilty Pleas § 6.18(c)(court may name special prosecutor in rejecting plea bargain as contrary to public interest); United States v. Cox, 342 F.2d 167, 179 (5th Cir.)(en banc), cert. denied, 381 U.S. 936 (1965) (Judge Griffin Bell and dissenters in part suggesting that where government decision not to prosecute is in bad faith or "irrational," court may be authorized to appoint counsel to prosecute case); United States v. Cowan, 381 F.Supp. 214, 223 & n. 11 (N.D.Tex. 1974), rev'd on other grounds, 524 F.2d 504 (5th Cir. 1975), cert. denied, 425 U.S. 971 (1976)(to same effect).

[11] What we do know is that Exxon says it has spent "in excess of $300 million to claimants allegedly injured by the oil spill," Plea Agreement paragraph III C(3)(c), suggesting that under the Alternative Fines Act, 18 U.S.C. section 3571(d), if Exxon were convicted it could be subject to over $600 million in fines, in addition to providing restitution. Thus, there is already substantial evidence of widespread injury from Exxon's actions, and there is suggestive evidence that the adequacy of

The Court should require that all these studies -- and not just the vague and conclusory summaries just released by the government -- be revealed by Exxon and the government so that the public can intelligently comment on this aspect of the plea bargain, and so that this Court can meaningfully exercise its duties to evaluate the grounds for and adequacy of this plea bargain, and the associated fines and restitution suggested in it.

3. Court Should Impose Prevention Measures

We hereby join in the comments of other conservation organizations before this court calling for the use of creative probation and other requirements requiring Exxon to take actions to prevent other environmental pollution and disasters.

4. Public Should Be Able to Challenge Use of Money

Paragraph IV B of the Plea Agreement purports to provide that Alaska can spend the restitution money it receives under the agreement "without objection, challenge, or judicial or administrative review." As much as the state and United States governments may want to insulate their actions from judicial or other review provided for under the Administrative Procedure Act and other laws, the governments simply cannot enter into a contract with Exxon that purports to eliminate the statutory and other legal rights of third parties to challenge government actions. Thus, this provision must be struck from the agreement as an ultra vires act that is contrary to law and public policy.

Respectfully Submitted,

Douglas Wolf, Esq.

Erik D. Olson, Esq.

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the plea bargain can be questioned with respect to Exxon itself. This is particularly true in light of Exxon's widely reported statements in the wake of the settlement's announcements that the deal would have no effect on Exxon's financial position, suggesting the Company's management has no remorse for its actions and that there will be little or no deterrent effect from the fines imposed.

FACT SHEET

EXXON-VALDEZ OILSPILL SETTLEMENT

AGREEMENT HAS BEEN REACHED between Federal and state trustees and Exxon Corporation, Exxon Shipping Company and Exxon Pipeline Company for settlement of damages rising from the Exxon Valdez oilspill in Prince William Sound March 24, 1989.

The settlement, totalling $1 billion, represents the largest environmental damage settlement in history—50 times the size of any other.

Highlights

- EXXON WILL PAY $190 MILLION IMMEDIATELY, of which $100 million is a criminal fine. Half of this fine will be remitted to the state of Alaska. Twenty-five million dollars of the first payment will be used to continue the science program, and $15 million will go to restoration planning and to initiate restoration pilot projects. The balance will be used to begin to reimburse most of the trustees and the Coast Guard for past expenses.

- EXXON WILL PAY $150 MILLION IN FISCAL YEAR 1992, but this amount and future amounts will be usable beginning in October 1991. The major part of these funds will be used in restoration efforts aimed at returning Prince William Sound to its pre-spill condition.

- EXXON WILL PAY $660 MILLION OVER A PERIOD OF YEARS beginning in FY 1993.

If significant new injury arises after the 10-year restoration period, which is based on previously unknown information, the trustees may reopen the matter up to a cap of an additional $100 million.

Interagency Administration

The agreement will be administered by a group of trustees comprising the Administrator of the National Oceanic and Atmospheric Administration (NOAA), the Secretaries of the Departments of the Interior and Agriculture; the Commissioner of the Alaska Department of Fish and Game, and the Commissioner of the Alaska Department of Environmental Conservation, and the State Attorney-General. The U.S. Environmental Protection Agency has been designated by the President to coordinate restoration activities for the U.S.

The trustees will act jointly in the collection and joint use of all damage recoveries. Decisions on use of recovered funds will be made by unanimous agreement; the funds are to be held in a joint trust fund under the supervision of the U.S. District Court for Alaska.

(more)

Cooperative Restoration Efforts

THE GOVERNMENTS WILL CONTINUE TO WORK COOPERATIVELY conducting scientific studies and restoration efforts approved by the trustees for the 1991 field season. Among those under consideration are:

- RESTORATION OF THE BEACH WILDRYE COMMUNITY, to stabilize sites where natural or cultural resources are at risk,
- A PUBLIC INFORMATION AND EDUCATION PROGRAM, to lessen the potential for further human disturbances,
- HABITAT RESTORATION FOR PINK AND CHUM SALMON, using proven fisheries enhancement techniques,
- PROTECTION OF STRATEGIC FISH AND WILDLIFE HABITATS AND RECREATION SITES.

Indian Tribes' Rights Protected

THE AGREEMENT WILL BE ENFORCED by the U.S. District Court for Alaska in conjunction with its supervisory powers over a consent decree entered in the litigation.

The agreement does not affect rights and obligations of third parties with interests in the situation, including those of Indian tribes to act as trustees for asserting claims, or those of any others who are or become successors to any federal or state interest, or holders of present or future rights in land or resources affected by the spill. Also unaffected are U.S. or state rights or obligations relating to Indian tribes.

The memorandum of agreement, and the settlement agreement, will be published in the Federal Register and public comment will be sought for a period of 30 days. Broadly based public participation will be an integral part of the program.

Each government has the right to withdraw its consent to the settlement agreement within 15 days after the close of the public comment period if the comments disclose facts indicating the agreement is not in the public interest.

ANCHORAGE TIMES
April 6, 1991 B1, B7

Deal OK could halt studies

Cole: $1-billion pact approval may cut spill damage probes

By DIRK MILLER
TIMES CAPITAL BUREAU

JUNEAU — Attorney General Charlie Cole said Friday state and federal governments could halt some economic-damage studies of the Exxon Valdez oil spill if a proposed settlement is approved.

Cole made the statement after questioning by a House panel reviewing the $1-billion settlement of state and federal claims against Exxon from the March 24, 1989, oil spill. Lawmakers are considering whether to approve or reject the settlement by a May 3 deadline.

He also said there were concerns about naming Natural Resources Commissioner Harold Heinze to a panel of six federal and state trustees to oversee spending of a $900 million trust fund created by the settlement.

Heinze is a former ARCO Alaska Inc. president and spent 20 years with the company, which is one of the major producers on Alaska's North Slope.

"That's one of the reasons he's not (on the panel) now," Cole said.

Cole also released confidential details of the $72 million the state says it has spent on the spill in cleanup, legal and study costs. The state spent $64.5 million on spill response, of which Exxon paid back $30 million; $23.2 million on damage studies, on which it was reimbursed $5.7 million; and $19.8 million on litigation.

The state is to be reimbursed the $72 million over five years as part of the settlement.

The state's studies have been a controversial part of the debate over the agreement. Some lawmakers say Cole should release the state's economic and resource damage data for use by private parties against Exxon, the state and Alyeska

See Studies, page B7

Studies

Continued from page B1

Pipeline Service Co. Cole has said the studies will be secret until the state is released from all claims.

Cole said Environmental Commissioner John Sandor had talked about eliminating some studies if the settlement is adopted.

"Of particular discussion were certain economic studies which had been initiated in furtherance of the state's claim for damages against Exxon," Cole said.

He said state and federal trustees planned to spend approximately $35.8 million in federal and state funds to continue the studies. The trustee arrangement is set up under federal laws to assess and restore damage. Sandor, Cole and Fish and Game Commissioner Carl Rosier are the state's trustees.

"I'm talking about studies that are litigation driven," Sandor said Friday. "Why should we continue those? That work is done."

The trustee council agreed with his suggestion, Sandor said, and may take action to reduce the studies in May or June. He said there could be potential savings of several million dollars.

"What we want to do is focus on restoration," he said.

Mayors of towns affected by the oil spill have said all along that the economic studies were important to show the cost of the spill and its cleanup on coastal communities.

"It concerns us. It's something that seems to wax and wane as this thing goes on," said Jerome Selby, mayor of the Kodiak Island Borough. "From our perspective the studies ought to be concluded."

Kodiak Island's fisheries were shut down almost completely by the drifting oil from the wrecked supertanker. Selby said the Kodiak borough estimates it lost about $1 million in shared fish tax revenues because of the spill.

The economic studies included looks at commercial fisheries losses, recreation use damage, subsistence losses, intrinsic value losses and research program damages.

Sandor said the recreation-uses study might be stopped, whereas a fish-tagging program should continue.

The Senate's settlement-review committee is taking public testimony on the agreement among federal, state and Exxon officials between 10 a.m. and 4 p.m. today.

The public can comment on the settlement at legislative information offices in Anchorage, Fairbanks, Juneau, Kodiak, Valdez, Soldotna, Homer, Cordova and Seward. Cole also will be at the meeting, which is being conducted in the Senate Finance Committee room in Juneau.

ANCHORAGE TIMES
April 7, 1991 B6

Trustees consider further Exxon spill assessment studies

By DANIEL R. SADDLER
TIMES WRITER

The proposed settlement of state claims for the Exxon Valdez oil spill has prompted state and federal trustees to reconsider spending any of $35.6 million planned for 1991 spill assessment studies, Fish and Game Commissioner Carl Rosier said Saturday.

State and federal agencies last week unveiled their 1991 plan for studies to determine how much the spill damaged Alaska's environment and resources. The studies, funded by the governments and by Exxon, are aimed at setting a dollar value on the impact if Exxon were found liable for the damage.

But with the possibility of a negotiated settlement, the council of trustees responsible for overseeing the studies and restoration is wondering whether money for a third year of assessment could not be better spent on restoration, Rosier said.

At a Thursday meeting, the Trustees Council of state and federal land officials overseeing the studies decided to ask for a review of the planned studies.

"The mission in reviewing them is to see if there are projects or programs here that lean more toward damage assessment rather than restoration," Rosier said. "The basis for these studies in many cases was litigation, and now we're looking at the studies and work to be done (as) being more directed toward restoration."

Scientists and agency officials over-

seeing their work must complete their review by May, and make their recommendations to the council for the final decision, Rosier said.

Attorney General Charlie Cole said Saturday that studies of the economic damage of the spill clearly driven by legal concerns might be stopped if the state wins approval of the $1 billion settlement of its claims against Exxon.

But no decision has been made on the studies, or can be made, until the settlement is either approved or rejected by the May 3 deadline, he said.

Meanwhile, some of the studies have already begun, said Mike Dean, acting director of Fish and Game's division of oil spill impact, assessment and restoration.

The department has begun to hire workers, buy equipment and set up field camps for continuing studies of the oil's impact on herring, trout and salmon, said Dean. Other studies on river otter and mink, and on sea birds are due to start soon.

The schedule lists studies focusing on several areas of biological and environmental concern, including marine and terrestrial mammals, birds, fish, coastal habitat, air and water conditions and archaeological resources.

The studies range from monitoring fish, birds and mammal populations to track recovery, to creating computer models showing the relationship between oil and injury, to measuring levels of oil on cleaned beaches.

About $2.3 million in studies aimed at finding ways to restore or replace damaged resources already have received tentative approval from the Trustees Council, Dean said.

Dean questioned whether the well-planned science program should be halted in face of a settlement.

"You have to know what was broke before you can fix it, and we're still doing that," he said.

Dean said no studies planned for this year would involve killing sea birds or mammals. The U.S. Fish and Wildlife Service has denied applications to do so after public outcry last year over studies in which researchers killed about 170 sea birds in a test of their ability to survive immersion in oil.

ANCHORAGE DAILY NEWS
April 7, 1991 C2

Exxon deal may affect studies

By MATT KOHLMAN
The Associated Press

JUNEAU — The state and federal governments may suspend some of their studies of oil-spill damage to Prince William Sound if the $1 billion Exxon Valdez settlement is approved, state officials say.

Environmental Commissioner John Sandor made the suggestion at a recent meeting of a federal-state council established after the Exxon Valdez spill in March 1989.

The state and federal governments plan to spend $35 million next summer for damage assessment and restoration. But some of those studies, particularly on economic effects, were started because of Exxon Corp. claims and may be unnecessary with a settlement, Sandor said Friday.

Sandor said he suggested the agencies identify those projects before the group



meets again in May or June.

"We did not say, 'Hey the settlement has been made, thus we're cutting those out completely,'" he said. "We're keeping our bases covered."

About $18 million of the summer expenses will go toward restoration, and several million more could be used if the settlement makes some studies unnecessary, he said.

"We want to concentrate on restoration," Sandor said.

Sandor also is one of three state representatives

on the six-member trustee board that would be established to oversee spending the settlement money.

Fish and Game Commissioner Carl Rosier and Attorney General Charlie Cole also will be trustees, Cole told lawmakers Friday.

Representing the federal government will be John Knaus, administrator of the National Oceanic and Atmospheric Administration, Interior Secretary Manuel Lujan and Agricultural Secretary Edward Madigan.

Cole said that if the agreement becomes official, he may be replaced by Harold Heinze, natural resources commissioner and former head of Arco Alaska Inc.

"In the course of time, we would suggest DNR be appropriate because we're dealing primarily with natural resources," Cole said. Heinze has not been involved in the settlement so far because of a conflict of interest, Cole said.

Cole also gave lawmakers a breakdown on the $72 million that will be used from the settlement to reimburse the state for unpaid costs.

About $20 million would go toward litigation costs, $34.5 million would cover oil-spill response costs through February, and $17.5 million would be used for damage-assessment expenses.

Legislators have formed special committees to review the spill settlement. The agreement would require Exxon to pay a record $100 million fine. Exxon also would pay $900 million over 11 years to settle civil claims, with the money going into a trust to pay for cleanup and restoration of Prince William Sound.

The tanker Exxon Valdez spilled nearly 11 million gallons of crude oil into Prince William Sound when it ran aground.

IN THE SUPERIOR COURT FOR THE STATE OF ALASKA

THIRD JUDICIAL DISTRICT AT ANCHORAGE

EXXON VALDEZ OIL SPILL LITIGATION This Document Relates To: **Case No. 3AN-89-6957 Civil** National Wildlife Federation, et al. v. Exxon Corporation, et al.	3AN-89-2533 Civil (Consolidated)

AFFIDAVIT OF DR. JOHN M. TEAL

I, Dr. John M. Teal, after being first duly sworn, state as follows:

Introduction

1. My name is Dr. John M. Teal and I am over the age of twenty-one. I am a biological oceanographer with extensive professional experience in marine ecology, marine pollution and biogeochemistry. I am a senior scientist in the biology department at the Woods Hole Oceanographic Institution. My curriculum vitae is attached as Attachment 1.

2. I have read and endorse Attachment 2, "The Problem of Secrecy: Science Under Wraps In the Wake of the Nation's Largest Oil Spill." This statement represents many of my concerns about the current regime of secrecy imposed by the parties to this lawsuit.

Need For Open Exchange of Data

3. Many examples illustrate my concerns about the effects

of secrecy on the quality of scientific research on oil spill impacts. One example comes from the investigations of the effects of the tanker "Tsesis" spill in the Baltic. In the affected area the hatching success of herring eggs was drastically reduced. But the oil did not seem to have a large effect on the ratio of normal to malformed herring larvae, indicating no very large direct effect of oil on the eggs, though such a direct effect was the expected result, the logical first hypothesis.

4. Research on other aspects of the affected ecosystem, when combined with the results on herring, suggested the complex pattern of interactions that led to the failure of the herring eggs. A certain type of adult amphipod normally keeps the growth of fungi on herrings eggs low through feeding on the fungi, and thus enhance the survival of the herring eggs. The oil spill virtually wiped out these amphipods which, in turn, allowed fungal growth on the eggs to proceed unchecked. The effects of oil on the adult populations of the amphipod, by preventing their normal interaction with herring eggs, dramatically reduced the survival of herring eggs.

5. Only free interchange of research results and hypotheses by scientists of various disciplines studying the impacts of this spill allowed these scientists to make the necessary logical connection required to understand the cause of the loss of the herring eggs.

6. Without similar opportunities for free interchange of

scientific results, hypotheses and assumptions from research regarding the impacts of the "Exxon Valdez" oil spill (see Attachment 2), many similar complex relationships may never be discerned and the full causal network and/or extent of damage and long-term impacts may never become clear.

Secrecy Hamstrings Other Government Bodies

7. From 1978 to 1990, I have been a member of the Scientific Advisory Board ("Board") to the federal Minerals Management Service ("MMS"). The Board's role is to advise MMS on its scientific studies program. The scientific studies program's purpose is to develop the scientific basis for MMS decisions regarding outer-continental shelf ("OCS") leasing for oil exploration and production.

8. Although the Exxon Valdez spill did not involve OCS oil and did not occur in OCS waters, the Board felt that the results of the spill are very relevant to the decisions MMS makes in regards to the costs and benefits of oil exploration and production.

9. Unfortunately, the secrecy surrounding the Valdez spill effectively prevented the Board, and thus the MMS, from gaining any useful information of this type -- even though it would have been directly relevant to the mission of the MMS.

10. For example, during a meeting of the Board in Juneau, the Board invited representatives of the trustees to attend and discuss the scientific studies being conducted on the "Exxon Valdez" spill. Though the invitees came they were accompanied by

a government lawyer who sat amongst them and frequently told them not to answer the questions we put to them.

Important Research Opportunities Will Be Lost

11. The Exxon Valdez Spill offers a rare and significant opportunity for marine scientists to answer important questions about marine environments. In essence, the significant deposition of oil, which has components that are relatively long-lived and which will remain relatively toxic over time, in the Prince William Sound ecosystem acts as a marker or tracer which would allow scientists to follow the pattern of movement of various elements of the ecosystem just by following the movement of the oil over time.

12. This would also advance our current knowledge of long-term effects of oil spills. For example, this could allow scientists to expand upon the work that I have done with Dr. John Farrington and Bruce Tripp, also of Woods Hole, into the long-term effects of oil in the West Falmouth Harbor ecosystem. In that study, we have been able to trace the long-term movement of oil throughout an ecosystem which was disturbed by a 1969 oil spill.

13. In the wake of the "Exxon Valdez" spill, I am interested in studying the long-term ability of various sea plants and grasses to transmit oxygen to the sediment layers in which their roots are imbedded. The disturbances created by the oil spill and the way in which these disturbances affected and continue to affect this ecosystem would allow me to better

understand the relationship between these plants and their immediate environment.

14. However, I have not been willing to do this work and many other scientists have been deterred from undertaking similar research which would add to our understanding of marine environments in general, as well as our understanding of the long-term effects of oil spills in particular, because most of the data that has been collected is being kept secret.

15. Because so much of the basic data regarding the oil spill is not currently available, it is much more difficult for outside scientists without access to this data to conduct competent scientific investigation. There are so many ways in which one's hypotheses could be significantly in error, just because basic data upon which these hypotheses need to be built are not available, that I and many scientists like me are not willing to risk wasting our time or damaging our reputations (and, thus, our ability to fund the work we want to do) by conducting this type of speculative research.

16. I am also not interested in doing research if I must be bound by a secrecy agreement. If I were to agree to do this type of work I would not be able to publish my results until after the lawsuit was resolved (though a settlement, by its terms, might prevent any data from ever being published). I depend upon being able to publish my work for many reasons: Not only is it the best means of communicating with my peers and benefiting from their ideas and experience, but publishing allows me to advance

my scientific reputation which allows me to obtain funding for the projects I am interested in and to help support Woods Hole and the other scientists I work with.

17. If I know that I will be publishing the results of my investigations, I always have a stronger incentive to carefully and clearly think through my program of research. This is because I know that my work will be subjected to careful scrutiny by the most qualified reviewers possible.

Secrecy Must End Now

18. The longer this secrecy lasts, the more difficult it will be for outside researchers to commence meaningful studies after the existing data is released for public review. Time is of the essence to research on an environmental impact like the "Exxon Valdez" oil spill. Knowledge of the conditions at the time of the spill, details of the initial effects, and of the areas affected are essential to planning and conducting such research.

19. Knowledge made available only months or years after the event may show how one should have planned and conducted the research into that event, but could be useless for actually doing it. If this data is to have maximum value to outside scientists it must be released as soon as possible.

Conclusions

20. The current secrecy of science in Prince William Sound will keep many interested and qualified scientists from studying the effects of the Exxon Valdez oil spill, despite the fact that

this spill offers an unique opportunity to expand our knowledge of the long-term effects of oil spills as well as the basic rules that govern such marine ecosystems.

21. It is very important that this secrecy end immediately so that outside scientists can review the work already done and take steps to correct errors, limitations, and/or gaps in this work and/or initiate their own research on the effects of the spill.

ANYTHING FURTHER THE AFFIANT SAYETH NOT.

John M Teal

Dr. John M. Teal

STATE OF MASSACHUSETTS)
) ss.
COUNTY OF Barnstable)

On this 11th day of September, 1990, the Affiant Dr. John M. Teal personally appeared before me and signed the foregoing Affidavit after first having sworn that the information contained therein is true and correct to the best of his knowledge and belief. Witness my hand and official seal. My commission expires on 26 August 1996.

[SEAL]

Judith L Keeindine

Notary Public

RESUME

JOHN M.TEAL
Senior Scientist
Woods Hole Oceanographic Institution
Woods Hole, MA 02543

1 January 1990

Birth date: November 9, 1929.
Omaha, Nebraska
Nationality: U.S.A.
Social Security 507-32-0538

President: Teal, Ltd., environmental consultants associated with Aubrey Consulting Inc.

EDUCATION

B.A., Harvard University, 1951
M.A., Harvard University, 1952
Ph.D., Harvard University, 1955

ACADEMIC POSITIONS

Assistant Professor, 1955-1959, University of Georgia Marine Institute.
Assistant Professor. 1959-1961, Department of Biology and Institute of Oceanography, Dalhousie University
Research Associate, 1961-1963; Assistant Scientist, 1963-1965; Associate Scientist, 1965-1971, Senior Scientist, 1971- present; Chair, Biology Dept., 1982-1985; Seward Johnson Chair in Biology, 1986-1989; Woods Hole Oceanographic Institution.

PROFESSIONAL SOCIETIES

Sigma Xi; Phi Beta Kappa
Ecological Society of America (Certified Senior Ecologist)
American Society of Limnology and Oceanography
American Association for the Advancement of Science
Estuarine Research Federation
Society of Wetland Scientists
International Ecological Society

BOARD & COMMITTEE MEMBERSHIPS

Editorial Board: Ecology, 1960-1963, 1967-1969; Biological Bulletin 1983-1986
Marine Biological Laboratory: Instruction Committee 1968-1971; Instructor, Marine Ecology, 1976-1983; Corporation member 1983-present, Joint Library Committee 1988-present.
Conservation Commission, Town of Falmouth, 1971-1977.
Study Committee, Ecol. Soc. Amer., 1971-1974.
Conservation Law Foundation of New England: Board of Directors, 1978-present; Vice-chairman of Board, 1980-present.
Scientific Advisory Committee, Outer Continental Shelf program of U.S. Mineral Management Service, 1979-1981, 1984-1989, Chairman 1987-1989.

Scientific Advisory Subcommittee of Massachusetts DEQE Wetlands/Wildlife Technical Advi
ry Committee 1987
Lloyd Center Scientific Advisory Committee
Scholarly Studies Review Panel, Smithsonian Institution, 1988-1990

PUBLICATIONS

I am the author and/or co-author of c.125 scientific papers; 3 encyclopedia articles; 6 childr
articles on oceanography; 4 trade books: "Portrait of an Island", Atheneum and Univ. Ga. Press, "Li
and Death of a Salt Marsh", Atlantic-Little Brown and Ballentine, "Pigeons and People", Atlantic-Li
Brown, "The Sargasso Sea", Atlantic-Little Brown and narrative for the film "Salt Marshes"-Jeff Sim
Harper Row.

CONSULTING

I have served as a consultant on salt and freshwater wetlands, hydrocarbons, pollution, sewage
treatment and pollution, coastal ecology, and groundwater protection to:

Conservation commissions: Towns of Mashpee, Falmouth, Barnstable
Massachusetts Towns: Cohasset, Duxbury, Falmouth, Harwich, Kingston,
Environmental organizations: Science Applications, Inc.; Energy Resources, Inc.; The Parks Council, New York; Hackensack Meadowlands Commission, New Jers
Natural Resources Defence Council;
U.S. Govt. Agencies: President's Council on Environmental Quality; Mineral Management Service; Bureau of Land Management; National Oceanic and Atmospher
Administration; Environmental Protection Agency; National Research Counci
Smithsonian Institution;
Universities: Univ. of Texas, Louisiana State, Univ. North Carolina, Stanford;
Other companies: McAbee Real Estate; The Green Company; Boston Gas; De Matteo Construction Co.; Land Use Associates; Peters-Hartell Corp.; Malcolm Pirnie Inc.; LEA Group Inc.; Weston & Sampson Engineers Inc., Ecological Enginee
ing Associates

EXPERT TESTIMONY

I have been an expert witness in wetlands and pollution cases in state and federal courts includin

CLF vs. US-Dept.Interior (Park Service) re ORV permits on Nat. seashores;
Mass. MacGibbon vs. Duxbury, re wetlands protection;
New York vs. US-Dept.Interior re Mid-Atlantic oil leases;
Corps of Engineers vs. Swan Pond Golf Club,NY, re wetland protection;
U.S. vs. (barge company), U.S.District Court, VA, re oil pollution effects;

I have testified as an expert witness at numerous hearings before:

Mass. Dept. Environ. Qual. Engineering;
Rhode Island Coastal Resource Management Council;
Local conservation commissions, zoning boards, boards of public health, etc.

PROFESSIONAL EXPERTISE

I have scientific expertise in most aspects of coastal ecology and coastal pollution: including wetlands ecology, groundwater pollution, eutrophication, wastewater treatment with wetlands, hydrocarbon pollution, nutrient dynamics, ecology of shallow waters, birds, and coastal and dune vegetation.

I have been an invited participant and speaker at meetings on many aspects of marine science and management including:

Research for the '90's, Prince William Sound and Copper River Delta, Cordova, AK, 1990
West Falmouth Oil Spill, 20 years after, 1989;
Effects of OCS oil and gas activities on submarine canyons, 1989;
NAS panel on use of dispersants on oil spills, 1988;
Third International Wetlands Conference, Renne,France 1988;
NATO Ocean Dumping Options Conference, Portugal, 1985;
SCOPE Toronto Conference on Nuclear Winter, 1984;
CEQ Conference on Long-term Environmental Research and Development, 1984;
SCOPE meeting on wetlands, Tallin, E.S.S.R., 1983;
SCOPE Musselwatch II, Honolulu, 1983;
NOAA Ocean Dumping, Napa, 1983; Crystal Mt., 1979, Estes Park, 1978;
Conference on Coastal Productivity, Pollution and Protection, Rio Grande do Sol, Brazil, 1982;
NAC Petroleum in the Marine Environment, 1982, 1975;
International Wetlands Conference, New Dehli, India, 1980;
NATO Benthic Boundary Layer, Les Arc, France, 1975;
Global Ecology Problems: Man in the Living Environment, section on aquatic resources.;
NAS report on National Minerals Policy, section on ecological impacts;
California Coastal Zone Management Conference on Wetlands Protection;
Salt Marsh Conference, Univ. Ga, 1954;
Coastal Zone Workshop, steering committee member, "Critical Problems of the Coastal Zone" 1972;
Hackensack Meadowlands Commission meetings on wetland management;
Coastal Recreation in an Urbanizing Environment, U. Mass. Cooperative Extension;

RESEARCH INTERESTS

Wetland and coastal ecology: especially salt and brackish marsh ecosystem structure and function, fish nursery value, nutrient cycling, hydrology, productivity; groundwater influences on waterbodies, groundwater contamination with nutrients; wastewater treatment by wetlands; petroleum pollution and hydrocarbon biogeochemistry; marine birds and over-ocean migration of land birds; coastal marine ecology including dune and beach ecology; physiological ecology of fishes; aquaculture and fisheries.

The Problem of Secrecy: Science Under Wraps In the Wake of the Nation's Largest Oil Spill

Introduction

1. As scientists who have worked in the field of oceanography and have studied in particular the effects of hydrocarbon spills on marine and coastal ecosystems, we are gravely concerned about the secrecy and confidentiality that has surrounded the scientific study of the impact of the Exxon Valdez oil spill on the ecosystem of Prince William Sound.

2. Scientific analysis of the short and long-term impacts of a environmental disaster in a marine, near-shore and coastal environment such as Prince William Sound is exceedingly difficult, involving multiple ecological systems and comple interrelated ecosystem effects. As such, it necessarily requires both short and long-term multi-disciplinary study.

3. Full data sharing, and open discussion of scientific data regarding spill impacts with scientific experts from all relevant disciplines is fundamentally important and critica to assuring that scientific investigators and those analyzing the data get a full picture of the impacts and do not overlook important potential impacts or gaps in the data. Without open data sharing and discussion, subtle potential impacts may not be recognized and new investigations of key ecological perturbations may not be commenced. In addition, ongoing studies may be terminated before ecological injuries are documented due to a lack of a full understanding of the complexities of the ecological response to the catastrophic addition of oil to the ecosystem.

Need for Initial Data

4. After a massive oil spill such as this, the greatest amount of gross ecosystem impact occurs during the initial period. In this spill, significant direct damage to flora and fauna was immediately caused by the massive introduction of foreign and toxic material into the ecosystem and food web.

5. Becausa of this, all data collected which records the initial damage to flora and fauna and the movement and evolution of the hydrocarbons into the ecosystem is crucially important to both short and long-term evaluation and analysis. The data collected during the acute phase of massive injury to flora and fauna is the starting point for all other analysis.

6. Without complete and detailed information about this initia acute phase, it is difficult to predict or analyze the future impact the spill may have.

Importance of Peer Review

7. If these data are not made public immediately, the ultimate assessment of damage will be hindered and the amount of damage inadequately assessed.

8. Science works well and most effectively when it is conducte in open dialogue, among scientists within a given disciplin and among scientists of multiple disciplines. This is particularly so where questions require complicated ecosystem analysis and evaluation, such as is required by a massive spill like the Exxon Valdez oil spill.

9. The conclusions of science are deemed credible only when there is independent and open review through a peer review process. Scientific literature based upon data and research not subjected to peer review is suspect. A study or one person's analysis of data will not be widely accepted in science until the study and analysis have been exposed to criticism and the concerns raised by the critics have been addressed. The entire system of scientific research depends upon the checks and balances provided by discussion and criticism of important ongoing work.

10. Without early feedback, open discussion, and integration of results and ideas from different disciplines, individual scientists or scientists working in one or two disciplines may well miss key parts of the entire picture. Scientists studying some portion of an ecosystem have misunderstood entirely the significance of the data they were collecting until practitioners of another discipline had been brought in to consult.

11. When scientists are talking to each other about their research they can integrate the information, note the type of sampling that is being done and be able to work with comparable data. A shotgun, unintegrated approach which is detached from the findings of others studying a similar subject will ultimately lead to greater cost and less reliability. Unless complete information about all studies is shared and integrated, there may be a tendency for "mindless measurement" while the larger picture is missed. Studies may be redundant or there may be gaps. It would clearly be more cost effective to share from the outset.

Peer Review of Initial Data is Critical

12. It is important to have open and frank discussion among scientists about the data gathered from the earliest impacts of the spill. Given the fact that the initial stages of

this type of disaster involved the greatest and most rapid change, it is clearly detrimental to the scientific investigation of the spill to wait until all the data are gathered before engaging in open dialogue and multiple disciplinary review. The situation is changing quickly in space and time while these studies are ongoing. Open dialogue and communication should be concurrent with the studies, not subsequent to them.

13. Science is enriched by constant feedback and refinement. Scientists never know what they may find when they first start looking. The first protocols used may be inadequate. The methodology or the detection limits may not be appropriate. It may well be that the questions need reframing, or methodologies need to be changed, based upon the initial results.

These Critical Data Should Be Public

14. Due to the passage of time since the spill, the important initial data regarding the Alaska spill are not available now except from those who actually collected data at the critical times. Thus, the data cannot be reproduced or gathered from any source other than those who actually collected it and who have the knowledge that has come from the data. We cannot state strongly enough that these data should be available for scientific and public review.

15. In addition, it is essential to know the following: What questions were the scientists asking when they did the studies? What procedures were they using to answer those questions? How did those procedures change or how did the questions change during the time that the initial data was coming in? Was there any feedback or modification in the study done during the course of the study?

Conclusion

16. Humankind, and in particular scientists working on environmental and ecosystem problems, need to know the effects of the Exxon Valdez oil spill on the environment. The effects cannot be known adequately without making the data available to everyone with the interest and the expertise to evaluate what it means and what it portends for the future.

APPENDIX 2
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H

FILED

APR 08 1991

UNITED STATES DISTRICT COURT
DISTRICT OF ALASKA
By _____ Deputy

RICHARD B. STEWART
Assistant Attorney General
Environment & Natural Resources
Division

STUART M. GERSON
Assistant Attorney General
Civil Division
U.S. Department of Justice
Washington, D.C. 20530

RECEIVED

APR 15 1991

PRESIDENT

JOSEPH W. BOTTINI
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Anchorage, Alaska 99513
(907) 271-5071

Attorneys for Plaintiff United States of America

UNITED STATES DISTRICT COURT
DISTRICT OF ALASKA

UNITED STATES OF AMERICA, Plaintiff, v. Exxon Corporation, Exxon Shipping Company, Alyeska Pipeline Service Company, Amerada Hess Pipeline Corporation, ARCO Pipe Line Company, Exxon Pipeline Company, Mobil Alaska Pipeline Company, Phillips Alaska Pipeline Corporation, BP Alaska Pipelines, Inc., Unocal Alaska Pipeline Company, and the T/V EXXON VALDEZ), in rem, Defendants.	CIVIL ACTION NO. A91-082

NOTICE OF LODGING OF UNITED STATES' SUMMARY OF EFFECTS OF EXXON VALDEZ OIL SPILL ON NATURAL RESOURCES

PLEASE TAKE NOTICE that the United States is lodging

with the Court the attached Summary of Effects of the EXXON VALDEZ Oil Spill on Natural Resources and Archaeological Resources (the "Summary"). The United States is lodging the Summary to assist the Court in evaluating the proposed Consent Decree lodged with the Court on March 13, 1991. The Summary is based on scientific studies conducted by the Departments of Agriculture and the Interior, the National Oceanic and Atmospheric Administration, and the Environmental Protection Agency to assess the injury to natural resources resulting from the oil spill.

The Summary is being lodged in advance of a motion to enter the proposed Consent Decree in order to give the Court additional time to consider the nature of injury to natural resources resulting from the oil spill.

Dated: April 8, 1991

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Assistant United States Attorney
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(907) 271-5071

JAMES L. NICOLL, JR.
U.S. Department of Justice
Environmental Enforcement Section
NOAA GC-DOJ DARC BIN C15700
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SUMMARY OF EFFECTS OF THE EXXON VALDEZ OIL SPILL ON NATURAL RESOURCES AND ARCHAEOLOGICAL RESOURCES

March 1991

INTRODUCTION

The T/V Exxon Valdez ran aground on Bligh Reef in Prince William Sound on the night of March 23-24, 1989, spilling approximately 11 million gallons of North Slope crude oil, making this the largest oil spill in United States history. The oil spread through Prince William Sound, the Gulf of Alaska, and lower Cook Inlet. More than 1,200 miles of coastline were oiled, including portions of the Chugach National Forest, Alaska Maritime, Kodiak, and Alaska Peninsula/Becharof National Wildlife Refuges, Kenai Fjords National Park, Katmai National Park and Preserve, and Aniakchak National Monument and Preserve. Oil from the T/V Exxon Valdez impacted shorelines nearly 600 miles from Bligh Reef.

The magnitude of efforts of the state and federal governments, the public, and Exxon to contain and clean up the spill, rescue wildlife, and study the effects of the spill is unprecedented. Among those efforts are the state/federal natural resource damage assessment studies designed to measure injuries to natural resources including birds, mammals, fish and other wildlife, and marine and terrestrial habitats. These studies are intended to provide the information necessary for the Trustee agencies to manage and restore injured resources appropriately and to provide necessary documentation to enable the governments to present a claim for damages to the responsible parties. This summary briefly describes the area affected by the spill, the chronology of the spill, and the process developed to implement and manage the injury assessment studies. It focuses, however, on what has been learned over the past two years about the effects of this oil spill on natural resources.

DESCRIPTION OF THE AREA AFFECTED BY THE SPILL

Prince William Sound lies near the top of the Gulf of Alaska (see map), an 850 mile arc extending from the Aleutian Islands on the west to the islands of southeast Alaska. The gulf coast is remote, rugged, and scenic. Its maritime climate nourishes a lush, green landscape in the summer. The area is snow covered in the winter. Bears, whales, bald eagles, puffins, seals, sea lions, and sea otters are among the abundant wildlife of the area. Storms that cross the Gulf drop as much as 300 inches of rain and snow annually in the high coastal mountains. Glaciers descend from permanent ice fields capping these coastal mountain ranges, continuing to carve intricate fjords and send icebergs floating out to sea. These are the largest glaciers outside Antarctica and Greenland.

Prince William Sound is one of the largest relatively undeveloped marine ecosystems in the United States. It has one of the continent's largest tidal estuary systems. Prince William Sound has rich commercial herring and salmon fisheries. The open water of the Sound is about the size of Chesapeake Bay. Its many islands, bays, and fjords give it

more than 2,000 miles of shoreline. Prince William Sound is surrounded by land, most of which is part of Chugach National Forest.

To the southwest of Prince William Sound is the Kenai Peninsula, home of the Kenai Fjords National Park, various units of the Alaska Maritime National Wildlife Refuge, and, among others, the cities of Homer and Seward. Numerous seabird colonies are located along the coast of the Kenai Peninsula, including those most frequently visited by tourists in Alaska. Both Prince William Sound and the Kenai Peninsula are accessible by air, boat, and on a limited basis, by automobile from nearby Anchorage, Alaska's major population center. State ferries that run among the larger communities and many charter boats make it easy for people to visit the heart of the Gulf coast. In recent years, there has been a steady increase in the number of wilderness seekers, kayakers, cruise ship passengers, and other tourists visiting the area.

The Kenai Peninsula points southwest to Shelikof Strait and Kodiak Island. Shelikof Strait lies between Kodiak Island, on the south and the Alaska Peninsula on the north. Shelikof Strait is the source of a very productive commercial pollock fishery. The Kodiak National Wildlife Refuge is located on the Kodiak Archipelago and Katmai National Park and Preserve, Alaska Peninsula/Becharof National Wildlife Refuge, and Aniakchak National Monument and Preserve are located along the coast of the Alaska Peninsula. The Alaska Peninsula tapers, then scatters into the islands of the Aleutian chain.

CHRONOLOGY OF THE EXXON VALDEZ OIL SPILL

For the first three days of the spill, the weather was calm and the slick lengthened and widened amoeba-like and generally stayed in the vicinity of the grounded tanker and off the beaches. Even with these seemingly ideal circumstances for oil recovery, the amount of oil in the water completely overwhelmed efforts to contain and recover the oil. A major windstorm on March 27, 1989, pushed the oil in a southwesterly direction and oiled beaches on Little Smith, Naked, and Knight Islands. The oil continued to spread, contaminating islands, beaches, and bays in Prince William Sound. Four days into the spill, oil began to enter the Gulf of Alaska. The leading edge of the slick reached the Chiswell Islands off the coast of the Kenai Peninsula on April 2, 1989, and the major seabird nesting colonies on the Barren Islands on April 11, 1989, nineteen days into the spill. By May 18, 1989, oil had moved some 470 miles and had fouled shorelines of Prince William Sound, the Kenai Peninsula, the Kodiak Archipelago, and the Alaska Peninsula. Oil subsequently reached shorelines on the Alaska Peninsula nearly 600 miles from Bligh Reef.

During 1989, the response to contain and cleanup the spill and rescue oiled wildlife involved a massive effort. Skimmer ships were sent throughout the spill zone to vacuum oil from the water surface. Booms were positioned to keep oil from reaching important commercial salmon hatcheries in Prince William Sound. A fleet of fishing vessels, known as the "Mosquito Fleet," played an important role in protecting these hatcheries, in corralling oil to assist the skimmer ships, and in capturing oiled wildlife and

transporting these animals to rehabilitation centers. After oil contaminated shorelines, a beach cleanup program was activated. Various local committees, with community and government agency participation, provided recommendations to the U.S. Coast Guard about areas that should receive priority for cleanup. An army of workers cleaned shorelines, using techniques ranging from cleaning rocks by hand to high pressure hot water washing. Fertilizers, sometimes in a chemical base, were applied to some oiled shorelines to increase the activity of oil-metabolizing bacteria, in an experimental procedure known as bioremediation. When deteriorating weather brought an end to cleanup work in the fall of 1989, a great amount of oil remained on the shorelines. Although winter storms proved extremely effective in cleaning many beaches, spring shoreline surveys indicated that much work remained to be done in 1990. Crews operating from boats and helicopters cleaned oiled shorelines in Prince William Sound, along the Kenai and Alaska Peninsulas, and on the Kodiak Archipelago. Manual pick up of remaining oil was the principal method used during 1990, but bioremediation and relocation of oiled berms to the active surf zone were also used in some areas.[1] Another shoreline survey will be conducted during May 1991, to determine the need for additional cleanup work.

INJURY ASSESSMENT PROCESS

The Exxon Valdez oil spill occurred just prior to the most biologically active season of the year in southcentral Alaska. During the two month period after the spill, seaward migrations of salmon fry, major migrations of birds, and the primary reproductive period for most species of birds, mammals, fish, and marine invertebrate species took place. The organisms involved in these critical periods of their life cycles encountered the most concentrated, volatile, and potentially damaging forms of the spilled oil. As will be discussed in this summary, the oil affected different species differently. Whereas, for example, it directly killed large numbers of birds and sea otters that encountered oil on the water surface, it did not prohibit in and out migration and spawning of large schools of salmon and herring.

The state and federal Trustee agencies were forced to mobilize field studies rapidly with little time for planning. Through intensive efforts, studies were designed, administrative processes were accelerated, and 58 field studies were carried out. Additionally, technical services programs were organized to provide hydrocarbon analysis, histopathology, and mapping support for the field studies. Initial decisions on the types and scope of studies conducted were made by agency experts familiar with the resources and the environment. Even with the rapid deployment of studies, however, some opportunities to gather injury data were irretrievably lost during the early weeks of the spill.

A legal framework was subsequently established and studies were reviewed and modified according to their likelihood to document resource injury. Expert peer reviewers were retained and study plans used during 1989 underwent scientific review for possible

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[1]Exxon has represented that it has paid over $2.0 billion to conduct cleanup activities during 1989 and 1990.

modification in 1990. Some studies were discontinued or modified if they were unable to further document resource injury, and some new studies were initiated to fill identified information needs. Status reports prepared in January 1990, were used to guide the development of plans for the second year of studies. Thirty-nine studies and three technical services programs were continued in 1990. Scientific review was again used to plan for the upcoming 1991 field season, during which 29 studies and two technical services programs will be conducted.

This summary of the effects of the Exxon Valdez oil spill on natural resources is preliminary, as studies are still underway and available data are not fully analyzed and interpreted. However, the injuries to natural resources that have been documented to date are summarized herein. This summary also addresses studies that were discontinued. It should be noted that studies were discontinued for a variety of reasons, such as the determination that field work had been completed, that there was no practicable way to measure injury, or that no injury was documented. Even though some studies failed to identify injury and were discontinued, this does not necessarily mean that the resources were not affected by the spill. Certain injuries (if present), such as possible latent or sublethal effects on reproductive or other systems in animals, might not become fully evident for a number of years after the spill. At present there is no significant indication of long-term injury to resources other than those specifically noted below. Although studies indicate that there are continuing injuries to certain resources, natural recovery may also have begun. As petroleum hydrocarbons are broken down in the ecosystem, plant and animal communities begin to reestablish themselves. This recolonization has already been observed in some of the more lightly oiled areas. In the more heavily oiled areas, this natural recovery process is expected to take longer. As this natural recovery occurs, many of the birds and mammals that feed in these areas are expected to begin recovering.

MARINE MAMMALS

Following the spill, studies of humpback whales, Stellers sea lions, sea otters, harbor seals, and killer whales were started. The humpback whale and Stellers sea lion studies were discontinued following the 1990 field season. Humpback whale investigations were limited to photo identification of whales, estimations of reproductive success, and possible relocations of whales. It was not possible to take tissue samples for petroleum hydrocarbon analysis to document exposure. The study did not show direct oil spill mortalities or reproductive failures.

The sea lion study is being completed following the 1990 pup counts. Some tissue samples were analyzed for petroleum hydrocarbon concentrations, and although there was some indication of exposure to oil, it was difficult to determine what populations were affected because of the sea lions' active seasonal movements. Because of an ongoing pre-spill population decline and premature pupping of sea lions, it was not possible to distinguish post- from pre-spill population effects clearly.

Studies of killer whales, based on observations only (because tissue sampling was not an

option), have indicated that killer whales are missing from at least one and possibly two pods in Prince William Sound. Injuries to harbor seals and sea otters have been clearly indicated and studies of these species are continuing.

Sea Otters: The population of sea otters in Prince William Sound before the spill was estimated to have been as high as 10,000. The total sea otter population of the Gulf of Alaska was estimated to be at least 20,000. Statewide, the sea otter population is estimated at 150,000. Sea otters were particularly vulnerable to the spill. As the oil moved through Prince William Sound and the Gulf of Alaska, it covered areas used by large numbers of otters. When sea otters become contaminated by oil, their fur losses its insulating capabilities, leading to death from hypothermia. Sea otters also died as a result of ingestion of oil and perhaps inhalation of toxic aromatic compounds that evaporated from the slick shortly after the spill. The effects of oil were documented by surveys of wild populations; analysis of tissues for petroleum hydrocarbons and indicators of reduced health; by tracking sea otters outfitted with radio transmitters (including those released from rehabilitation centers); and estimating total mortality from the number of sea otters found on beaches. These studies concentrated on developing an estimate of sea otter mortality in Prince William Sound and along the Kenai Peninsula, the population most affected by the spill. During 1989, a total of 1,011 sea otter carcasses were recovered in the spill area, cataloged, and stored in evidence trailers. Of these, 876 were recovered dead from the field and 135 died in rehabilitation centers or other facilities. The total number of sea otters estimated to have been killed directly by the spill ranges from 3,500 to 5,500 animals throughout the spill area.

Initial results indicate significant differences in hematology and blood chemistry parameters between sea otters in oiled and unoiled areas. Greater variation was observed in DNA content of blood lymphocytes of sea otters from oiled areas, but sperm and testicular cells showed no indication of DNA damage resulting from oil exposure. It cannot yet be determined whether these differences affect sea otter health or survival. There are indications that sea otters continue to be exposed to petroleum hydrocarbons in oiled areas. Analysis of blood and fat samples collected from animals during 1990 found elevated concentrations of certain aromatic compounds in sea otters from heavily oiled areas and elevated concentrations of petroleum hydrocarbons continue to be documented in food items eaten by sea otters in oiled areas. Additionally, other damage assessment studies have documented a decreased abundance of mussels in oiled areas, a key prey species for sea otters.

Studies have documented continuing injury to sea otters. Normally, very few prime age sea otters (animals between 2 and 8 years old) die each year and most mortality occurs among very young and old age classes. The high number of prime age sea otter carcasses found during 1990 indicates that the pattern of sea otter mortality in heavily oiled areas continues to be abnormal. Results of boat surveys indicated continued declines in sea otter abundance within oiled habitats in Prince William Sound. Preliminary results indicate that pupping rates in oiled and unoiled areas are not significantly different. However, the first information available for the spring of 1991 shows higher yearling mortality rates in oiled areas than in unoiled areas. Studies of the survival and reproductive success of sea otters released from rehabilitation

centers indicate a high level of mortality of adult animals and significantly lower pupping rates than the pre-spill mortality and pupping rates in Prince William Sound. Of the 193 sea otters released from rehabilitation centers, 45 were fitted with radio transmitters. Sixteen of these animals are still alive, 13 are known to be dead, and 15 are missing. One radio transmitter is known to have failed.

Harbor Seals: There has been no census of harbor seals in Prince William Sound since the mid-1970s when the population was estimated at 3,000 to 5,000 animals. Since that time, the harbor seal population in Prince William Sound and the Gulf of Alaska has declined substantially. A population census of Prince William Sound is planned for the summer of 1991.

Two hundred harbor seals are estimated to have been killed by the spill. Only 19 seal carcasses were recovered following the spill, since seals sink when they die. Population changes were documented by summer and fall aerial surveys of known haulout areas. Toxicological and histopathological analyses were conducted to assess petroleum hydrocarbon accumulation and persistence and to determine toxic injuries to tissues.

Population surveys, which are reliable indicators of population trends, conducted in 1984 and 1988 indicated that harbor seal populations in Prince William Sound had declined prior to the spill, with similar declines in what were subsequently oiled and unoiled areas. From 1988 to 1990, however, the decline at oiled sites (35 percent) was significantly greater than at unoiled sites (13 percent).

Severe debilitating lesions were found in the thalamus of the brain of a heavily oiled seal collected in Herring Bay 36 days after the spill. Similar but milder lesions were found in five other seals collected three or more months after the spill. During 1989, oiled harbor seals behaved abnormally, being lethargic or unwary. Petroleum hydrocarbon concentrations in bile were 5 to 6 times higher in seals from oiled areas one year after the spill. This indicates that seals were still encountering oil in the environment, were metabolizing stored fat reserves that had elevated levels of petroleum hydrocarbons, or both.[2]

Killer Whales: Approximately 182 killer whales forming nine distinct family units or "pods" resided in Prince William Sound before the spill. This count is based on pre-spill documentation. These whales were studied intensively before the spill and their group composition and dynamics are well known. Damage assessment studies of killer whales involved extensive boat-based surveys in Prince William Sound and adjacent waters. Whales were photographed and the photographs were compared to the Alaskan

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[2]Harbor seals are taken in some Alaska villages for subsistence. The State of Alaska conducted a program, separate from the damage assessment program, to test subsistence foods potentially affected by the spill to insure that they were safe for human consumption. The State of Alaska determined that harbor seals in the affected area were safe for people to eat (Oil Spill Health Task Force, July-August 1990 Report and September-October 1990 Report. Alaska Department of Fish and Game, Division of Subsistence).

killer whale photographic database for the years 1977 to 1989 to determine changes in whale abundance, seasonal distribution, pod integrity, and mortality and natality rates.

The AB pod of 36 individual whales was sighted intact in September of 1988. When sighted on March 31, 1989, seven days after the spill, seven individuals were missing. These whales remain absent and six additional whales were missing from the AB pod in 1990. Several of the missing whales are females who left behind calves. It is unprecedented for females to abandon calves, therefore their prolonged absence implies that these adult females are dead. In addition, nine individuals from AT pod were missing in 1990. Explanations for the possible causes of death of these missing whales, including explanations apart from the effects of the spill, are being explored. Killer whale surveys will continue in 1991.

TERRESTRIAL MAMMALS

Studies were conducted on terrestrial mammals that may have been exposed to oil through foraging in intertidal habitats. These species included brown bear, mink, black bear, Sitka black-tailed deer, and river otters.

Brown bears are long-lived animals and forage seasonally in the intertidal and supratidal areas of the Alaska Peninsula and the Kodiak Archipelago. Preliminary analysis of brown bear fecal samples and some tissues show that some brown bears were exposed to petroleum hydrocarbons, but no conclusive injury has been documented. Radio-collared brown bears along the Katmai coast and at a control site on the Alaska Peninsula will continue to be monitored while the transmitters remain active.

Mink and other small mammals that are known to feed and spend part or all of their time in the intertidal zone are difficult to study. They are known to crawl off into burrows or the brush if sick or injured and carcasses are unlikely to be found. Also, information on pre-spill populations of these animals is minimal. Scientists developed a laboratory study to test reproductive effects of oil on ranch-bred mink, in which they were fed food mixed with small, non-lethal amounts of weathered oil. Although changes in reproductive rates or success were not documented, it was found that oil-contaminated food moved through the intestines of the animals at a more rapid rate than did clean food, possibly providing less nutrition to the animals.
No field studies were carried out for black bear due to the difficulty of finding, collaring, or otherwise investigating these animals in the dense underbrush in which they reside. However, a literature search confirmed that these animals do forage in the intertidal zone in the spill area.

The deer study found no evidence of injury based on intensive searches of beaches that revealed no mortality attributable to the spill. However, deer taken for purposes of testing for safety for human consumption (not part of the damage assessment process) found slightly elevated petroleum hydrocarbons in some tissues in deer (which feed on kelp in intertidal areas) but it was determined that the deer were safe to eat.

River Otters: A few river otter carcasses were found by cleanup workers. River otters forage in streams and shallow coastal habitats that were contaminated by the spill. Analysis of river otter bile indicated that petroleum hydrocarbons are being accumulated by this species. Studies of radio tagged animals in Prince William Sound showed that home ranges are larger, movements more erratic, and body weights are lower in oiled habitat. Field work is continuing in 1991 to further assess the status of this species, including analysis of blood samples to measure the health of these animals.

BIRDS

Among the most conspicuous effects of the Exxon Valdez oil spill was the injury to birds. Seabirds are particularly vulnerable to oil as they spend much of their time on the sea surface while foraging. Oiled plumage insulates poorly and loses buoyancy and birds die from hypothermia or drowning. Birds surviving initial acute exposure may then ingest oil by preening. Approximately 36,000 dead birds were recovered after the spill; at least 31,000 of these deaths were attributed to the effects of oil. In addition to the large number of murres, sea ducks, and bald eagles, carcasses of loons, cormorants, pigeon guillemots, grebes, murrelets, and other species were also recovered (see attached comprehensive list of bird carcasses logged into evidence trailers by September 25, 1989). Only a small proportion of the total number of birds estimated to have been killed were recovered, as many undoubtedly floated out to sea, sank, were scavenged, were trapped and hidden in masses of oil and were not visible, were buried under sand and gravel by wave actions, decomposed, or simply beached in an area where they were not found. Additionally, it is known that, in a number of cases, carcasses found shortly after the spill were not turned in to receiving stations. Preliminary analyses provided by computer models that account for some of these variables estimate that the total number of birds killed by the spill ranges from 260,000 to 580,000 with the best approximation that between 350,000 and 390,000 birds died. Following peer review, the model will be run again to provide a more refined estimate of total mortality.

Common and Thick-billed Murres: Murres are the third most abundant seabird in Alaska (after tufted puffins and black-legged kittiwakes). A total of approximately 1,400,000 murres reside in the Gulf of Alaska (Unimak Pass to the Canadian border in southeastern Alaska). The total population of murres in Alaska is approximately 12,000,000. The murre colonies on the Chiswell Islands are the most visited by tourists in Alaska. In 1989 and 1990 murres were the most heavily affected bird species. Murre colonies impacted by the spill lost 60 to 70 percent of breeding birds. Oil in Prince William Sound affected major wintering areas of murres and other species. As oil moved out of Prince William Sound and along the Kenai Peninsula and the Alaska Peninsula, it hit major seabird nesting areas such as the Chiswell and Barren Islands, as well as numerous smaller colonies. The oil hit these areas outside Prince William Sound at the same time that adult murres were congregating on the water near colonies in anticipation of the nesting season. Approximately 22,000 murre carcasses were recovered following the spill. Colony surveys indicate that an estimated minimum of 120,000 to 140,000 breeding adult murres in the major colonies that were surveyed were killed by the spill. Extrapolating this information to other known murre colonies hit by

the spill (but not specifically studied), the mortality of breeding adult murres is estimated to have been 172,000 to 198,000. However, area-wide, including wintering and non-breeding birds, the total mortality of murres is estimated to be about 300,000. Murres exhibit strong fidelity to traditional breeding sites and infrequently immigrate to new colonies.

Normally, murres breed in densely packed colonies on cliff faces. Each murre colony initiates egg laying almost simultaneously. This synchronized breeding behavior helps the birds repel predators such as gulls and ravens. In oiled areas, murre colonies have exhibited a much lower populations than before the spill, breeding is later than normal, and breeding synchrony has been disrupted. These structural and behavioral changes in colonies have caused complete reproductive failure during 1989 and 1990, and thus lost production of at least 215,000 chicks. Murre colonies in unoiled areas displayed none of these injuries and had normal productivity. Monitoring of reproductive success of the colonies will continue in 1991.

Bald Eagles: Of the estimated Alaskan bald eagle population of 30,000 birds (20,000 adults and 10,000 fledglings), an estimated 2,200 reside in Prince William Sound. One hundred forty-four (144) dead bald eagles were found following the spill. Although there is considerable uncertainty regarding the total mortality of bald eagles, it is estimated that several times this amount may have been killed by the initial spill. Approximately 90 percent of radio-tagged bald eagles that died during subsequent studies were not found on the beach but in the brush back from the beachfront. This suggests that most of the eagles that died in the spill would not have been found by surveys typically restricted to beach areas. To assess injuries to bald eagles, helicopter and fixed-wing surveys were flown to estimate populations and productivity. Radio transmitters were attached to bald eagles to estimate survival, distribution, and exposure to oiled areas. Bald eagles in Prince William Sound were most intensively studied. Productivity surveys in 1989 indicate a failure rate of approximately 85 percent for nests on moderately or heavily oiled beaches compared to 55 percent on unoiled or lightly oiled beaches. Bald eagles have a delayed sexual maturity and have a relatively long life span under normal circumstances. Consequently, although reproduction apparently rebounded to more normal levels in 1990, population impacts as a result of poor productivity of nestlings and the death of hundreds of adult eagles in 1989 may not be readily apparent for several years. Fewer bald eagles were sighted in 1990 than in 1989, however this change was within the expected error of the survey method. An additional survey will be conducted in 1991 to see if there is a downward population trend.

Sea Ducks: More than 2,000 sea duck carcasses were recovered after the spill, including more than 200 harlequin ducks. Studies concentrated on harlequins, goldeneyes, and scoters, species that use the intertidal and shallow subtidal habitats most heavily affected by the spill. Harlequins were most affected, consistent with the fact that they feed in the shallow water area of the intertidal zone. This is the only species of sea duck studied that both nests in the spill area and feeds in the shallow intertidal zone. All of these species feed on invertebrates such as mussels and are likely to continue to be exposed to petroleum hydrocarbons through their food. About 33 percent of the harlequins collected in the spill area had poor body condition and about 40 percent had

tissues contaminated with petroleum hydrocarbons. Preliminary surveys also indicate harlequins may have failed to reproduce in the spill zone in Prince William Sound during 1990. These injuries will be investigated further during 1991.

Other Birds: Surveys and studies indicate reduced numbers of black oystercatchers, pigeon guillemots, and marbled murrelets in oiled areas. Black oystercatchers and pigeon guillemots use inshore and intertidal areas for feeding and nesting. Reduced breeding success of black oystercatchers was documented in oiled areas, largely as a result of loss of chicks along oiled beaches. It is estimated that between 1,500 and 3,000 pigeon guillemots were killed by the spill, representing as much as 10 percent of the catalogued population in the Gulf of Alaska. This species is susceptible to continued exposure to petroleum hydrocarbons because it uses intertidal rocks and waters within 200 meters of shore. Petroleum hydrocarbons were found in eggs and tissue in 1989.

Marbled and Kittlitz's murrelets represented a high proportion of the dead birds recovered in oiled areas of Prince William Sound. The reduction in the number of murrelets observed in oiled areas during cleanup in 1989 and the return of many of these birds in 1990 suggest disturbance associated with cleanup activities affected these birds. The extent of injury to certain species, including loons, cormorants, and gulls will probably never be known because pre-spill information on numbers of these birds in the spill area are not available. Data on bird distribution and abundance data gathered during aerial and boat surveys remain to be fully analyzed and interpreted. Boat surveys will continue during 1991. Studies did not document injury to certain bird species such as Peale's peregrine falcons or songbirds.

FISH/SHELLFISH

No massive die-offs of adult fish were found following the spill, and adult salmon, for example, were evidently able to migrate to spawning areas after the spill. However, fish are most vulnerable to oil contamination during the early stages of their life cycles. Accordingly, most fish studies initially focused on this phase of fish life history. During 1991, scientists will begin to be able to assess affects on adult fish such as salmon that would have been exposed to oil as eggs or larvae. Species most often affected by the spill were those that inhabit and spawn in the intertidal zone (salmon) or in the shallow areas next to shore (herring and Dolly Varden).[3] Less than ten dead rockfish were found during the spill and their deaths were attributed to oil. Several species of coastal and offshore fish (pollock, halibut, sablefish, cod, yellowfin and flathead sole, and rockfish) show evidence over a large geographic area of continuing exposure to petroleum hydrocarbons in areas affected by the spill, but significant injury has not yet been documented. Exposure to petroleum hydrocarbons does not necessarily lead to

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[3]The State of Alaska imposed the highest possible standards for commercial fishery openings and for processing plant inspections to insure that all commercially harvested salmon were free from contamination. Salmon subject to commercial harvest in the spill area were rigorously tested to insure that the catch was safe for human consumption.

injury, since many animals have the capability to physiologically "manage" the exposure with no resulting harm. In particular, salmon and other fish can metabolize petroleum hydrocarbons so that these contaminants are unlikely to be found in edible fish tissues. Indicators of exposure among fish include bile metabolites and mixed function oxidases. Since injuries from chronic exposure to oil may not manifest themselves for a number of years, it is premature to conclude that coastal and offshore species were not injured; therefore certain studies are continuing.

Pink Salmon: The full extent of short term injury to pink salmon cannot be assessed until after the 1991 run returns to spawn in the summer. Although the overall catch of pink salmon in Prince William Sound during 1990 was an all-time record (as predicted before the spill), this was primarily due to strong runs of hatchery-produced salmon. Salmon survival associated with the Armin F. Koerning hatchery, located in the middle of a heavily oiled area of the spill zone, was half that of Ester Hatchery, located outside the area of the spill. Wild production of pink salmon did not mirror the record production of hatchery fish.

Seventy-five percent of wild pink salmon spawn in the intertidal portion of streams in Prince William Sound. Wild stock salmon did not shift spawning habitat following the spill and deposited eggs in intertidal areas of oiled streams. Preliminary analyses indicate a 70 percent greater mortality of pink salmon eggs laid in the summer of 1989 and a 50 percent greater mortality in the summer of 1990 in oiled streams as compared to control streams. Larvae from heavily oiled streams showed gross morphological abnormalities, including club fins and curved spines. The pink salmon that returned to Prince William Sound in the summer of 1990 were exposed to oil as larvae as they swam under the slick, but not as eggs which were more directly exposed to oil than the larvae. Fish returning in 1991 will be the first that were exposed to oil as eggs. Eggs and larvae of wild populations continue to be exposed to oil in intertidal gravel in oiled areas.

Sockeye Salmon: Commercial harvest of sockeye salmon was curtailed in portions of Cook Inlet, Chignik, and Kodiak in 1989 because of the spill, resulting in an unusually high number of adults migrating to spawn in certain lake spawning systems (returning adults that arrive at the spawning areas are referred to as the "escapement"). Overly large spawning escapements may result in poor returns in future years by producing more juvenile salmon than can be supported by the nursery lake's productivity. Preliminary data indicate that overescapement degraded rearing habitat in lakes and that sockeye salmon survival and growth rates are lower than usual. Further study is needed before the extent of these injuries can be determined.

Dolly Varden and Cutthroat Trout: Prince William Sound is the northern extreme of the range of cutthroat trout. Both cutthroat trout and Dolly Varden use nearshore and estuarine habitat for feeding throughout their lives (in contrast to salmon which migrate out to sea). The highest concentrations of bile petroleum hydrocarbon metabolites in all fish sampled were found in Dolly Varden. Tagging studies have demonstrated that the annual mortality of adult Dolly Varden was 32 percent greater in oiled areas than in unoiled areas. The larger cutthroat trout showed similar levels of mortality in oiled and unoiled areas. Additionally, cutthroat trout growth rates were reduced in oiled areas.

Studies are continuing to measure impacts on populations of these popular sport fish species.

Pacific Herring: Populations of Pacific herring were spawning in shallow eelgrass and algal beds at the time of the spill. The effects of oil on egg survival, hatching success, larval development, and recruitment to the spawning population were studied. Study results show a large increase in the percentage of abnormal embryos and larvae in oiled areas of Prince William Sound during the 1989 reproductive season. Larvae in oiled areas also had a greater incidence of eye tumors. These effects continued but at somewhat lower rates in 1990. Results also showed greater egg mortality in oiled areas as compared to unoiled areas. Whether the adult population has been affected by these larval injuries will not be determined until the 1989 and 1990 cohorts return to spawn in 1992 and 1993.

COASTAL HABITAT

The coastal tidal zone, commonly known as the "intertidal zone," was the most severely contaminated habitat. Intertidal habitats are highly productive and biologically rich. They are particularly vulnerable to the grounding of oil, its persistence, and effects of associated clean-up activities. An interdisciplinary team with expertise in plant and systems ecology, marine biology, and statistical analysis, was established to conduct field studies to assess the effects of oil on intertidal ecosystems.

Supratidal: Results of studies in the Kodiak/Alaska Peninsula area suggest that oil in the supratidal habitat and beach cleanup disturbance decreased the productivity of grasses and other vegetation including beach rye grass, that help stabilize beach berms. In one instance, cleanup activities completely removed the vegetation. Increased production of supratidal vegetation was found in Prince William Sound in 1989. This finding corresponds with information from other oil spills. It is not known whether this increased production was a result of decreased browsing by terrestrial mammals or a fertilizer effect of the oil.

Intertidal: Natural populations of intertidal organisms were significantly reduced along heavily oiled shorelines such as Herring Bay. Densities of intertidal algae (Fucus), barnacles, limpets, amphipods, isopods, and marine worms were decreased. Although there were increased densities of mussels in oiled areas, they were significantly smaller than mussels in the unoiled areas and the total biomass of mussels was significantly lower. Intertidal organisms continue to be exposed to hydrocarbons from the more heavily oiled sediments. Petroleum hydrocarbon accumulation in filter feeding mussels experimentally placed in oiled areas indicate that oil remains available for uptake by other organisms. Initial findings also indicate that oiled surfaces retarded settlement by juvenile barnacles when compared to unoiled sites. In addition to direct mortality, the reproductive cycle of mussels at oiled sites in the lower Cook Inlet/Kenai Peninsula and Kodiak/Alaska Peninsula regions was delayed by several months.

Intertidal fishes were less abundant in oiled areas than in unoiled areas. In addition, gill

parasitism and respiration rates were significantly higher in fish from oiled sites compared to unoiled sites.

Fucus, the dominant intertidal plant, was severely affected by the oil and subsequent cleanup activities. The percentage of intertidal areas covered by Fucus was reduced following the spill and opportunistic plant species which characteristically flourish in disturbed areas were increased. The average size of Fucus was reduced, the number of reproductive sized plants greatly decreased, and the remaining plants of reproductive size decreased in reproductive potential due to fewer fertile receptacles per plant. There was also reduced recruitment of Fucus at oiled sites.

SUBTIDAL HABITATS

Spilled oil in some areas has migrated to and contaminated the seafloor at depths of up to 100 meters as contaminated sediments moved off beaches during winter storms and cleanup activities. There is evidence that petroleum hydrocarbons have been taken up by animals feeding on the ocean bottom. Petroleum hydrocarbon metabolites have been found in the bile of yellowfin sole, rock sole, rockfish, and pollock. Concentrations of petroleum hydrocarbon metabolites in the bile of yellowfin sole have not declined from 1989 to 1990. This contrasts with Dolly Varden which feed close to shore and where petroleum hydrocarbon metabolites in bile decreased in the same period. The effects of this exposure are still being studied. Many subtidal and intertidal species, particularly fish, have the capability of metabolizing and eliminating petroleum hydrocarbons from their bodies. Clams metabolize hydrocarbons very slowly and consequently accumulated them in high concentrations.

Contaminated clams and other invertebrates are a potential continuing source of petroleum hydrocarbons for sea otters and otherspecies that forage in the shallow subtidal zone. Samples from pollock, which feed in the water column, taken as far away as 500 mile from the wreck site on Bligh Reef, showed elevated petroleum hydrocarbon metabolite concentrations in their bile. This indicates that the water column or food supply was affected at great distances from the spill. Initial 1990 study results show a significant effect on benthic organisms associated with eelgrass beds. These are known to be highly productive habitats. The composition of benthic animal communities on soft-bottom habitats as deep as 40 meters were also significantly altered in oiled areas.

ARCHAEOLOGICAL AND SUBSISTENCE RESOURCES

The spill directly impacted archaeological sites and subsistence resources. Cleanup activities and the associated significant increases in human activity throughout the spill zone resulted in additional injuries to these resources.

Archaeological Resources: Archaeological sites along the shoreline were injured by the

spill. Review of spill response data revealed injuries from oil to a minimum of 26 archaeological sites. Among these are burial sites and home sites. Twenty-one (21) of these sites are on federally-owned land, with the remaining five on State of Alaska and private lands. Of the 21 sites on federal land, 10 are on national parks, six on national wildlife refuges, four within Chugach National Forest, and one on Bureau of Land Management land. While injury to these 26 sites was documented during cleanup, a spill-wide assessment of injuries to archaeological resources has yet to be completed. In addition to oil contamination, increased knowledge of the location of archaeological sites may put them at risk from looting. Loss of rye grass cover may threaten some sites. A comprehensive survey of injuries to archaeological resources on public lands throughout the spill zone will be conducted during 1991.

A study was conducted to determine impacts caused by oil contamination on radiocarbon dating of archaeological resources and to investigate the potential for cleaning artifacts and materials to allow such dating. Preliminary results indicate significant injury to the ability to contextually date artifacts and materials by Carbon 14 analysis. It also appears that these materials cannot be successfully "cleaned" to allow accurate dating.

Subsistence Resources: Surveys undertaken by state researchers before the spill and in 1990 indicated that subsistence harvesters in the area affected by the oil spill significantly reduced their use of subsistence resources after the spill, primarily because of their concerns about possible contamination of these resources. The oil spill disrupted the subsistence lifestyle of some communities that have historically relied upon these resources. Some communities virtually or entirely ceased subsistence harvests in 1989 and have only gradually begun to resume harvests, while other communities continued some reduced level of subsistence harvest in 1989 and thereafter. The attached report (Subsistence Use of Fish and Wildlife in 15 Alutiiq Villages after the Exxon Valdez Oil Spill) details these studies. Warnings were issued by the state in 1989 for people to avoid consumption of intertidal invertebrates (such as mussels and clams, which bioaccumulate petroleum hydrocarbons) found along shorelines contaminated by oil. After the spill, an oil spill health task force was formed, including the state and federal governments, subsistence users, and Exxon. This group helped oversee studies conducted by the state and others in conjunction with FDA and NOAA in 1989 and 19[illegible] subsistence food resources such as seals, deer, salmon, ducks, clams, and bottomfish. Based upon the test results these resources, with the exception of clams and mussels in certain oiled areas such as Windy Bay, were determined to be safe for human consumption.

CONCLUSION

The federal and state Trustee agencies have now concluded two field seasons of study and are currently preparing to begin a third year of studies to assess injuries to natural resources resulting from the Exxon Valdez oil spill. The information contained in this

summary is based upon the field work and data analysis conducted to date, and is preliminary. Many studies will likely need to continue for additional years before a full understanding of injuries is developed. For example, long-lived species such as bald eagles, murres, and sea otters, may not manifest some effects until a number of years have passed. For other species, such as herring and salmon that return to spawn years after hatching, it is necessary to wait for these key life history events to occur before one can determine the extent to which or if they have been injured. At present there is no indication of long-term injury for species other than those noted in this summary. Although two field seasons of study are complete, only a portion of the data gathered has been fully analyzed and interpreted. As studies and data analysis are completed, some of the information contained in this summary may need to be modified.

For the reasons given above, injury assessment studies will continue in 1991, and thereafter until the process is complete. The need to continue to understand the long-term effects of the spill will be accomplished through monitoring projects that will measure the natural recovery of resources injured by the spill as well as the effectiveness of restoration measures implemented by the Trustee agencies. The information gathered by the injury assessment studies, the restoration monitoring studies, and other studies will be used to develop and implement a restoration program that will accelerate the recovery of injured resources.

Restoration measures will begin in 1991 and are expected to become more comprehensive as the understanding of the effects of the spill improves and as experts and the public provide input on where restoration measures should be concentrated. Wherever possible, restoration will focus on those projects that will provide ecosystem-wide benefits, thereby benefitting a variety of species. These projects may include various initiatives to protect habitat; in other cases it may be necessary to conduct restoration programs that will primarily benefit a particular resource injured by the spill.

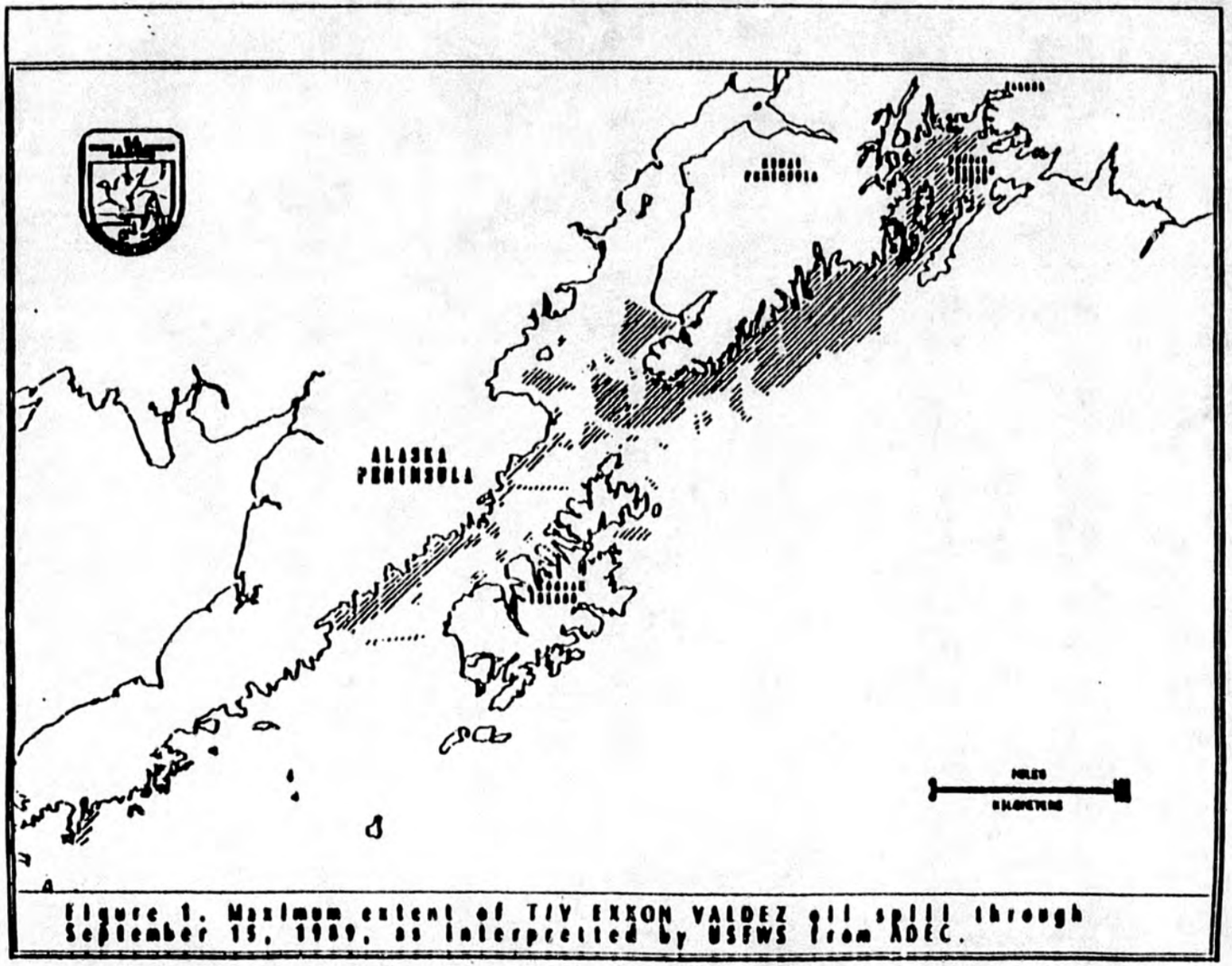


Figure 1. Maximum extent of T/V EXXON VALDEZ oil spill through September 15, 1989, as interpreted by USFWS from ADEC.

Table 1. Species composition and number of birds retrieved from oiled areas and processed at U.S. Fish and Wildlife receiving stations as of 25 September, 1989.

Species	Total	Valdez	Seward	Homer	Kodiak
Total	35,279	3,360	3,503	5,778	22,638
Unidentified bird	2,927	476	414	916	1,121
Unidentified [illegible]on	69	27	6	25	11
Common Loo[illegible]	216	142	23	32	19
Yellow-bi[illegible]	87	72	5	3	7
Pacific [illegible]	18	8	5	0	5
Red-throa[illegible]	5	3	1	1	0
Unidentifi[illegible]d	63	27	8	11	19
Red-necked Grebe	120	79	22	12	7
Horned Grebe	277	233	15	22	7
Northern Fulmar	426	0	22	12	115
Unidentified shearwater	579	5	22	14	538
Sooty Shearwater	360	4	80	34	242
Short-tailed Shearwater	2,460	1	84	3	2,371
Unidentified petrel	69	2	24	14	29
Fork-tailed Storm-petrel	363	1	50	19	293
Leach's Storm-petrel	12	0	9	0	3
Unidentified cormorant	219	76	27	56	60
Double-crested Cormorant	38	19	10	0	9
Pelagic Cormorant	418	277	65	29	47
Red-faced Cormorant	161	90	29	9	33
Great Blue Heron	1	1	0	0	0
Unidentified swan	3	0	2	1	0
Emperor Goose	2	0	0	0	2
Canada Goose	1	0	0	1	0
Brant	3	0	1	2	0
Unidentified duck	30	4	6	20	0
Unidentified seaduck	112	63	2	11	36
Mallard	11	2	4	1	4
Northern Pintail	4	0	3	1	0
Green-winged Teal	5	0	5	0	0
Unidentified Scaup	4	1	3	0	0
Greater Scaup	27	2	21	4	0
Lesser Scaup	2	0	2	0	0
Unidentified Goldeneye	25	8	2	14	1
Common Goldeneye	6	3	0	2	1
Barrow's Goldeneye	33	19	9	4	1
Bufflehead	21	17	1	0	3
Oldsquaw	185	131	43	6	5

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Table 1. Species composition and number of birds retrieved from oiled areas and processed at U.S. Fish and Wildlife receiving stations as of 25 September, 1989. (Cont'd)

Species	Total	Valdez	Seward	Homer	Kodiak
Unidentified alcid	173	24	0	15	134
Unidentified murre	8,851	21	775	2,101	5,954
Common Murre	10,428	399	523	1,353	8,153
Thick-billed Murre	669	16	142	73	438
Pigeon Guillemot	614	136	109	155	214
Unidentified murrelet	413	21	37	121	234
Marbled Murrelet	612	289	97	82	144
Kittlitz's Murrelet	67	23	19	21	4
Ancient Murrelet	311	3	40	73	195
Cassin's Auklet	48	0	36	2	10
Least Auklet	5	0	0	1	4
Parakeet Auklet	31	1	2	1	27
Rhinoceros Auklet	141	0	31	31	79
Unidentified puffin	46	0	7	4	35
Horned Puffin	139	0	32	13	94
Tufted Puffin	361	0	29	15	317
Bald Eagle	125	31	20	15	59
Unidentified raptor	7	1	3	2	1
Peregrine Falcon	2	0	0	0	2
Willow Ptarmigan	1	0	0	0	1
Unidentified owl	1	0	0	1	0
Great-horned Owl	3	0	0	3	0
Unidentified woodpecker	1	0	0	1	0
Cliff Swallow	3	0	3	0	0
Violet-green Swallow	1	0	1	0	0
Unidentified passerine	9	1	7	1	0
Stellar's Jay	1	1	0	0	0
Mac[illegible]	7	1	0	0	6
C[illegible]en	18	1	4	0	13
[illegible] Crow	34	6	3	3	22
[illegible]	2	[illegible]	2	0	0
[illegible]	1	[illegible]	0	0	1
[illegible]	1	[illegible]	[illegible]	0	0
[illegible] warbler	1	[illegible]	0	0	1
Y[illegible]ler	3	[illegible]	3	0	0
Pine [illegible]eak	1	[illegible]	0	0	1
Unidentified sparrow	15	0	10	2	3
Savannah Sparrow	1	0	1	0	0
Golden-crowned Sparrow	4	0	3	0	1
White-winged Crossbill	8	0	0	6	2

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Table 1. Species composition and number of birds retrieved from oiled areas and processed at U.S. Fish and Wildlife receiving stations as of 25 September, 1989. (Cont'd)

Species	Total	Valdez	Seward	Homer	Kodiak
Harlequin Duck	213	148	10	35	20
Unidentified Eider	3	0	0	3	0
Stellar's Eider	4	4	0	0	0
Common Eider	17	5	0	2	10
King Eider	9	0	0	0	9
Unidentified Scoter	162	23	17	51	71
White-winged Scoter	342	164	13	137	28
Surf Scoter	175	45	28	9	6
Black Scoter	132	112	4	8	8
Ruddy Duck	1	0	1	0	0
Unidentified merganser	3	1	0	0	2
Common Merganser	2	2	0	0	0
Red-breasted Merganser	33	30	1	1	1
Sandhill Crane	2	1	1	0	0
Black Oystercatcher	9	2	2	0	5
Golden Plover	1	0	0	1	0
Unidentified sandpiper	11	1	5	1	4
Unidentified turnstone	1	0	0	0	1
Common Snipe	1	0	0	1	0
Semipalmated Sandpiper	1	0	1	0	0
Lesser Yellowlegs	2	0	0	2	0
Western Sandpiper	5	0	0	5	0
Baird's Sandpiper	1	0	0	0	1
Least Sandpiper	4	0	2	0	2
Surfbird	3	3	0	0	0
Short-billed Dowitcher	1	0	0	0	1
Red Phalarope	2	0	0	2	0
Red-necked Phalarope	7	1	3	0	3
Long-tailed Jaeger	1	0	0	0	1
Unidentified gull	99	6	34	39	20
Glaucous-winged Gull	555	33	188	28	213
Herring Gull	8	3	5	0	0
Mew Gull	33	0	3	3	27
Black-legged Kittiwake	1,225	8	214	74	929
Arctic Tern	3	1	1	0	1
Aleutian Tern	1	0	0	0	1

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CERTIFICATE OF SERVICE

I certify that I caused to be served by mail the attached Notice of Lodging of United States' Summary of Effects of EXXON VALDEZ Oil Spill on Natural Resources and attached Summary of Effects of EXXON VALDEZ Oil Spill on Natural Resources and Archaeological Resources on

Douglas Serdahely
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Suite 202
Juneau, Alaska 99801

Randall J. Weddle
Faulkner, Banfield, Doogan & Holmes
550 West Seventh Ave.
Suite 1000
Anchorage, Alaska 99501

Charles P. Flynn
Burr, Pease & Kurtz
810 N. Street
Anchorage, Alaska 99501

on April 8, 1991.

James L. Nicoll, Jr.

CRS Congressional Research Service • The Library of Congress • Washington, D.C. 20540

March 19, 1991

TO : House Committee on Merchant Marine and Fisheries
Attention: Will Stell

FROM : Bernard A. Gelb
Specialist in Industry Economics
Economics Division
and
Jane G. Gravelle
Senior Specialist in Economic Policy

SUBJECT : Net Present Valu[illegible]n Valdez Settlement

This memorandum is in[illegible]our request for a calculation of the present value of the recent s[illegible]f the Exxon Valdez case to the U.S. Government and to Exxon Corporation. (Such a "value" would be negative in the case of Exxon.) The gross amount received (or paid) can differ from the net cost to the firm depending on tax liabilities, and values could differ with choice of discount rate. Because of uncertainties we have prepared several alternative scenarios.

One uncertainty is the ultimate amount to be paid. The agreement provides for a $100 million criminal penalty, which we assume will be paid May 1, 1991, and for a series of civil payments tentatively payable on September 1 of this and the following ten years. These payments are set at $90 million in 1991, $150 million in 1992, $100 million in 1993 and $70 million for the next eight years. These amounts total to $1 billion. There also is, however, the possibility of up to $100 million more being payable after the year 2001, if additional environmental damage is discovered. In this alternative, we assume the $100 million will be paid in two installments in the two years following.

Undiscounted, the payments will sum to $1 billion and $1.1 billion in the two payment scenarios. The net cost to Exxon will be smaller, however, because the civil payments can be deducted from income for purposes of both State and Federal taxes. The Federal tax rate is set at 34 percent; and we add three percentage points to account for State income taxes net of the

deductibility against Federal taxes.[1] Thus, the combined tax rate is set at 37 percent. As a result, the net cost to Exxon (net receipts to the Government) will be $655 and $716 million, respectively, without discounting.

A second major uncertainty is the discount rate. The present value of both net and gross costs depend on the discount rate used, and the proper discount rate is not entirely clear.

We consider several. The Forestry Service uses a 4 percent real return, while the Office of Management and Budget (OMB) suggests a 10 percent real return. (The regulations on evaluating natural resource damages, 43 CFR 11, direct the use of the OMB rate). The General Accounting Office (GAO) suggests using a nominal rate of return similar to a Treasury security for the same maturity. The 4 percent rate of return is closer to a riskless rate; it is also quite similar to the Government bond yield for three to ten year maturities assuming an inflation rate of around 4 percent. The 10 percent rate seems quite high, and would be associated with a relatively risky investment. Our understanding is that this rate was based on an attempt to estimate the pre-tax real return on physical capital investment. We would estimate that the average pre-tax return on private capital investment is lower than these numbers, at around 7 percent.[2]

Since the payments are in nominal dollars, these real returns should be converted to nominal returns. Assuming an inflation rate of 4 percent, the nominal rates would be 8.16 percent for the Forestry Service number (and consistent with the GAO approach), 11.28 percent to correspond to the average pre-tax return on private capital, and 14.4 percent to correspond to suggested OMB rates.

Using the three discount rates with the two payment scenarios, we obtain the following results:

(1) For the 8.16 percent rate, the present value to the Government ranges between $734 million and $773 million. The cost net of taxes to Exxon would be $499 to $524.

---

[1] This adjustment was suggested to us by Andy Yood of the American Petroleum Institute, who indicated that an add on of two to three percentage points was a typical rule of thumb to obtain a combined Federal and State income tax rate.

[2] To estimate the pre-tax return requires a measure of yields on debt and equity and an estimate of the effective tax rate. See Jane G. Gravelle, Differential Taxation of Capital Income: Another Look at the 1986 Tax Reform Act, National Tax Journal, December 1989, pp. 441-464 for a discussion of the methods used to derive this number.

(2) For the 11.28 percent rate, the present value to the Government ranges from $666 million to $694 million. Exxon's cost net of taxes would be $456 million to $474 million.

(3) For the 14.4 percent rate, the present value ranges from $611 million to $631 million. The cost net of taxes would be $421 million to $434 million.

While we would consider the discount rate in (3) as probably too high, the choice between (1) and (2) is less clear. Since the stream of payments is fixed, there is some justification for using a relatively riskless rate of return. On the other hand, the present value using the estimated pre-tax return rate represents the quantity of actual physical capital that would be necessary to generate the stream of future payments.

Please contact us (at 7-7300) if you have further questions on this matter.

Billion-dollar deal may cost Exxon only half that much

By MICHAEL J. SNIFFEN
ASSOCIATED PRESS

WASHINGTON — Exxon's agreement to pay $1 billion to settle government claims and charges for the nation's largest oil spill could actually cost the company less than half that amount, an Associated Press analysis shows.

The company's cost would be reduced if it chose to purchase an annuity that would guarantee the 10 future annual payments called for under the settlement in the Exxon Valdez case — a growing business practice. Exxon's cost would be cut further because most of the payments are tax deductible.

The AP calculations, based on an actual market quotation for an annuity, show it could cost Exxon as little as $486.3 million to meet its obligations to repair the damage caused when the supertanker ran aground and spilled 11 million gallons of crude oil in Prince William Sound in March 1989.

In Houston, Exxon spokesman Bill Smith had no comment on the calculations or the current value of the settlement.

Last week, Attorney General Dick Thornburgh proudly announced a $1 billion settlement by Exxon that included record criminal fines and civil damages.

But the settlement drew skepticism at a congressional hearing Wednesday. "In essence, a lot of taxpayers' money is going back into this to pay Exxon's share," Rep. George J. Hochbrueckner, D-N.Y., said at a House merchant marine committee session.

The Congressional Research Service, using three different estimates of how much investments might earn over the next 10 years, calculated Exxon's costs at between $421 million and $524 million in material prepared for the hearing.

At the request of The Associated Press, JMW Settlements Inc., of Washington, a national company that specializes in writing deferred payment settlements of law suits, calculated that it would charge Exxon $527.3 million for an annuity that would make $785 million in deferred payments. These payments begin next year and continue through 2001.

"I would be authorized to place that contract today," said James P. Klapps, vice president of JMW. Klapps said the figure includes a profit for his company and two large insurance company underwriters.

An annuity, most often sold by insurance companies, is used to set deferred payments. It costs less to buy than the payments it provides, because the underwriter invests the original amount and uses the interest to meet the payments and make a profit.

In fact, Exxon could essentially save the amount of that profit by financing its own annuity internally.

Klapps said his industry has seen growing use of annuities in environmental cases to protect plaintiffs against the bankruptcy of a polluting company, but these cases have involved much smaller companies than Exxon.

In addition to the $527.3 million for the annuity, Exxon this year would have to spend $50 million to pay a federal criminal fine, $50 million in restitution to Alaska, and an estimated $115 million on the first installment.

The settlement provides that next year's $150 million payment will be reduced by whatever Exxon spends this year and next. For the calculation, the AP assumed the $25 million estimated by the government source would all be spent this year. This assumption might overstate Exxon's actual outlay by about $2 million if the company spread $25 million in cleanup over the full two years.

The payments would bring Exxon's outlay to $742.3 million, but that figure could be reduced by tax deductions of up to $256 million, for a net outlay of $486.3 million. The AP calculated that by applying Exxon's federal and state deduction rate of 37 percent to all but $50 million of $742.3 million payment.

Internal Revenue Service spokesman Don Roberts said the $50 million criminal fine is not tax deductible but damages generally are. Roberts said there is a chance the $50 million restitution to Alaska may be tax deductible as well, because language in the settlement distinguishes it from any criminal, civil or administrative penalty.

Exxon chairman Lawrence G. Rawl has said the damage payments are tax deductible.

APPENDIX 4

Anchorage Daily News
4/17/91

State backs off timber buyout

By DAVID POSTMAN
Daily News reporter

JUNEAU — State officials who will decide how to spend Exxon Valdez settlement money said Tuesday they do not support buying large tracts of timber land around Prince William Sound — a plan Gov. Wally Hickel pushed for months while trying to win support for the settlement.

"That was in the beginning. Things change," said Attorney General Charlie Cole, the state's chief negotiator on the settlement and one of three state officials who, along with an equal number of federal officials, will choose the projects to be funded from the proposed $1 billion settlement.

But a spokesman for Hickel said the governor hasn't changed his mind.

"The governor is neither no more or no less committed to buying that timber," said James Rockwell, Hickel's special assistant for special projects. "He envisioned insuring that those trees wouldn't be logged, but he didn't say that was exactly what he was going to do."

Also Tuesday, Rep. Gene Kubina, D-Valdez, suggested the settlement be postponed so Exxon could try to settle some of the hundreds of private suits filed against it. But top federal officials told

Please see Page C-2, TIMBER



■ BACK IN COURT: Native villagers seek to modify a $1 billion spill-damage settlement they say undermines their claims for compensation. C-4

■ FITTING PUNISHMENT: Federal prosecutors and Exxon attorneys countered criticism of a proposed plea bargain of criminal charges. C-4

TIMBER: State backs off

Continued from Page C-1

lawmakers that any delay or change in the agreement would likely kill it.

Environmentalists and Cordova residents say the administration used the timber buyout as a ploy to ease local opposition to dropping the state suit against Exxon.

"I feel betrayed," said environmentalist and fisheries biologist Rick Steiner, one of the earliest supporters of Hickel's proposed settlement. "I was operating under the premise that these people were honorable individuals with noble intentions and that they meant what they were saying.

"I hope I wasn't being used."

Steiner liked the timber buyout idea because it would protect lands around the Sound that have been marked for commercial harvest. He and other environmentalists say large-scale timber operations could hurt the Sound.

Word that the administration was backing off the plan first came Sunday at a legislative hearing on the proposed settlement in Cordova. In response to a question from Cordova Mayor Bob Van Brocklin on what the settlement money would be spent on, Cole said he would not "go out and buy wholesale tracts of timber."

Fish and Game Commissioner Carl Rosier also said he didn't think that was a good idea. "At this point I'm not willing to commit to any course of action," he said Tuesday.

Environmental Conservation Commissioner John Sandor said Tuesday that settlement money would be better spent on restoring land directly damaged by the spill. He said he supports designating the federal land around the Sound a recreation area, which would allow timber cutting "and protect as many jobs as possible" while still offering some protection.

Rockwell said the state trustees are not disputing what Hickel said earlier. Instead, they are just trying to move slowly.

"There has been so much pounding on these guys they are weary and a little gun-shy about what they say they are going to do and what they are not going to do," Rockwell said. "What they are going to do is enhance and restore Prince William Sound.

Van Brocklin said Tuesday his constituents are unhappy with the administration's shift. But he was not surprised.

"I know from previous experience not to trust what they tell me," he said. "I prefer it in writing with a letter of credit."

Steiner, who had urged the legislature to approve the settlement, said Tuesday he now thinks it should be rejected.

"The only urgency was taking care of the victim, the environment," he said. "Now the money is going to go to agencies to balloon the bureaucracy, it is going to to studies. Studying the situation does nothing for restoration."

Also Tuesday:

- An attorney representing cities suing Exxon over the spill said the state should release confidential scientific and economic damage studies. Matt Jamin disputed Cole's argument that the state needs to keep the information secret because it could be used against the state in court.

Jamin said Cole and other state officials have a responsibility to see that the Sound is restored and should not be so concerned about the state's financial position. He accused state officials of "self-dealing to cover the backside a little bit."

- The House special committee asked Cole to formally invite Exxon executives to testify on the settlement. So far, lawmakers have heard from state and federal officials and Alaskan residents.

APPENDIX 6

NRDC 20

Natural Resources Defense Council

40 West 20th Street
New York, New York 10011
212 727-2700
Fax 212 727-1773

MEMORANDUM
via facsimile

To: Dick Stewart, Charles Cole

From: John Adams, Executive Director, Natural Resources Defense Council

Date: February 28, 1991

Re: Creation of Independent Foundation as Part of Potential Exxon Settlement

As part of any settlement, the environmental community has sought the creation of an independent not-for-profit foundation with a board of eminent and respected individuals to oversee the expenditure of funds received from Exxon. See, for example, February 8, 1991 letter to Thornburgh, et. al. from Adams, Hair and Sutherland. We have pressed this idea in the belief that such a foundation would ensure that decisions about how the Exxon money was spent would be made by individuals with the best credentials and expertise, in an atmosphere insulated from political pressures and divisive turf battles. The foundation would be established and run as an endowed permanent fund. As such, it would provide a lasting and permanent legacy for Prince William Sound and Alaska.

From our understanding of the settlement discussions with Exxon, it appears that much of the civil settlement money would be controlled by government trustees based on recommendations from an Advisory Council. Even if this is the case, we still believe that there is a place for an independent foundation into which a substantial portion of the civil settlement money could go.

1. Because the foundation would be a permanent fund, it could provide benefits extending far into the future, beyond the time when the government-administered fund is used up. Its purpose would be to assure that over the long term, the highest calibre research, restoration and acquisition work was performed to benefit Prince William Sound.

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2. The foundation would have serving on its board eminent and respected scientists, named representatives of conservation groups, community leaders, Alaskan Natives and others. Individuals of the calibre of former Alaska Governor Jay Hammond, former Interior Secretary Stewart Udall, and former EPA Administrator Russell Train would be considered for Board membership. The integrity, expertise and credentials of these individuals would be of the highest order.

3. We strongly believe that the civil settlement money should be spent for restoration or replacement of damaged resources and for acquisition of equivalent resources. Thus, the principal purposes of the foundation should be consistent with these goals. However, to the extent that these goals can be met and there is additional money available, the purpose of the foundation could include the broader goals outlined in the attached document describing the Alaska Forever Conservation Trust Fund. (This document was provided to you last fall as you may recall.) These purposes further the objectives of the Clean Water Act and Alaska statutes upon which the government claims are based and in no way violate such statutes. See Sierra Club v. Electronic Controls Design, 909 F. 2nd 1350, 1355 (9th Circuit 1990).

4. The endowment for such a foundation should be sizable so as to ensure a lasting and meaningful contribution to Prince William Sound and Alaska. We suggest that a minimum of ten percent, or $100 million, of the settlement be placed in such a foundation. This amount could be placed into the foundation at the rate of ten percent of the annual installments received from Exxon.

The model of an independent ongoing foundation, created as part of a settlement of a case against polluters, has worked very well in other contexts: the Virginia Environmental Endowment which was created when the Kepone case in the James River, Virginia was settled; and the Hudson River Foundation created as a part of the settlement of a series of power plant cases on the Hudson River. Both foundations are making important ongoing contributions to the Chesapeake Bay and the Hudson River.

Prince William Sound specifically and Alaska generally can benefit from the creation of a similar permanent entity as the result of this settlement.

Attachment

SETTLEMENT DOCUMENT
PROPOSAL FOR CREATION OF TRUST FUND
IN SETTLEMENT OF NATURAL RESOURCE DAMAGE CLAIMS
IN EXXON VALDEZ CASE

Work Product of: **NATIONAL WILDLIFE FEDERATION, NATURAL RESOURCES DEFENSE COUNCIL, WILDLIFE FEDERATION OF ALASKA and their attorneys, TRIAL LAWYERS FOR PUBLIC JUSTICE**

This document proposes a framework for the settlement of the Exxon Valdez natural resource damage case through the creation of a trust fund funded by the defendants. What follows is a proposed statement of purposes and a review of potential uses of the trust fund.

Purposes of Alaska Forever Conservation Trust Fund.

The Alaska Forever Conservation Trust will be created to protect in perpetuity the integrity and vitality of the ecosystems and species of Alaska for the benefit of current generations and those yet to be born. The trust is created for public rather than private benefit and shall protect resources that spend all or part of their life cycle in the state.

The first priority for the trust shall be to study the short and long-term impacts of the Exxon Valdez spill, and to pay for the restoration, replacement, and acquisition of natural resources equivalent to resources injured or destroyed as a result of the spill. The trust also shall promote the protection of Alaska's ecosystems and natural resources from future anthropogenic environmental insults that may destabilize or interfere with the full and rapid recovery or health of Alaskan species and ecosystems, with special emphasis placed on those affected by the Exxon Valdez spill.

The trust shall promote environmental protection in Alaska by encouraging: the adoption of measures to avert pollution or other forms of ecological destruction of Alaskan ecosystems; research on the Alaskan ecosystems; environmental education in Alaska; and citizen-based environmental protection institution building in the state. Finally, the trust will, to the extent deemed feasible by the trustees, seek to mitigate the impacts of its acquisition of timber rights on native or other communities by providing and promoting environmentally sound alternatives to such timber harvesting.

PROJECTS TO BE FUNDED

The Alaska Forever trust instrument will specifically name certain high-priority projects to be funded, and then will establish categories of authorized expenditures for the remaining funds. It will be made clear in the instrument what the funding priorities are after the named projects are

funded. Among the categories of projects the trust will consider funding are:

A. ACQUISITION OF EQUIVALENT RESOURCES

1. Timber rights acquisition;

2. Outright purchase of pupping areas, staging areas, and other habitat, with emphasis placed upon those areas threatened by potential development;

3. Conservation easements for habitat and for areas whose development or degradation may destabilize or harm the affected ecosystems;

4. Fishing rights acquisition--both near shore and drift net or other far offshore;

5. Other harvesting rights acquisition;

6. Acquisition of land or easements distant from the spill but in areas used by migratory populations of wildlife affected by the spill (e.g. threatened over-wintering or staging areas in the lower 48 for Pacific flyway migratory waterfowl).

B. RESTORATION AND REPLACEMENT

The instrument will provide that restoration and replacement are top priority projects, although there will only be a limited number of possible effective restoration projects, such as planting certain sea grasses in some affected areas, and the reintroduction of certain species (e.g. otters) into the cleaned-up environment.

C. RESEARCH AND OBSERVATION.

Research on the short and long-term impacts of the spill should also be funded. This research should be driven by ecological principles rather than by litigation strategy. Of somewhat lesser priority but still important is more basic research on the overall health and nature of the affected ecosystems, and of Alaskan ecosystems not affected by the spill.

D. EDUCATION

The trust also will fund environmental education projects in Alaska to promote long-term ecological concern and protection among and by Alaskans.

E. VISION FOR ALASKA

Alaska Forever will fund projects that would encourage the eventual transition of the state's economy from oil and extraction of non-renewable resources to more sustained and environmentally sound economic development.

F. DEVELOPMENT OF BETTER ENVIRONMENTAL INSTITUTIONS

Alaska Forever will assist in the development of strong community and local citizen environmental protection organizations, regional natural resource centers, information and educational centers, and natural resource law centers.

For example, the trust will fund citizen efforts to assure that special measures are taken and implemented to prevent another ecological disaster like the Exxon Valdez. Thus, Alaska Forever might fund citizen efforts to advocate and to assure the implementation of special protections such as expert tanker loading crews, and vessel and navigation requirements for Prince William Sound and Valdez. Other funding possibilities might include grants to citizen watchdogs to assure that the Trans-Alaska Pipeline System and North Slope Development are carefully overseen, and that the industry and the government deploy and have readily accessible the best available oil spill containment and cleanup equipment and experts, and that these experts conduct regular test drills.

A PROPOSAL FOR A PUBLIC ADVISORY COMMITTEE

Introduction

This memorandum proposes a structure and membership for an advisory committee that could be formed as part of the proposed Exxon Valdez settlement.

Members

We feel it is important to list categories of interests, not specific groups.

The categories we suggest[1]:

-- Environmental groups
  national
  Alaska
  Prince William Sound

-- Fishing groups
  commercial
  sport

-- Recreational interests
  low impact (kayaking, hiking, etc.)
  tourism

-- Natives
  [non-profit (subsistence) only]
  Chugach/PWS
  Kodiak/Kenai

-- Elected representatives of oiled communities

-- Archeological/cultural/historical
  [professional representation]

-- Scientific
  [outside scientists only, i.e., not permanent government employees; also should have no contracts, etc. with Exxon, Alyeska, and Alyeska owner companies]
  Alaska scientist(s) with PWS focus
  scientist(s) who studies Alaska environment
  scientist(s) with relevant experience

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[1] Where more than one subcategory is listed, we are suggesting that there be at least one representative for each subcategory.

Mechanics of Advisory Committee

Our goal is to devise a process which will allow the advisory committee meaningful participation in the work of the trust. As part of this, we feel it is important to make the committee as independent and as well-supported as possible.

We suggest that:

-- the committee have a small, paid staff and these staff members will not be employees of the trustees' respective agencies;

-- the committee members will have their expenses paid and will have a per diem;

-- the committee will meet bi-monthly and in consultation with their staff and with government agency professionals[2] will propose an annual workplan/spending plan for the trust; this plan will include a reasonable list of options from which the trustees would choose (trustees would have to choose options only from this list, however);

-- the staff should include a public participation expert and a scheme of adequate public participation should be guaranteed;

-- the committee would be chaired by a distinguished public citizen (for example, Jay Hammond or Russell Train) and members of the committee would be chosen by the groups/organizations/individuals that make up the specific categories of interests listed above[3]; private mediators/facilitators could be used to aid in this selection process.

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[2] This would include the following agencies' professional staffs: Alaska: F&G, DEC, DNR; US: EPA, NOAA (NMFS), USFS, USF&WS, NPS.

[3] The parties involved in the Exxon Valdez oil spill litigation who are included in these suggested catagories could be consulted as part of this selection process.

APPENDIX 8

Wall Street Journal 2/19/91

Exxon Confirms Waste Water Charges; Move May Impede a Valdez Settlement

By ALLANNA SULLIVAN
Staff Reporter of THE WALL STREET JOURNAL

Exxon Corp. acknowledged that it has shipped tanker waste water to Alaska.

While the company said the shipments and subsequent tanker-to-tanker transfers of so-called tank washings were within federal guidelines, such a disclosure could further entangle attempts to settle litigation stemming from the Exxon Valdez oil spill two years ago. Exxon, Alaska and the federal government have been engaged in talks for several weeks in efforts that could settle the state's civil case and possibly the federal government's criminal case. The allegations, which have drawn Environmental Protection Agency scrutiny, raise "the possibility of further complicating the settlement," said Jay Kerttula, chairman of Alaska's Senate Finance Committee.

The parties were on the verge of settlement late last week, but pressure from some state officials and environmentalists unhappy with the terms of the possible settlement may be slowing the process. Indeed, some Alaskan lawmakers are considering legislation that would preclude a settlement until state legislators scrutinize the agreement. Gov. Walter J. Hickel had proposed that Exxon pay $1.2 billion to settle; it appears the company has asked to provide payments over a period of years that would devalue the amount.

Allegations regarding waste water specifically focus on the transfer of so-called tank washings from the Exxon Galveston, a lightering tanker, to the supertanker Exxon Valdez on Aug. 4, 1988. The washings were then transported up to Valdez, Alaska, where they were treated in the ballast water-treatment plant owned by Alyeska Pipeline Services Co.

The charges were contained in a letter sent last week by former oil-tanker broker Charles Hamel to EPA head William Reilly and U.S. Attorney General Richard Thornburgh. In the letter, Mr. Hamel says that before any settlement is concluded, Exxon should be asked to stop such shipping practices. Mr. Hamel, who is engaged in a dispute over mutual business arrangements he has with Exxon and other oil companies, claims that Exxon insiders told him of the wrongdoing.

Beyond hearsay, however, a document turned up by Alaskan attorneys in preparation for the state's civil case against Exxon makes reference to the transfer. The handwritten document is a set of instructions from the second mate to another second mate who was boarding the vessel to relieve him. It says specifically that the Exxon Valdez will unload its crude oil to the Exxon Galveston but not until "after we take 50,000 barrels of tank washings from the Exxon Galveston."

Pressed for a response to the charges, Jim Pitts, a spokesman for Exxon, said that "yes, there was a transfer ... all wash water returned to the Exxon Valdez as ballast and returned for treatment to the ballast water treatment plant in Alaska were in compliance with permits from EPA."

Exxon declined to identify what type of cleaning agent was being used to clean the oil storage tanks of the vessels other than to say that the tanks were cleaned with hot water and a very small amount of detergent. The oil company also declined to say what materials were contained in the tank washings following the cleaning.

But the company did say that the practice of transferring tank washings to tankers en route to Alaska "wasn't uncommon" and that all such transfers involved washings of ships handling Alaskan crude oil. Indeed, individuals familiar with the transport of crude oil said that other oil companies engage in the same practice and that it's still continuing.

But EPA officials said such moves are violations of federal law.

The EPA permit that authorizes operation of Alyeska's ballast water treatment plant in Valdez allows small amounts of cleaning agents to be present in the ballast water injected into the plant by arriving supertankers. But EPA officials presumed that such tank washings would be the result of cleanings of the supertankers themselves, which en route to Alaska aren't permitted to eject the waste water.

"But deliberately stopping a supertanker and putting the washings into its ballast: there's no way the permit authorizes that kind of discharge," says Harold Geren, chief of water permits for EPA in Seattle, which has jurisdiction over the Alyeska plant.

Mr. Geren says that EPA has already started to look into what is contained in those cleaning wastes. Mr. Geren says that Alyeska has volunteered to scan the ballast water at the treatment plant for toxic pollutants. "We need to know what is in the waste water," he said, adding that tank washings can contain toxic wastes, such as heavy metals.

Experts say that any damage to the port of Valdez depends on the amount and constituency of the chemicals going into the water. The ballast water treatment plant was designed to separate oil from water and then eject the treated water back into Valdez Harbor. Individuals familiar with the design of the plant say that any unanticipated substances, such as certain heavy metals, could travel through the plant and into Valdez Harbor undetected.

Riki Ott, a sediment toxicologist who is also heading up a coalition of Alaskans seeking reform of oil industry practices, said that the Port of Valdez was recently declared environmentally "impaired." Its degeneration is from long-term abuse unrelated to the Exxon Valdez spill that never fouled the harbor's waters, she says. To be sure, Valdez is in better shape than many commercial harbors in the U.S., but "we've had the first warning sign that something has gone wrong," she says.