

INJURED RESOURCES UPDATE

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Exxon Valdez Oil Spill Trustee Council

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MEMORANDUM

TO:	Trustee Council members
FROM:	Molly McClammon ExecutiveDirector
DATE:	July 29, 2002 DRAFT
RE:	Status of Injured Resources

At your July 9, 2002 meeting you were presented a July 1, 2002 memo from Dr. Spies (Attachment A), responding to public comments on his proposed revisions to the Update on Injured Resources and Services (April 30, 2002 Draft Update). Dr. Spies' earlier recommendations suggested that seven injured resources be moved to the "recovered" category, and two resources be added to the "recovering" category. In addition, Dr. Spies recommended changing one of the recovery objectives for pink salmon to a more accurate way of assessing injury to pink salmon embryos. He also made some other minor changes to recovery objectives for other species.

In his memo, Dr. Spies emphasized that his recommendations were based on the evidence available and the inevitable degree of uncertainty related to the original injury, and now, the extent of recovery. With this information on hand, recommendations on whether to consider an injured resource "not recovering," "recovering," or "recovered" represent judgement calls with which people could disagree, even given the same information.

I have carefully reviewed Dr. Spies earlier recommendations, his July 1 memo, and all public comment received in response to his recommendations. I have also considered whether or not to change the recovery categories or definitions themselves. Based on research of other attempts to define "recovery," I don't believe it is necessary to change the Trustee Council's categories at this time. The current categories are sufficient for our present use. My recommendation is to approve Dr. Spies' April 2002 recommendations with three exceptions: keeping killer whales in the "recovering" category and changing its recovery objective back to the 1994 objective, keeping harlequin ducks in the "not recovering" category, and returning Pacific herring back to the "not recovering" category. These are all changes that Dr. Spies indicated in his July 1, 2002 memo could be justified. Therefore, I have revised the text of the update for these species, and added

clarifying language throughout the document that may help the public better understand the status of some resources (Attachment B).

You also have asked me to provide an analysis of the changes over time to the recovery objectives for the resources and services injured by the spill. The Trustee Council's *Exxon Valdez Oil Spill Restoration Plan* (November, 1994) described the recovery goal for injured resources and services as a return to conditions that would have existed had the spill not occurred.

Since it is difficult to predict conditions that would have existed in the absence of the spill, recovery objectives have been adopted that use measurable and biologically substantive parameters as proxies for these conditions in order to signal the recovery status of an injured resource or service. For some species and services, multiple objectives are used to assess recovery. In most cases, the recovery objective reflects the type of injury that occurred from the spill.

The recovery objectives for some resources have been modified over time (Attachment C) as information is gained regarding the original injury, the pathway for continuing injury, or the degree of certainty provided by particular measurements. Changes to the objectives and recovery status were anticipated by the *Restoration Plan* (p. 38), with a requirement that changes be reported in the Trustee Council's annual status report (they have been since 1994). With one exception, the changes to recovery objectives have all been made to provide a more accurate measurement for achieving a recovery objective.

The one exception is the recovery objective for killer whales. The original objective in the 1994 *Restoration Plan* was a return to prespill numbers for the AB pod (36 individuals in 1988). Because it looked like the pod was disintegrating socially and because the loss of a number of individuals could have been attributed to a cause other than and prior to the oil spill, a revised objective was adopted in 1999: a stable or increasing population. This recovery objective is consistent with recovery objectives for other populations that appeared to be in decline before the oil spill occurred. Recent population counts for the AB pod hold out more promise that the original recovery objective. For that reason, I have recommended returning to the 1994 recovery objective for killer whales. Dr. Spies does not object to this change.

I have also been asked to assess whether the changes to recovery objectives in the attached table are significant changes to the overall restoration strategies identified in the 1994 *Restoration Plan* for injured resources and services.

The *Restoration Plan* (pp. 36-38) identifies the following restoration strategies for achieving recovery objectives:

For biological resources... ...which are <u>recovering</u>: Rely on natural recovery

Monitor recovery Protect injured resources and their habitats

...which are <u>not recovering</u>: Conduct research to find out why these resources are not recovering Initiate, sustain, or accelerate recovery Monitor recovery Protect injured resources and their habitats

...for which <u>recovery is unknown</u>: Rely on natural recovery Monitor recovery Protect injured resources and their habitats

For archaeological resources...

Repair and protect injured sites and artifacts

For sediments... Remove or reduce residual oil Monitor recovery

For designated wilderness areas...

Any restoration strategy that aids recovery of injured resources or prevents further injuries

For services...

Restore the resources on which the service depends Increase the availability, reliability, or quality of the resources on which the service depends; this may take the form of improved resource management or providing replacement resources Remove or reduce residual oil

These broad strategies govern the overall restoration effort. However, each year the Trustee Council decides, through its annual work plan, which strategies to implement. (*Restoration Plan*, p.36). Through the particular selection of projects that the Trustee Council funds and as provided for in the *Restoration Plan*, certain strategies may be emphasized, certain strategies may be made more focused, or certain strategies may not be implemented at all. In addition, strategies may change over time for individual species that have moved from one recovery category to another (for example, from "not recovering"), as indicated above.

Based on the information provided in the attached table, the changes to recovery objectives for individual resources or services have not substantively affected the restoration strategies taken from the *Restoration Plan* and described above as applied to those individual resources or services. The same strategies still govern individual and

overall restoration efforts. For that reason, these changes, individually and taken together, do not constitute a significant amendment to the *Restoration Plan*.

The public has expressed concerns that in the future, the GEM Program might ignore resources still experiencing effects from the oil spill or those species that are important to the public. I want to emphasize again that this should certainly not be the case. The GEM Program Document includes the Trustee Council's commitment to following oil spill effects through recovery. Additionally, an ecosystem-based monitoring and research program will be a legacy to benefit all the resources people care about. Public involvement in the development and implementation of the GEM program is essential.

Attachment A

PPLIED

SCIENCES

MEMORANDUM

Exxon Valdez Oil Spill Trustee Council
Dr. Robert B. Spies Chief Scientist
July 1, 2002
Issues in Revision of the Injured Resources Status Report

At the Trustee Council meeting on June 14th, you received both oral testimony and written comments from a variety of Alaskans on my proposed revisions to the Update on Injured Resources and Services, April 30, 2002 draft. You requested that I address the major issues raised by public review of the proposed revisions. In addition, the Executive Director, Molly McCammon, posed some questions to you, the answers to which may help in resolving some of these issues. Since some of these are policy issues that lie within your purview, I will find your responses quite useful in helping us through this process. In the meantime, at the specific request of Trustee Pearce, I am providing responses here to the variety of issues that have been raised in the public comments.

The proposed revisions to the Council's Update on Injured Resources and Services raise again the controversies involved in making such judgments, lead us to reexamine the basis for declaring an injury, and revisit the emotions invoked by the tragic events of the 1989 oil spill. More fundamentally, the revisions highlight the standards for listing or upgrading resources and our position with regard to uncertainties, which are numerous and pervasive. In addition, you have a role in making policy; my role is to provide you independent scientific advice.

To start, it is useful to provide a context and pose some issues. The first issue is that of my role. I am to provide independent scientific advice to you as a basis for making your decisions. I do this by applying my knowledge and judgment to the information I have available. I do not act as the head of a committee, but as an individual scientist in providing you this advice, after reviewing the evidence with those most involved in monitoring these resources. Due to the complicated nature of spill injury and recovery, the kinds of evidence that are available, and what we do not know, there is considerable judgment involved in my recommendation for placing any nominated resource on the list of injured resources and in determining what category it should be in after it is listed. There will be controversy in any listing or any change in listing as there may not be total consensus on how to define recovery. Part of my role is to be open to various points of view and consider any new data or interpretations that may be forthcoming during this process. However, in the end I sift through and weigh the evidence and make a judgment and recommendation based on my knowledge and experience. I endeavor not to be swayed by public pressure and controversy, but to act on the basis of facts and independent judgment.

A second issue that deserves consideration as context and guidance in this process is our position towards uncertainty. This issue is at the heart of many resource policy decisions and continues to fascinate many of us who are engaged in some aspect of the decision-making process. Many members of the public clearly recognize the use of the precautionary principle, as is evident in the written comments (e.g., the comments from Michelle Nordhoff of the Alaska Center for the Environment). I have always endeavored to use the precautionary principle in approaching questions of resource policy. However, even informed by this guiding principle, the range of outcomes and judgments is considerable. Many of the comments from the public express a wish not to change resource status unless there is incontrovertible evidence of recovery and no remaining doubt. At the other end of the spectrum, continuing to list a species as injured in the absence of a reasonable body of evidence runs the risk of a potential loss of credibility with the scientific community and other members of the public. As the speculative nature of the injury or lack of recovery increases, there reaches a point where some judgment can be applied, even while remaining in the realm of the precautionary.

In my judgment the list in some direct sense should convey to the public the nature of the injured system. Calling only one or two species recovered when there is abundant evidence of a functioning ecosystem throughout the spill area provides a picture of undue alarm. There is identifiable oil in the system, somewhat more than we expected, but still a small fraction of what was spilled. We are investigating whether the remaining oil is a problem for clams, sea otters, and harlequin ducks. There is still rebound from the spill in some populations, and there are still species that we should not call recovered yet in order to be precautionary.

There is also the question of what is a reasonable investment of effort to periodically determine recovery status and to try to resolve the questions of continued injury. In many instances more study may not resolve basic uncertainties in injury and recovery. This is due to the lack of understanding of the extent of the original injury, the extent to which positive fluctuations in the ecosystem have enabled recovery from this injury, or the extent to which negative fluctuations have caused additional decreases. Herring is a good example of this. How much of the differential between the prespill population of herring (near record high levels in 1989 and 1990) and its current status is due to oil, and how much is due to a series of poor plankton years in the early 1990s, the effects of disease brought on by stresses in addition to oiling, or the effect of predators? No one has a clear idea of this, and there is no convincing way to demonstrate what the herring population would be in Prince William Sound had the spill not occurred. In my opinion more study will not resolve these questions in the near term; all we can do is wait for the next dominant year class to appear, which forms the basis for our recovery objective for herring. In other cases where

the questions may be answered, there is research underway, such as for clams, that will help determine resource status.

Below, I will provide commentary on several species for which there was considerable public comment. I hope that these comments will be useful in your upcoming decision.

<u>Killer whales</u>

There was considerable comment from the public on killer whales, mainly to the effect that this species should be listed as "recovering" and not "recovered". There were also comments that the recovery objective should go back to the 1994 version, which calls for a return to prespill numbers (36 individuals for the AB pod), as opposed to a stable or increasing population as a recovery objective. There were also some comments recommending that AT1 pod be added to the injured list.

With this species there is considerable uncertainty about the nature of the original injury, or even if there was an oil effect. There are valid arguments on both sides of this question. I have never found the evidence that killer whales were negatively affected by the spill very compelling. No one has ever been able to put forth a convincing argument on how whales in 1989 could be dosed with enough fresh oil to kill 6 members of the AB pod, let alone an additional 7 individuals in 1990 when there was virtually no floating oil. However, I recognize that I could be wrong, and I believe the Trustee Council was justified in taking a precautionary approach to this injury in 1994 by including killer whales on the injured resources list. The AB pod has been the only resident pod in the area to experience these kinds of losses. Accepting that there was a loss of 13 individuals from AB pod in 1989-1990 due to the oil spill, the Trustee Council adopted a criterion of recovery to prespill levels in this pod in 1994. In 1999 that recovery objective was changed to "an increasing or stable population of AB pod relative to other resident pods." I have proposed keeping this recovery objective, although dropping the reference to other resident pods since they are so different in size and structure compared to the AB pod and the data on them is much sketchier. However, there is justification for either retaining the current recovery objective or reversing the Trustee Council decision in 1999 and returning to the original objective. Since the 1990s the pod has steadily increased in numbers and has achieved a stable or increasing status. If the current recovery objective is kept, killer whales technically could be considered "recovered," although waiting for a longer-term trend would be possible. If the recovery objective was changed back to "prespill numbers," killer whales would definitely be kept in a "recovering" status.

There is no evidence that the AT1 transient group experienced negative effects from the oil spill. However, because of interest in this group and concern about its health, we have reported on its population status and trends.

Subtidal communities

One comment was received asking that subtidal communities continue to be considered "recovering" until they are proven to be "recovered" with new data.

As I mentioned in my proposed revisions, early studies (1989-1991) showed the presence of very little oil in the subtidal zone, with only small concentrations remaining through 1995. Those amounts would be even less today. Differences between fauna in oiled areas compared to fauna in unoiled areas still remaining in 1995 were recently acknowledged likely to be caused by natural factors. In my judgment, no new evidence is warranted to assess recovery. For that reason, I continue to recommend that these communities be considered "recovered" from the effects of the oil spill.

<u>Herring</u>

There were a significant number of people who argued that herring should be returned to a "not recovering" status because a strong year class of herring has not emerged as expected following the 1999 status revision.

As indicated above, there are numerous factors to consider both in the determination of the original injury and the recovery status of this species. With this species there is a stronger case for the oil spill causing a significant effect on the population. Oil did cause abnormalities in developing embryos in 1989, and a large proportion of the herring spawn was in the trajectory of the spill. When the 1989 year class recruited to the population in 1992 and 1993, overall recruitment was very weak. Poor plankton production in the intervening years and competition with the strong 1988 year class probably played a role in addition to oiling effects. However, no one knows to what extent each of the factors contributed. In addition, the average size-at-age of herring had been decreasing since the mid-1980s as the population was rising, and the population had been reduced 6- or 7-fold in 1993 and 1994 associated with, but not necessarily caused by a viral disease.

Once again accepting that there was a link to oil as a precautionary approach, the Trustee Council adopted a recovery objective that would have the emergence of a strong year class of herring as constituting recovery. The population was showing signs of recovery in the late 1990s. The herring fishery briefly reopened, having been closed after the 1993 crash. This prompted a change in classification to "recovering". However, since 1998 and up until only very recently, there have been no further signs of recovery. Given this situation, it may be justified to lapse this population into the "not recovering" category from its 1999 designation as "recovering".

One promising recent and preliminary finding is that a relatively small sample taken to assess the presence of disease had over 70% of the catch as newly recruited 3 year olds. This may be the next large year class provided the preliminary findings are upheld. The call could go either way with herring: either retaining the species in the "recovering" category or lapsing it to the "not recovering" category.

<u>Pink salmon</u>

A small number of people argued that pink salmon had not recovered, mostly based on lack of proof to the contrary. There was also concern about changing the recovery objective.

Like most other resources, this too is a complicated case. The original injury was to the growth of juveniles in the marine environment and to developing embryos in the intertidal mouths of oiled streams.

The injury to juvenile growth was likely the most significant to the population, if we can accept the modeling done by Hal Geiger from Alaska Department of Fish and Game. Since the original exposure to fresh oil in 1989, pink salmon juveniles have had about 5 subsequent life cycles. Surely other factors have intervened to control salmon populations since 1989, making it highly unlikely that oil exposure is continuing to affect juvenile growth. Can we prove that there is no lingering effect of the spill? No, but proving any negative is a logical impossibility. Can anyone prove that there is a lingering effect from juvenile injury in 1989? No, they cannot. At some point following several life cycles (that have included some quite successful years), the injury must be considered only negligible.

Considering the other aspect of injury, more apparent mortality in pink salmon embryos in the oiled streams in 1990-1993 (compared to embryos in unoiled streams), things become a little murkier. An argument has been made that the way in which the embryos were collected and counted introduced biases in the original mortality estimates and exaggerated the injury. The re-emergence of the apparent effect of differential mortality in embryos in 1997 seems to add some credence to the argument. On the other hand, a Trustee Council funded study showed that hatchery-spawned eggs showed the same effects as those displayed by eggs in their native streams, thus seeming to reinforce the reality of the injury. The only way to sustain such an injury over time would be a continuing genetic effect from the original injury or continuing exposure of the eggs in the originally oiled streams. A continuing genetic effect does not have experimental support for more than one generation. In fact, there is a well-known phenomenon of lethality for most mutations that would lead to extermination of the genetic defects in a generation.

Trustee Council sponsored research investigated mechanisms of continuing exposure of pink salmon embryos to oil. The research results found that it was possible for embryos to be exposed to oil even ten years after the spill, but even the cumulative exposure is minimal and likely to be diminishing over time. Since only one of the 6 salmon streams (chosen for analysis because they were the most likely to show residual oiling) recently measured for hydrocarbons had any bioavailable hydrocarbons, and the concentrations measured were at least 1000 times less than those known to cause sublethal effects in this species, continuing exposure of embryos to oil has been largely discounted as a significant mortality factor for pink salmon. I recommended reclassifying pink salmon as recovered in 1999, but the Trustee Council decided to be more precautionary in its views. I am making the same recommendation this year. In my judgment it severely strains credulity to maintain that there is still an injury. Any declines in wild pink salmon stocks are likely due to factors other than oiling, such as competition from hatcheries.

<u>Clams</u>

One member of the public asked that clams be reclassified as "not recovering." I do not agree with that assessment. Data from a NOAA study clearly show that clams have made progress towards recovery since injury from the spill in 1989, but have not recovered. It may be true that there have not been recent signs of additional recovery. However, it would not be true to say that some recovery has not occurred. For that reason, I continue to believe that clams are "recovering" from the effects of the oil spill.

<u>Black ovstercatchers and other intertidal organisms</u>

There was a comment from a member of the public to the effect that since the habitat of black oystercatchers was still contaminated, these and possibly some other intertidal species should not be considered to be recovering or recovered.

This is basically a "how clean is clean" question. I believe that we should base the recovery status of a species primarily on it status biologically or direct proof of oil exposure, not on the "possibility" of oil exposure. The results of a Trustee Council sponsored study of black oystercatcher reproduction were received after the last injury update. The investigators concluded that oil was not having a continuing effect on this species. Can we say that no oystercatcher is exposed to oil? No, but it is highly unlikely that the exposure would be significant enough to cause an effect. I therefore continue to recommend this species be considered "recovered" from the effects of the oil spill.

<u>Harlequin ducks</u>

Public comment indicated that harlequins should not be considered "recovering" since they may still be exposed to oil and female reproduction may still be affected by oil exposure.

There are several significant remaining uncertainties with regard to the injury in harlequin ducks. First, there appear to be subtle differences in the suitability of habitat on eastern and western portion of Prince William Sound that may be confounding any remaining effects of oil on demographics and populations. Second, the indicator of oil exposure, P4501A induction, also is an indicator of exposure to PCBs. This may also confound to some degree our ability to determine the effects of remaining oil.

The recovery objectives for this species include:

- 1. A lack of exposure to hydrocarbons. This objective appears not to have been met as there are continuing indications of low-level oil exposure.
- 2. A stable or increasing population. The survey data clearly indicate increases in all areas of the sound in winter, with oiled areas increasing at a slower rate compared to unoiled areas. In winter, when the largest numbers of birds are using Prince William Sound, the trend in the population is definitely rising. Boat surveys carried out at other times of the year in various years since 1995 show mixed results, some with no trends, some with increasing trends, and some with decreasing trends. So, this objective has been partially met.
- 3. Demographics between oiled and unoiled areas should be similar. The latest studies indicate that most demographic measures are similar except for the winter-time survival of female harlequin ducks, which is lower in oiled areas. Although lower survival of females in winter in the oiled parts of Prince William Sound is a very significant difference in demographics, this criterion has been partially met.

Research results show that there has been some movement towards "recovery" in this species. Is this progress enough to merit placing this species in the category of "recovering" rather than "not recovering"?. That is strictly a judgment call. In this sense harlequin ducks are broadly similar to herring and killer whales: there is progress towards the recovery objectives, but it is not clear that they will be fully met any time soon.

Exxon Valdez Oil Spill Restoration Plan DRAFT Update on Injured Resources and Services July 29, 2002

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RESOURCES AND SERVICES INJURED BY THE SPILL

RESOURCES IN BOLDFACE HAVE BEEN RECATEGORIZED ON THIS RECOVERY LINE DURING THE MOST RECENT UPDATE (JULY 29, 2002)

NOT RECOVERING

Species are showing little or no clear improvement from oil spill injuries.

Common loon Cormorants (3 spp.) Harbor seal Harlequin duck **Pacific herring** Pigeon guillemot

RECOVERING

Substantive progress is being made toward recovery objective. The amount of progress and time needed to achieve recovery vary depending on the resource.

Clams

Designated Wilderness Areas Intertidal communities Killer whale (AB pod) Marbled murrelets Mussels Sea otter Sediments

RECOVERED

Recovery objectives have been met

Archaeological resources Bald eagle Black oystercatcher Common murres Pink salmon River otter Subtidal communities Sockeye salmon

RECOVERY UNKNOWN

Limited data on life history or extent of injury; current research inconclusive or not complete.

Cutthroat trout Dolly Varden Kittlitz's murrelet Rockfish

HUMAN SERVICES

Human services that depend on natural resources were also injured by the oil spill. These services are each considered to be recovering until the resources on which they depend are fully recovered.

Recreation & tourism Commercial fishing Passive uses Subsistence

UPDATE ON INJURED RESOURCES AND SERVICES

Introduction

History and Purposes of the List

In November 1994, the *Exxon Valdez* Oil Spill Trustee Council adopted an official list of resources and services injured by the spill as part of its *Restoration Plan*. This list has served three main purposes in the Restoration Program:

- 1. It has highlighted injuries caused by the oil spill and cleanup efforts and helped the Trustees and the public track the status of important fish, wildlife, and other resources and services. The fish and wildlife on this list are thought to have suffered population-level or sublethal injuries, but the list does not include every species or resource that suffered some degree of injury. For example, carcasses of about 90 different species of oiled birds were recovered in 1989, but only 10 species of birds are on the list of injured species.
- 2. It has helped guide the *Restoration Plan*. This was especially important in 1994 when the plan was first adopted, but the list still serves to highlight resources that are in need of consideration.
- 3. Finally, taken as a whole, the list of injured resources has helped the Trustees and the public track recovery of the overall ecosystem and the functions and human services that it provides.

It should be noted that the analysis of these resources and their recovery status only pertains to recovery from the effects of the 1989 oil spill. Many of these resources are also experiencing the effects of other natural and human factors resulting in significant population declines. Where these species lie on the continuum of recovery from the oil spill should not be taken to reflect their overall status and health. In addition, many of the species that may be "recovered" or "recovering" from the effects of the oil spill are vital parts of the oil-impacted ecosystem that will be the focus of the Trustee Council's long-term monitoring program – GEM – the Gulf of Alaska Ecosystem Monitoring and Research Program.

The *Restoration Plan* states that the Injured Resources and Services list will be reviewed periodically and updated to reflect results from scientific studies and other information. With each review, a resource's progress toward a recovery objective is evaluated. The recovery objectives have been set to be as concrete and measurable as possible. However, they may be changed to reflect new insights about the nature of the injury and the best – or more accurate - ways to evaluate recovery status.

The Injured Resources and Services list was first updated in September 1996. At that time the bald eagle was upgraded from recovering to recovered. In March 1999, a major review of recovery objectives and status occurred and several more changes were made. River otters were then considered to be recovered, and five resources—black oystercatchers, clams, marbled murrelets, Pacific herring, and sea otters—were upgraded to recovering. One resource, the common loon, was moved from recovery unknown to not recovering. Five resources remained as recovery unknown. All four human services were classified as recovering.

In 2002, more than 13 years after the spill, recovery continues to progress and more changes have been made to the list. Six more species or resources have been moved to the recovered category: archaeological resources, black oystercatchers, common murres, subtidal communities, sockeye salmon and pink salmon. In addition, designated wilderness areas have been moved from the recovery unknown to the recovering category. Pacific herring have been

moved back from the recovering to the not recovering category. In all, 16 resources and all four human services have still not fully recovered from the effects of the oil spill.

The 1994 *Restoration Plan* provides that the Injured Resources and Services list can be updated any time new information becomes available. The next major evaluation of changes in recovery status for all injured resources and lost or reduced services likely will be in 2006, 15 years after the 1991 settlement between the governments and Exxon and initiation of the restoration program.

How to Interpret this List

The assignment of resources to various categories continues to be based on judgements made after weighing the available evidence, including:

- estimates of population sizes and trajectories in the spill area;
- comparisons of population estimates in oiled and unoiled areas of the northern Gulf of Alaska;
- whether there has been continued exposure to residual oil in the spill area; and
- whether sublethal or chronic injuries persist or show improvement.

Some of the factors involved in making judgments about recovery status include:

- 1. Uncertainties in population estimates. Because of the variability in animal distributions and the challenges of getting accurate counts, especially of highly mobile fish, birds and marine mammals, most estimates of population size have wide ranges. For example, ranges that are between 40% greater or smaller (or even more) than the true population size will result from many census techniques. This range can be narrowed, but costs escalate with the increasing effort to obtain greater accuracy.
- 2. Lack of prespill data. Many of the resources affected by the spill had limited or no recent data on their status in 1989. In addition, some of the available pertinent data was the result of limited sampling and had wide ranges in the population estimates. Having such patchy data on resources made it difficult to accurately assess initial injury. In turn, any uncertainties in injury inevitably lead to uncertainties in estimating recovery.
- 3. Interaction of spill and natural factors. It is increasingly difficult to separate what may be lingering effects of the spill from changes that are natural or caused by factors unrelated to the oil spill. In fact, what is often observed appears to be an interaction between oil effects and natural changes, such as the effects of the 1998 *El Niño* on common murres in the Barren Islands which were recovering from oil spill impacts. We now understand much more about long-term changes in climate in the northern Gulf of Alaska and how these changes affect marine species.
- 4. *Emergence of new effects.* Since the *Exxon Valdez* oil spill affected an area rich in wildlife and was so well studied, it would not be surprising that there are findings without

precedent in the scientific literature on oil effects. One example of such an unprecedented effect is the sensitivity of Pacific herring and pink salmon to low concentrations of weathered oil. We cannot discount evidence for an injury just because it had never been encountered in the aftermath of other spills.

Ecosystem Perspective and Recovery

The List of Injured Resources consists mainly of single species and resources, but, as noted above, it provides a basis for evaluating the recovery of the overall ecosystem, its functions, and the services that it provides to people. In fact, through the *Restoration Plan*, the Trustee Council adopted an ecological approach to restoration, and the studies and projects the Trustee Council sponsors have been ecological in character.

Page 35 of the *Restoration Plan* defines ecosystem recovery as follows:

Full ecological recovery will have been achieved when the population of flora and fauna are again present at former or prespill abundances, healthy and productive, and there is a full complement of age classes at the level that would have been present had the spill not occurred. A recovered ecosystem provides the same functions and services as would have been provided had the spill not occurred.

Using this definition, the coastal and marine ecosystems in the oil spill region have not fully recovered at this time from the effects of the oil spill. For example, harlequin ducks and sea otters still show signs of oil exposure and may be negatively affected by such exposure. A number of other species and communities are showing signs of recovery, but are still not fully recovered from the effects of the oil spill. Although full ecological recovery has not been achieved, the spill area ecosystem is still largely intact and functioning and on its way to recovery 13 years after the *Exxon Valdez* oil spill.

It is desirable to have injured resources obtain a state that would have occurred in the absence of the spill. However, it also is important to understand that ecosystems are dynamic and would have changed even in the absence of the oil spill. Given our present ability to predict multi-year changes in marine ecosystems—which is extremely limited—it is very difficult to know how the ecosystem would have changed in the absence of the spill. For that reason, it is also sometimes necessary to consider other measures (return to prespill status or attaining equivalent status in oiled and unoiled areas) in order to have more concrete objectives. Also, as mentioned above, baseline data describing fish and wildlife populations, to say nothing of complex intertidal and subtidal communities, were generally poor in 1989. Therefore, in revising this list judgements have been made in the face of increasing knowledge—but also, great uncertainty—of how natural changes have occurred in the northern Gulf of Alaska.

The following goals and objectives are used in assessing the status of the resources and services injured by the oil spill:

Restoration Goal: Recovery of all injured resources and services, including the ecosystem as a whole.

Recovery Goal of Injured Resources and Services: A return to conditions that would have existed had the spill not occurred.

Recovery Objective: A specific, measurable parameter that is used to signal the recovery status of an injured-resource or service. In most cases the recovery objective reflects the type of injury that occurred from the spill.

Since it is difficult to predict conditions that would have existed in the absence of the spill, recovery objectives use measurable and biologically substantive parameters as proxies for these conditions. For some species, multiple objectives are used to assess recovery.

Comparisons of these parameters between oiled and unoiled areas are sometimes used where little or no prespill data exist. Geographic comparisons of this nature should take into account differences, such as those that may exist naturally between eastern and western Prince William Sound, if these can be determined. For some resources, so little is known about the original or current injury or status, that identifying a recovery objective is not possible.

The following objectives are used:

Return to prespill levels: Used where population estimates or indices were available prior to 1989. For species that are highly variable, these numbers could reflect a range of values. These numbers do not account for the effects of other influences on injured populations, such as from climate change, although thee other effects may interact with oil spill effects.

Hydrocarbon exposure: Used where hydrocarbon exposure itself was part of the original basis for injury, where hydrocarbon exposure may limit recovery, or where hydrocarbon exposure in an injured resource may be a pathway to injury in other resources. Oil exposure may refer to background concentrations, which takes into account hydrocarbon exposure from natural oil seeps, natural coal deposits, and oil released from the Valdez petroleum plant as a result of the 1964 earthquake.

Stable or increasing population: Used where resources were in decline before the spill or there are ongoing declines that may be unrelated to the spill.

Measures of Productivity: Used in lieu of or to supplement data on population sizes. Includes such indicators as eggs produced or young successfully reared, returns-per-spawner, or growth rates. These include measures of reproductive success and demographics.

- Productivity means an increase in the biomass of a species, or the number of individuals of one species, as a function of time and geographic unit.
- Reproductive success means the reproduction of viable individuals, and may not

- be related to overall biomass. For seabirds however, productivity and reproductive success are used interchangeably by biologists and usually refer to eggs hatched or chicks per nest.
- Demographics refer to the distribution of individuals in a population or in some geographic area with respect to age and sex or other characteristics of a population.

RESOURCES

ARCHAEOLOGICAL RESOURCES

Injury

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

Documented injuries included theft of surface artifacts, masking of subtle clues used to identify and classify sites, violation of ancient burial sites, and destruction of evidence in layered sediments. In addition, residual oil may have contaminated sites.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

Archaeological resources are nonrenewable: they cannot recover in the same sense as biological resources. Archaeological resources will be considered to have recovered when spill-related injury ends, looting and vandalism are at or below prespill levels, and the artifacts and scientific data remaining in vandalized sites are preserved (e.g., through excavation, site stabilization, or other forms of documentation).

Recovery Status

Assessments of 14 sites in 1993 suggested that most of the archaeological vandalism that can be linked to the spill occurred early in 1989, before adequate constraints were put into place over the activities of oil spill cleanup personnel. Most vandalism took the form of "prospecting" for high yield sites. Once these problems were recognized, protective measures were implemented and successfully limited additional injury. Although some cases of vandalism were documented in the 1990s, there appears to be no spill-related vandalism at the present time. From 1994-1997, two sites in Prince William Sound were partly documented, excavated, and stabilized by professional archaeologists because they had been so badly damaged by oiling and erosion. The presence of oil in sediment samples taken from four sites in 1995 did not appear to have been the result of re-oiling by *Exxon Valdez* oil. Residual oil does not appear to be contaminating any known archaeological sites.

In 1993, the Trustee Council provided part of the construction costs for the Alutiiq Archaeological Repository in Kodiak. This facility now houses Kodiak area artifacts that were collected during spill response. In 1999, the Trustee Council approved funding for an archaeological repository and local display facilities for artifacts from Prince William Sound and lower Cook Inlet. These are currently in various stages of contruction.

Based on the apparent absence or extremely low rate of spill-related vandalism and the preservation of artifacts and scientific data on archaeological sites and artifacts, archaeological resources are considered to be recovered.

BALD EAGLES

Injury

The bald eagle is an abundant resident of marine and riverine shoreline throughout the oil spill area. Following the oil spill, a total of 151 eagle carcasses was recovered from the spill area. Prince William Sound provides year-round and seasonal habitat for about 6,000 bald eagles, and within the sound it is estimated that about 250 bald eagles died as a result of the spill. There were no estimates of mortality outside the sound, but there were deaths throughout the spill area. In addition to direct mortalities, productivity was reduced in oiled areas of Prince William Sound in 1989.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

Bald eagles will have recovered when their population and productivity (reproductive success) have returned to prespill levels.

Recovery Status

Productivity (or reproductive success as measured by chicks per nest) was back to normal in 1990 and 1991, and an aerial survey of adults in 1995 indicated that the population had returned to or exceeded its prespill level in the sound. In September 1996, the Trustee Council classified the bald eagle as recovered from the effects of the oil spill.

BLACK OYSTERCATCHERS

Injury

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

In addition to direct mortalities, breeding activities were disrupted by the oil and cleanup activities. When comparing 1989 with 1991, significantly fewer pairs occupied and maintained nests on oiled Green Island, while during the same two years the number of pairs and nests remained similar on unoiled Montague Island. Nest success on Green Island was significantly lower in 1989 than in 1991, but Green Island nests success in 1989 was not lower than on Montague Island. In 1989, chicks disappeared from nests at a significantly greater rate on Green Island than from nests on Montague Island. Disturbance associated with cleanup operations also reduced productivity on Green Island in 1990. In general, the overt effects of the spill and cleanup had dissipated by 1991, and in that year productivity on Green Island exceeded that on Montague Island.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

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

Recovery Status

Boat-based surveys of marine birds in Prince William Sound indicate that there are increases in numbers of oystercatchers in both the oiled and unoiled areas through 2000 (Stephenson et al., 2001). Given the fact that only 9 carcasses of this species were recovered in 1989 after the spill, it is likely that the population of the sound is probably as large or larger than previous to the spill.

In 1998 the Trustee Council sponsored a study to reassess the status of this species in Prince William Sound. The data indicated that oystercatchers have fully reoccupied and are nesting at oiled sites in the sound. The breeding phenology of nesting birds was relatively synchronous in oiled and unoiled areas, and no oil-related differences in clutch size, egg volume, or chick growth rates were detected. A high rate of nest failures on Green Island are likely attributed to predation, not lingering effects of oil. Given general agreement between these results and those of the earlier work, which indicated that the effects of the spill on black oystercatchers had largely dissipated by 1991, black oystercatchers are considered to be recovered from the effects of the oil spill. This does not mean that oystercatchers are still not exposed to some oil in the intertidal zone, but the amounts are so insignificant that it would not cause an effect on this species.

CLAMS

Injury

The magnitude of immediate impacts on clam populations varied with the species of clam, degree of oiling, and location. Some littleneck clams and some butter clams were probably killed and may have suffered slower growth rates as a result of the oil spill and cleanup activities.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

Clams will have recovered when population and productivity measures (such as size and distribution) at oiled sites are comparable to populations and productivity measures at unoiled sites, taking into account geographic differences.

Recovery Status

Studies by the NOAA Hazardous Materials Division and others have been conducted on intertidal and subtidal communities in relation to oiling and shoreline treatments. In general, these studies indicated that intertidal fauna dwelling in soft sediments, including various clam species, had recovered to some extent within one to three years after 1989 on oiled-but-untreated shorelines. As of 1997, full recovery had not been achieved, especially on shorelines that were oiled and treated by hot-water washes. One study found that densities of littleneck and butter clams were depressed through 1997 on oiled, treated mixed-sedimentary shores where fine sediments had been washed downslope during pressured water treatments.

Comparing oiled study sites on Knight Island with unoiled sites on Montague Island, researchers in the Nearshore Vertebrate Predator Project found a full range of size classes of clams at the oiled sites, as well as more large clams. However, oiled sites also had fewer juvenile clams and lower numbers of several species. **Based on all of the evidence** summarized above, clams continue to be recovering, but are not yet fully recovered from the effects of the oil spill. The Trustee Council is sponsoring a study of clam

populations in FY02 to determine if the populations of clams on treated beaches have improved since 1997.

COMMON LOONS

Injury

Carcasses of 395 loons of four species were recovered following the spill, including at least 216 common loons. Current population sizes in the spill area are not known for any of these species. Common loons in the spill area may number only a few thousand, including only hundreds in Prince William Sound. Common loons injured by the spill probably included a mixture of wintering and migrating birds. The specific breeding areas used by the loons affected by the spill are not known.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

Common loons will have recovered when their population returns to prespill levels in the oil spill area. An increasing population trend in Prince William Sound will indicate that recovery is underway.

Recovery Status

Boat-based surveys of marine birds in Prince William Sound give at least some insight into the recovery status of the loons affected by the oil spill. Prespill counts of loons exist only for 1972-1973 and 1984-1985. After the spill, contrasts between oiled and unoiled areas of the sound indicate that loons as a group are generally doing better in unoiled areas than in oiled areas. Thus, the survey data suggest that the oil spill had a negative effect on numbers of loons (all species combined) in the oiled parts of the sound. It is not known what the populations of loons may have been had the spill not occurred.

Based on the surveys carried out through 2000, there are indications of recovery, but only in 2000. In 2000 the highest counts ever recorded for common loons occurred in March surveys of Prince William Sound; however, these counts likely included some early migrants as well as wintering birds. In addition, July counts in 2000 were the third highest of the 11 years since 1972 with data. These increases were limited to the unoiled portion of the sound. Since loons are a highly mobile species with widely variable population numbers and the prespill data were limited, one year of high counts in the unoiled areas is insufficient to indicate that recovery has started. Thus the common loon is considered still not to have recovered from the effects of the spill.

COMMON MURRES

Injury

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

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

Common murres will have recovered when populations at index colonies have returned to prespill levels and when reproductive success (productivity is sustained within normal bounds. Increasing population trends at index colonies will be an indication that recovery is underway.

Recovery Status

Postspill monitoring at the breeding colonies in the Barren Islands indicated that reproductive success was within normal bounds by 1993, and it has stayed within these bounds each breeding season since then. During the period 1993-1997, the murres nested progressively earlier by 2-5 days each year, suggesting that the age and experience of nesting birds were increasing, as might be expected after a mass mortality event. By 1997, numbers of murres at the Barren Islands had increased, probably because 3-and 4-year old nonbreeding subadult birds that were hatched there in 1993 and 1994 were returning to their natal nesting colony. Although there were low counts in 1996, the counts in 1997 through 1999 at this index site bring the colony sizes to prespill levels. That, coupled with normal reproductive success (productivity), indicate that recovery has been achieved for common murres.

CORMORANTS

Injury

Cormorants are large fish-eating birds that spend much of their time on the water or perched on rocks near the water. Three species typically are found within the oil spill area. Carcasses of 838 cormorants were recovered following the oil spill, including 418 pelagic, 161 redfaced, 38 double-crested, and 221 unidentified cormorants. Many more cormorants probably died as a result of the spill, but their carcasses were not found. No regional population estimates are available for any of the cormorant species found in the oil spill area. In 1996, the U.S. Fish and Wildlife Service Alaska Seabird Colony Catalog, however, listed counts of 7,161 pelagic cormorants, 8,967 red-faced cormorants, and 1,558 double-crested cormorants in the oil spill area. These are direct counts at colonies, not overall population estimates, but they suggest that population sizes are small. In this context, it appears that injury to all three cormorant species was significant.

Counts on the outer Kenai Peninsula coast suggested that the direct mortality of cormorants due to oil resulted in fewer birds in this area in 1989 compared to 1986. In addition, there were statistically-significant declines in the estimated numbers of cormorants (all three species combined) in the oiled portion of Prince William Sound based on pre- and postspill boat surveys in July 1984-85 compared to 1989-91. It is not known what the counts and trends of comorants would have been in the absence of the oil spill.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

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

Recovery Status

More recent surveys (through 2000) have not shown a significant increasing population trend since the oil spill, and for that reason **these species are considered to be not recovering**.

CUTTHROAT TROUT

Injury

Prince William Sound is at the northwestern limit of the range of cutthroat trout. Local cutthroat trout populations are believed to be small, and the fish have small home ranges and

are geographically isolated. Cutthroat trout, therefore, are highly vulnerable to exploitation, habitat alteration, or pollution. Following the oil spill, cutthroat trout in a small number of oiled index streams in Prince William Sound grew more slowly than in unoiled streams.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

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

Recovery Status

The apparent difference in growth rates between trout in oiled versus unoiled streams persisted through 1991. It was hypothesized that the slower rate of growth in oiled streams was the result of reduced food supplies or exposure to oil, and there was concern that reduced growth rates would result in reduced survival. However, preliminary data from a Trustee Council sponsored study of resident and anadromous forms of cutthroat trout in Prince William Sound suggest that there is significant genetic variation among trout from different locations across the sound. These data are consistent with the idea that cutthroat populations are small and isolated and effects other than oil, such as gentic variations in growth rates. The report on this work has experienced significant delays, but is near completion. Pending the completion and review of this additional work, the recovery status of the cutthroat trout remains unknown.

DESIGNATED WILDERNESS AREAS

Injury

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

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

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

Recovery Status

Among the affected areas were designated wilderness in the Katmai National Park, wilderness study areas in the Chugach National Forest and Kenai Fjords National Park, and Kachemak Bay Wilderness State Park. Six moderately to heavily oiled sites on the Kenai and Katmai coasts were last surveyed in 1994, at which time some oil mousse persisted in a remarkably unweathered state on boulder-armored beaches at five sites. These sites were visited again in 1999. The data from these sites indicate that there is still oil along park shorelines on the Katmai coast. Surveys carried out in 2001 to determine the surface and subsurface distribution of oil in Prince William Sound found significant quantities of oil on shorelines within designated wilderness study areas. The amount of oil on shorelines in designated wilderness study areas in Prince William Sound has probably decreased since the early 1990s, and natural processes will lead to further reductions. Therefore, designated wilderness areas are recovering but have not recovered from the oil spill.

DOLLY VARDEN

Injury

Dolly Varden are widely distributed in the spill area. In spring, anadromous forms of Dolly Varden migrate to the sea from the lakes and rivers where they spend the winter. Summers are spent feeding in nearshore marine waters. Thus, some Dolly Varden in Prince William Sound and perhaps at other locations were exposed to *Exxon Valdez* oil in 1989 and possibly beyond. In fact, concentrations of hydrocarbons in the bile of Dolly Varden were some of the highest of any fish sampled in 1989. Like the cutthroat trout, there is evidence from 1989-90 that Dolly Varden in a small number of oiled index streams in Prince William Sound grew more slowly than in unoiled streams. It was hypothesized that the slower rate of growth in oiled streams was the result of reduced food supplies or exposure to oil, and there was concern that reduced growth rates would result in reduced survival.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

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

Recovery Status

The growth differences between Dolly Varden in oiled and unoiled streams did not persist into the 1990-91 winter. No growth data have been gathered since 1991. In addition, by 1990 the concentrations of hydrocarbons in bile had dropped substantially.

In a 1991 restoration study sponsored by the Trustee Council, some tagged Dolly Varden moved considerable distances among streams within Prince William Sound, suggesting that mixing of overwintering stocks takes place during the summer in saltwater. This hypothesis is supported by preliminary data from another Trustee Council sponsored study, which indicates that Dolly Varden from different locations across the sound are genetically similar. The final report on this genetics study has been delayed, but should be completed soon. If this preliminary conclusion is born out, it would suggest that the Dolly Varden population in the sound should have little difficulty in recovering from any initial growth-related effects. **Pending completion and review of the genetics work, however, it is prudent to continue classifying the Dolly Varden as recovery unknown.**

HARBOR SEALS

Injury

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

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

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

Recovery Status

In a declining population deaths exceed births, and harbor seals in both oiled and unoiled parts of Prince William Sound have continued to decline since the spill. It is not known what harbor seal populations would have been had the spill not occurred. Environmental changes in the late 1970s may have reduced the amount or quality of prey resources, including such forage fishes as Pacific herring and capelin, available to harbor seals in the northern Gulf of Alaska ecosystem. These changes may have been responsible for or contributed to the initial prespill harbor seal decline, and the ecosystem may now support fewer seals than it did prior to the late 1970s. Recent studies, however, indicate that the seals in the sound, especially pups and yearlings, are in very good condition and do not show evidence of nutritional stress. Ongoing sources of mortality include killer whale predation, possible shark predation, subsistence hunting, and commercial fishery interactions (e.g., drowning in nets). The relative roles of oil and various natural factors are not known.

Satellite tagging studies sponsored by the Trustee Council and genetic studies carried out by the National Marine Fisheries Service indicate that harbor seals in the sound are largely resident throughout the year and have limited movement and interbreeding with other subpopulations in the northern Gulf of Alaska. This suggests that recovery must come largely through recruitment and survival within resident populations.

For the period 1989-1997, the average estimated annual rate of decline of harbor seals in Prince William Sound was about 4.6 percent. The population showed some signs of stabilizing in the 1990s, but surveys in 2000 and 2001 indicate that the decline is continuing. Therefore, harbor seals continue to be considered not recovering from the effects of the oil spill.

HARLEQUIN DUCKS

Injury

Harlequin ducks feed in intertidal and shallow subtidal habitats where most of the spilled oil was initially stranded. More than 200 harlequin ducks were found dead in 1989, mostly in Prince William Sound. Many more than that number probably died in the sound and perhaps thousands throughout the spill area. Because the spill occurred in early spring before wintering harlequins migrated from the sound to inland breeding sites, the initial effects of the spill likely affected harlequin duck productivity beyond the immediate spill zone. The geographic extent and magnitude of these extended impacts are not known.

Prespill data on harlequin populations and reproductive success are limited and difficult to interpret, but after the spill there was concern about poor reproductive success in the western (oiled) versus eastern (unoiled) parts of Prince William Sound. This concern was based on observations of 7-15 broods in the eastern sound and few-to-no reports of broods in the western sound when comparable numbers of streams were surveyed.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

Harlequin ducks will have recovered when breeding- and nonbreeding-season demographics return to prespill levels and when biochemical indicators of hydrocarbon exposure in harlequins in oiled areas of Prince William Sound are similar to those in harlequins in unoiled areas.

Recovery Status

The current overwintering population of harlequin ducks in Prince William Sound is on the order of 18,000 ducks, while the summer population is about half that number. Surveys designed specifically to count harlequin ducks have been carried out in the fall, winter and spring in various years since the spill. Fall boat surveys to monitor molting-wintering harlequin ducks indicate a significant declining trend in the oiled western sound from 1995-1997, but no trend in the unoiled eastern sound. The spring harlequin duck surveys have only two years of data (1999 and 2000)—too little on which to draw conclusions, but increases in all areas of the sound in 2000 are promising. Spring surveys were also conducted in 2001 and 2002, but the results are not yet published. Other boat surveys designed to monitor an entire suite of marine birds in the sound have shown mixed results: an increasing trend in March surveys in unoiled areas; no trend in oiled areas between 1997 and 2000; and an increasing trend in both oiled and unoiled areas in July of these same years.

Postspill research shows mixed results with respect to age- and sex-structure of harlequin populations in the eastern and western parts of the sound. ADF&G fall surveys from 1995-1997 indicate similar age ratios between the two areas, suggesting that recruitment is similar. In addition, some harlequins remain in the sound to nest in the spring and summer, mostly on the eastern side, but it is now suspected that most harlequins of breeding age and condition probably leave the sound altogether to nest in inland drainages. Thus, conclusions of reproductive failure based on lack of broods in the oiled area do not now seem warranted.

Winter surveys from 1995-1998 found that adult female survival was lower in oiled versus unoiled areas, and a similar survival scenario is suggested from data collected in 2000 to 2002. Oil remained in the subsurface of the intertidal zone through 2001, including under some mussel beds where harlequin ducks could be feeding. Biopsies from harlequin and Barrow's goldeneye ducks continue to show differences in an enzyme indicative of exposure to hydrocarbons between birds from oiled versus unoiled parts of the sound. These differences are consistent with the possibility of continued exposure to spill-derived hydrocarbons in the western sound. The biological effect of this possible exposure has not been established, but the declining trend of female survivability in the oiled areas may be continuing. Although this result cannot be attributed unequivocally to oil exposure, there is reason for concern about possible oil exposure and reduced survival for harlequin ducks in the western sound.

Trustee Council sponsored studies give insight into prospects for recovery of harlequin ducks. Although some harlequin ducks make major seasonal movements, they exhibit high site fidelity to summer breeding sites and to molting and wintering sites during non-breeding seasons. Strong site fidelity may limit population recovery by immigration, but a genetic analysis of harlequin ducks indicates that the spill area population is homogeneous (i.e., very similar throughout). Taken together, these data are consistent with a low rate of dispersal, perhaps at the subadult stage, or a rapid expansion of the population in recent geological time. To the extent that there is subadult dispersal from adjacent expanding populations, such dispersal would enhance recovery. It is likely, however, that recovery will largely depend on recruitment and survival from within injured populations. This recovery may be compromised if exposure to lingering hydrocarbons reduces fitness and survival of harlequin ducks.

Although some of the indicators show signs of recovery, the majority of the indicators do not indicate recovery. Taken together, the population census trends, survival measures and indicators of exposure suggest that the harlequin duck has not recovered from the effects of the oil spill.

INTERTIDAL COMMUNITIES

Injury

Portions of 1,400 miles of coastline were oiled by the spill in Prince William Sound, on the Kenai and Alaska peninsulas, and in the Kodiak Archipelago. Both the oil and intensive cleanup activities had significant impacts on the flora and fauna of the intertidal zone. Intertidal communities are intrinsically important and are resources for subsistence users, sea and river otters, and a variety of birds, including black oystercatchers, harlequin ducks, and pigeon guillemots.

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

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

Intertidal communities will have recovered when such important species as *Fucus* have been reestablished at sheltered rocky sites, the differences in community composition and organism abundance on oiled and unoiled shorelines are no longer apparent after taking into account geographic differences, and the intertidal and nearshore habitats provide adequate, uncontaminated food supplies for top predators.

Recovery Status

In the lower and middle intertidal zones on oiled rocky shores, algal coverage and invertebrate abundances had returned by 1991 to coverages and abundances similar to those observed in unoiled areas. However, large fluctuations in the algal coverage have taken place in the oiled areas since the spill. This pattern is consistent with continued instability due to the original spill impact and the subsequent cleanup. However, instability of *Fucus* populations during the last 12 years probably results from a combination of spill- and naturally-induced changes, with a greater influence of natural events in the later years.

On the sheltered, bedrock shores that are common in Prince William Sound, full recovery of *Fucus* is crucial for the recovery of intertidal communities at these sites, since many invertebrate organisms depend on the cover provided by this seaweed. As of 1997, *Fucus* had not yet fully recovered in the upper intertidal zone on shores subjected to direct sunlight, but in many locations, recovery of intertidal communities had been substantial. In other habitat types, such as estuaries and cobble beaches, many species did not show signs of recovery when they were last surveyed in 1991. In studies of the effects of cleanup activities on beaches, invertebrate molluscs and annelid worms on oiled and washed beaches were still much less abundant than on comparable unoiled beaches through 1997.

More recent data should soon be available, including results of a study in the summer of 2002 to determine if intertidal clam populations on oiled shorelines are comparable to those on unoiled shorelines. Based on substantial progress, but the lack of full recovery of some soft-sediment intertidal invertebrates, as well as the continued presence of residual oil and the role of oil in initiating *Fucus* population instability, the intertidal communites are considered to be recovering, but not fully recovered from the effects of the oil spill.

KILLER WHALES

Injury

More than 115 killer whales in eight "resident" pods regularly use Prince William Sound/Kenai Fjords as part of their ranges. Other whales in "transient" groups are observed in the sound less frequently. There has been particular concern about the resident AB pod,

which numbered 36 animals prior to the spill. Fourteen whales disappeared from this pod in 1989 and 1990, and no young were recruited into the population. The original link between the AB pod losses and the oil spill was largely circumstantial, although the pod was observed surfacing in an *Exxon Valdez* oil slick following the spill in 1989. The rate of disappearance and likely mortality of killer whales in this well-studied pod far exceeded rates observed for other pods in British Columbia and Puget Sound over the last 30 years, and in the northern Gulf of Alaska over the last 18 years. Another possible cause for the disappearance of the whales in the AB pod was the shooting of killer whales due to conflicts with long-line fisheries prior to the oil spill. Although the original shootings may not have immediately resulted in death for some animals, it is possible the injuries weakened them over time and contributed to premature mortality. In this way it is possible that the effects from the conflicts in the 1980s were still apparent in the 1990s.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

The original recovery objective for killer whales was a return to prespill numbers for the AB pod. The objective was changed in 1999, but upon further reflection and public comment, the recovery objective is once again a return to prespill numbers for the AB pod - 36 individuals.

Recovery Status

By 1993 the AB pod had increased to 26 individuals as births outpaced deaths. In 1995 mortalities, including animals orphaned in 1989-90, reduced the pod to 22 whales. Since 1995 the pod again has increased steadily in size to 26 individuals in 2001. Thus, social disintegration has not happened and an apparently stable structure has been achieved. Overall numbers within the other major resident killer whale pods in Prince William Sound are at or exceed prespill levels. Since AB pod has not regained its prespill size of 36 individuals, killer whales are considered to be recovering, but not fully recovered from the effects of the oil spill.

In addition to the AB pod, there is concern that a decline in resightings of individuals within the AT1 group of transient killer whales has accelerated following the oil spill. Although there is no evidence linking the oil spill to the AT1 group, this update also reports on its status. Recent genetic analyses show that resident and transient killer whales in Prince William Sound are genetically distinct. Since 1990 and 1991, 11 individuals have been missing from the AT1 group and are now almost certainly dead. During that same period there has been no recruitment of calves into this pod of transients. Transient killer whales largely prey on marine mammals, and there has been a 60 percent decline in the harbor seal population in the sound over the last two decades. Changes in the availability of such an important prey species could influence killer whale distribution and reproduction. Trustee Council sponsored research on contaminants in killer whales in Prince William Sound indicates that some transient whales, including the AT1 group, are carrying high concentrations of PCBs, DDT, and DDT metabolites in their blubber. The presence of such contaminants is not related to the oil spill. The high concentrations of contaminants found in the transient whales are comparable to those found to cause reproductive problems in other marine mammals.

KITTLITZ'S MURRELETS

Injury

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

Seventy-two Kittlitz's murrelets were positively identified among the bird carcasses recovered after the oil spill. Nearly 450 more *Brachyramphus* murrelets were not identified to the species level, and it is reasonable to assume that some of these were Kittlitz's. In addition, many more murrelets probably were killed by the oil than were actually recovered. It is likely that about 500 individuals died as an acute effect of the oil spill, which would represent a substantial fraction of the world population.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

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

Recovery Status

Because so little is known about this species, the Trustee Council funded an exploratory study on the ecology and distribution of the Kittlitiz's murrelet in Prince William Sound starting in 1996. This project found that this species has an affinity for tidewater glaciers in the northern and northwestern parts of the sound. It also appears that reproductive output in 1996 and 1997 was extremely low or absent, and some Kittlitz's murrelets were apparently paired with marbled murrelets. There appear to be about 1,200-1,400 Kittlitz's murrelets during summer in the four bays studied in northern and northwestern sound. Another, more extensive marine bird boat survey conducted in 2001 suggests a sound-wide summer

population of about 2,500 murrelets. These estimates are consistent with what is believed to be a small Alaska and world population.

The population data, indications of low reproductive success, and affinity to tidewater glaciers (of which the lower elevation glaciers are receding rapidly) are reasons for concern about the long-term conservation of Kittlitz's murrelets. Specifically, with reference to the effects of the oil spiil, however, the original extent of the injury and its recovery status are still unknown and may never be resolved. Therefore, this species is in the recovery unknown category.

MARBLED MURRELETS

Injury

The northern Gulf of Alaska, including Prince William Sound, is a key area of concentration in the distribution of marbled murrelets. The marbled murrelet is federally listed as a threatened species in Washington, Oregon, and California; it also is listed as threatened in British Columbia. The marbled murrelet population in Prince William Sound had declined before the oil spill. The causes of the prespill decline are not known for certain, but environmental changes in the late 1970s probably reduced the availability or quality of prey resources. There is, nonetheless, clear evidence that oil caused injury to marbled murrelets in the sound. Carcasses of nearly 1,100 *Brachyramphus* murrelets were found after the spill, and about 90 percent of the murrelets that could be identified to the species level were marbled murrelets. Since they are a small bird and not easily seen, many more murrelets probably were killed by the oil than were found, perhaps as much as 7 percent of the spill area population, based on the 1989-1990 population counts.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

Marbled murrelets will have recovered when their populations are stable or increasing. Sustained or increasing productivity within normal bounds (based on adults and juveniles on the water) will be an indication that recovery is underway.

Recovery Status

The recovery of the marbled murrelet population in Prince William Sound is assessed primarily through standard marine bird boat-based surveys. As a result of boat surveys carried out in July for seven years from 1989-2000, densities of marbled murrelets decreased in both the oiled and unoiled areas of Prince William Sound. However, for the March surveys carried out in most years between 1990 and 2000, there have been no significant trends in the
population size, although the counts have increased in both oiled and unoiled areas. The reason for the summer time declines in both oiled and unoiled areas is probably due to some factor other than the oil spill. The Trustee Council's Alaska Predator Ecosystem Experiment (APEX) project has investigated the relationship between marbled murrelet declines and the availability and abundance of forage fish, such as Pacific herring, sand lance, and capelin. It appears that there is a direct correlation between the availability of forage fish and production of young murrelets, based on the presence of juvenile murrelets on the water in Prince William Sound.

The summer time marbled murrelet population is not stable nor increasing, but the March population is stable over time. Marbled murrelet productivity, as measured by surveys of adults and juveniles on the water in Prince William Sound, appears to be within normal bounds. Based on these results, it appears that the marbled murrelet is at least recovering from the effects of the oil spill, but clearly has not yet recovered.

MUSSELS

Injury

Mussels are an important prey species in the nearshore ecosystem throughout the spill area and are locally important for subsistence. Beds of mussels provide physical stability and habitat for other organisms in the intertidal zone and were purposely left alone during *Exxon Valdez* cleanup operations. In 1991, high concentrations of relatively unweathered oil were found in the mussels and in underlying byssal mats and sediments in certain dense mussel beds. The biological significance of oiled mussel beds is not known precisely, but they are potential pathways of oil contamination for bird and mammal populations (e.g., harlequin ducks and sea otters) which include mussels and other prey in and around mussel beds in their diets.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

Mussels will have recovered when concentrations of oil in the mussels reach background concentrations and mussels do not contaminate their predators.

Recovery Status

The Trustee Council's Nearshore Vertebrate Predator project has found evidence of hydrocarbon exposure in sea otters, river otters, harlequin ducks, and Barrow's goldeneyes in oiled parts of Prince William Sound in 1996 and 1997. Again in 2000 both sea otters and

harlequin ducks showed evidence of oil exposure, but the pathway of such exposure has not been established. Both of these species include mussels in their diets.

About 30 mussel beds in Prince William Sound still contained *Exxon Valdez* oil residue when last sampled in 1995. Twelve of these beds had been cleaned on an experimental basis in 1993 and 1994. In 1995, oil hydrocarbon concentrations in mussels at half the treated beds were lower than would have been expected if the beds had not been cleaned. In 1996, however, limited sampling indicated that several of the cleaned beds had been recontaminated from surrounding or underlying oil residue.

Mussel beds along the outer Kenai Peninsula coast, the Alaska Peninsula, and Kodiak Archipelago were surveyed for the presence of oil in 1992, 1993, and 1995. In 1995, hydrocarbon concentrations in mussels and sediments at these Gulf of Alaska sites were generally lower than for sites in Prince William Sound, but at some sites substantial concentrations persisted. While several sites in Prince William Sound still contained high concentrations of oil in 1995, over half the sites surveyed demonstrated significant natural declines that suggest background concentrations should be reached in the next few years. Oil contamination in mussels, however, will likely persist for many years at certain sites that are well protected from wave action or where oil penetrated deeply into underlying sediments.

The latest available data, taken in 1999, indicates that oil is still being accumulated in mussels, but more data will be available soon on samples taken in the summer of 2001. Since the latest available data indicates that *Exxon Valdez* oil remains in mussels, they are considered to be recovering from the oil spill, but not yet recovered.

PACIFIC HERRING

Injury

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

Herring populations are dominated by occasional, very strong year classes that are recruited into the overall population. The 1988 prespill year-class of Pacific herring was very strong in Prince William Sound, and, as a result, the estimated peak biomass of spawning adults in 1992 was very high. Despite the large spawning biomass in 1992, the population exhibited a density-dependent reduction in size of individuals, and in 1993 there was an unprecedented crash of the adult herring population. A viral disease and fungus may have been the immediate agents of mortality or a consequence of other stresses, such as a reduced food

supply and increased competition for food. There have been no "very strong" year classes recruited into the Prince William Sound herring population since 1988.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

Pacific herring will have recovered when the next highly successful year class is recruited into the population and when other indicators of population health (such as biomass, size-at-age, and disease expression) are within normal bounds in Prince William Sound.

Recovery Status

Laboratory investigations since the 1993 population crash have shown that exposure to very low concentrations of *Exxon Valdez* oil can compromise the immune systems of adult herring and lead to expression of the viral disease. The extent to which the exposure to oil contributed to the 1993 disease outbreak is uncertain. Using closed pounds in the commercial sac roe fishery may also have increased expression of the disease. There is also evidence that plankton production in the 1990s was less than in the 1980s, and so food limitation at the time of a peaking population may have contributed to the 1993 population crash. In addition, the average size-at-age of herring had been decreasing since the mid-1980s as the population was rising.

The Trustee Council's Sound Ecosystem Assessment has resulted in new understanding of the importance of body condition in determining overwintering survival of herring and in the influences of the Gulf of Alaska on herring productivity within Prince William Sound. Ongoing research on herring disease in relation to commercial fishing practices, such as the enclosed "pound" fisheries, have direct implications for management of the herring fishery.

Numbers of spawning herring in Prince William Sound remained depressed through the 1995 season. In 1997 and 1998 the spawning biomass was about double that of 1994, the season following the crash, and there were limited commercial harvests for herring in the sound. The increased biomasses in 1997 and 1998 were signs that recovery had begun. For that reason, in 1999, Pacific herring were considered to be recovering from the effects of the oil spill. Unfortunately, in the last several years the recovery has stalled and the population has yet to recruit a highly successful year-class, which is fundamental to recovery of this species. There is evidence from limited collections in the spring of 2002 that a large proportion (over 70%) of the Pacific herring population in Prince William Sound is now composed of young, 3-year old fish. If this preliminary trend holds up, it is possible that the next large year class has moved into the population, which would once again signal that recovery is underway. **However, until that happens, the Pacific herring can only be considered to be not recovering from the effects of the oil spill.**

PIGEON GUILLEMOTS

Injury

Although pigeon guillemots are widely distributed in the north Pacific region, they do not occur anywhere in large concentrations. Because guillemots feed in shallow, nearshore waters, guillemots and the fish and invertebrates on which they prey are vulnerable to oil pollution. Like the marbled murrelet, there is evidence that the pigeon guillemot population in Prince William Sound declined before the oil spill. The causes of the prespill decline are not known for certain, but environmental changes in the late 1970s probably reduced the availability or quality of prey resources. There is, nonetheless, clear evidence that oil caused injury to the guillemot population in the sound. An estimated 10-15 percent of the spill area population died immediately following the spill. Boat-based surveys of marine birds before (1984-85) and after the oil spill indicated that the guillemot population swould be had the oil spill not occurred.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

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

Recovery Status

Boat surveys have indicated that numbers of guillemots in the summer time continue to decline along both oiled and unoiled shorelines in the Prince William Sound through 2000. March surveys reveal no significant trends in abundance although the data appear to suggest a decline at this time of year as well. For these reasons the pigeon guillemot is still considered to be not recovering from the effects of the oil spill.

The Trustee Council's Alaska Predator Ecosystem Experiment (APEX) has investigated the possible link between pigeon guillemot declines and the availability of high-quality forage fish, such as Pacific herring and sand lance. This work has revealed a strong connection between the availability of certain prey fishes, especially sand lance, and guillemot chick growth rates, fledging weights, and nesting population size. The APEX project and the Nearshore Vertebrate Predator (NVP) project, also sponsored by the Trustee Council, addressed the possibility that exposure to oil is limiting the guillemot's recovery. The biochemical data indicated that adult guillemots were experiencing greater hydrocarbon

exposures in western Prince William Sound than in the eastern portion of the sound as recently as 1999. However, guillemot chicks, which are restricted to the nest and are fed only fish, are not being exposed to hydrocarbons.

PINK SALMON

Injury

Certain features of the life history of pink salmon made this species highly vulnerable to damage from the oil spill. As much as 75 percent of wild pink salmon in Prince William Sound spawn in the intertidal portions of streams, where eggs deposited in the gravel and developing embryos were chronically exposed to hydrocarbon contamination in the water column or leaching from oil deposits on adjacent beaches. When juvenile pink salmon migrate to saltwater, they spend several weeks foraging for food in nearshore habitats. Thus, juvenile salmon entering seawater from both wild and hatchery sources could have been exposed to oil as they swam through oiled waters and fed along oiled beaches. Trustee Council sponsored studies have documented two primary types of injury due to the exposure of these early life stages: 1) growth rates in both wild and hatchery-reared juvenile pink salmon from oiled parts of the sound were reduced; and 2) there was increased embryo mortality in oiled versus unoiled streams.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

Pink salmon will have recovered when population indicators, such as juvenile growth and survival, are within normal bounds and when ongoing oil exposure, which may cause injury to pink salmon embryos (eggs), is negligible.

In addition to the population indicators, the Trustee Council's recovery objective in 1999 required a sequence of two years each of odd- and even-year runs without differences in embryo mortality. Differences were detected in 1990-1993, none in 1994, 1995 and 1996, but in 1997 there was again a difference. The cause of this difference could not categorically be attributed to oil exposure. A Trustee Council sponsored study showed that hatchery-spawned embryos showed the same effects as those displayed by embryos in their native streams. However, the only way to sustain such an injury over time would be a continuing genetic effect from the original injury or continuing exposure of the embryos in the originally oiled streams. Laboratory experiments have shown a continuing genetic effect for only one generation of pink salmon (two years). There is also a well-known phenomenon of lethality for most mutations that would lead to extermination of the genetic defects in a generation. That leaves continued exposure to oil as the remaining pathway for any continuing embryo mortality. For that reason, a more precise way to assess continued embryo mortality is based

on hydrocarbon exposure of pink salmon embryos. Given the expense of the embryo mortality field studies (\$1.7 million over four years) and the inability to attribute a direct cause to any potential differences, this data is no longer gathered by the Alaska Department of Fish and Game. Accordingly, this objective was modified.

Recovery Status

In the years preceding the spill, returns of wild pink salmon in Prince William Sound varied from a maximum of 23.5 million fish in 1984 to a minimum of 2.1 million in 1988. Throughout Alaska there is increasing recognition of the importance of changes in marine ecosystems on the growth and survival of salmon. The Sound Ecosystem Assessment (SEA) project explored oceanographic and ecological factors that influence production of pink salmon and Pacific herring in Prince William Sound. These factors include such things as the timing of spring plankton blooms and changes in circulation patterns that link the sound to the Gulf of Alaska, and are likely to have the greatest influence on year-to-year returns in both wild and hatchery stocks of pink salmon.

Since the spill, returns of wild pinks have varied from a high of about 12.7 million fish in 1990 to a low of about 1.9 million in 1992. In 2001 the return of wild stock fish was estimated to be 6.7 million fish. The decade preceding the oil spill was a time of very high productivity for pink salmon in the sound, and, given the tremendous natural variation in adult returns, it is impractical to measure directly the extent to which wild salmon returns since 1989 were influenced by the oil spill. Based on intensive studies and mathematical models carried out following the spill, wild adult pink salmon returns to the sound's Southwest District in 1991 and 1992 were most likely reduced by a total of 11 percent. However, such an approach is unlikely to produce reliable multi-generational injury estimates. In addition, an analysis of escapement data from 1968-2001 showed no apparent time trends in annual escapements in either the oiled or unoiled parts of the sound. Therefore, there appear to be no observable effect at the population level at this time. Population levels appear to be within normal bounds. In addition, reduced juvenile growth rates in Prince William Sound occurred only in the 1989 season. Since then, juvenile growth rates have been within normal bounds.

Higher embryo mortality persisted in oiled compared to unoiled streams through 1993. No statistically significant differences in mbryo mortalities in oiled and unoiled streams were detected in 1994 through 1996, but in 1997 there was again a difference. It is not clear whether the 1997 difference was due to the effects of lingering weathered oil, perhaps newly exposed by storm-related disturbance of adjacent beaches, or due to other natural factors such as differences in the physical environment. Although patches of weathered oil still persist in or near intertidal spawning habitats in a few of the streams used by pink salmon in southwestern Prince William Sound, the amounts are considered negligible based on 1999 and 2001 studies. In 1999 dissolved oil measurements were made in six pink salmon streams in the oil spill area, chosen because they were the most likely to show residual oiling. Methods were used that were extremely sensitive. Only one of the six streams had clearly measurable concentrations of oil, and that was about a thousand times lower than the

concentration established through Trustee Council sponsored studies to be toxic to developing pink salmon embryos. In 2001 a Trustee Council study assessed those intertidal areas in western Prince William Sound considered to be most heavily oiled in 1993. There were no pink salmon streams located near any of those sites determined to have the most extensive subsurface oil deposits. Based on these results, the biological impact of exposure of pink salmon embryos to lingering oil is negligible and unlikely to limit pink salmon populations. It is highly unlikely that oil is now accumulating in pink salmon embryos and having any significant effects. On this basis and given the fact that pink salmon population levels and indicators such as juvenile growth and survival are within normal bounds, pink salmon are considered recovered from the effects of the oil spill.

RIVER OTTERS

Injury

River otters have a low population density in Prince William Sound. Twelve river otter carcasses were found following the spill, but the actual total mortality is not known. Studies conducted during 1989-91 identified several differences between river otters in oiled and unoiled areas in Prince William Sound, including biochemical alterations, reduced diversity in prey species, reduced body size (length-weight), and increased home-range size. Because there were few prespill data, it is not certain that these differences are the result of the oil spill.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

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

Recovery Status

Although some of the differences (e.g., values of blood characteristics) between river otters in oiled and unoiled areas in Prince William Sound persisted through 1996, there were few differences documented in 1997 and 1998. Thus, there are no indications of possible lingering injury from the oil spill, and the Trustee Council's recovery objective has been met. River otters were considered to be recovered in 1999.

ROCKFISH

Injury

Very little is known about rockfish populations (of several species) in the northern Gulf of Alaska. A small number of dead adult rockfish was recovered following the oil spill, and autopsies of five specimens indicated that oil ingestion was the cause of death. Analysis of other rockfish showed exposure to hydrocarbons and probable sublethal effects. In addition, closures to salmon fisheries apparently had the effect of increasing fishing pressure on rockfish, which, in turn, may have adversely affected local rockfish populations.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

No recovery objective can be identified.

Recovery Status

The original extent of injury and the current recovery status of this species are unknown. Because little is known about rockfish abundance and species composition in the spill area and because rockfish are harvested commercially, even basic information about these species could provide a basis for improved management or, at least, the identification of priorities for more targeted research.

SEA OTTERS

Injury

By the late 1800s, sea otters had been eliminated from most of their historical range in Alaska due to excessive harvesting by Russian and American fur traders. Surveys of sea otters in the 1970s and 1980s, however, indicated a healthy and expanding population in most of Alaska, including Prince William Sound. Today the only harvests of sea otters are for subsistence purposes. About 1,000 sea otter carcasses were recovered following the spill, and additional animals probably died but were not recovered. In 1990 and 1991, higher-than-expected proportions of prime-age adult sea otters were found dead in western Prince William Sound, and there was evidence of higher mortality of recently weaned juveniles in oiled areas.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

Sea otters will have recovered when the population in oiled areas returns to its prespill levels and distribution, and when biochemical indicators of hydrocarbon exposure in otters in the oiled areas are similar to those in otters in unoiled areas. An increasing population trend and normal reproduction and age structure in western Prince William Sound will indicate that recovery is underway.

Recovery Status

By 1992-93, overwintering mortality rates for juveniles had decreased, but were still higher in oiled than in unoiled parts of the sound. Based on both aerial and boat surveys conducted in western Prince William Sound, there is statistically significant evidence of a population increase following the oil spill (1993-98). Observations by local residents bear out this general increase. However, within the most heavily oiled bays in the western sound, such as those on northern Knight Island, the aerial surveys indicate that recovery is not complete.

The Trustee Council's Nearshore Vertebrate Predator project addressed the lack of recovery in sea otters in these heavily oiled bays. The lack of recovery may reflect the extended time required for population growth for a long-lived mammal with a low reproductive rate, but it also could reflect the effects of continuing exposure to hydrocarbons, or a combination of both factors. Through 2000, researchers have continued to find biochemical evidence of oil exposure in sea otters around northern Knight Island. Biochemical samples from 2001 are now being analyzed. An additional hypothesis is that food supplies are limiting recovery, but the evidence does not fully support this idea.

It is clear that sea otter recovery is underway for much of the spill-affected area, with the exception of populations at the most heavily oiled bays in western Prince William Sound. For this reason, sea otters continue to be in the recovering category.

SEDIMENTS

Injury

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

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

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

Recovery Status

A comprehensive survey of shorelines in Prince William Sound was conducted in 1993, but that survey has been repeated in the summer of 2001 with revised methods for better quantifying the oil remaining in intertidal sediments. The 2001 surveys indicate that about 20 acres of continuously oiled intertidal habitat now persist in Prince William Sound. While it appears that natural weathering processes are gradually reducing the amount of remaining oil in sediments, the amount estimated in 2001 is about twice the amount estimated to be in the sediments in 1993 (using methods that were designed in 1989 more for cleanup decisions than for quantitative estimates of remaining oil). The shorelines of the outer Kenai and Alaska Peninsula coasts get more wave action than most shorelines within Prince William Sound. These Gulf of Alaska sites tended to be contaminated with oil in the form of mousse, a stable emulsion of oil in water, which can persist for long periods in a largely unweathered state. Five of six index beaches on the gulf coast have a heavy boulder "armor" and were last visited in 1993 and 1994. At that time, surface and subsurface oil mousse persisted in a remarkably unweathered state.

In 1995, a shoreline survey team visited 30 sites in the Kodiak Archipelago that had measurable or reported oiling in 1990 and 1991. The survey carried out in 1995 around Kodiak Island found no oil or only trace amounts, so oiling in the Kodiak area has not persisted as it has in the sound. Following the oil spill, chemical analyses of oil in subtidal sediments were conducted at a small number of index sites in Prince William Sound. At these sites, oil in subtidal sediments was mostly confined to the uppermost 20 meters water depths (below mean low tide), although elevated levels of hydrocarbon-degrading bacteria (associated with elevated hydrocarbons) were detected at depths of 40 and 100 meters in 1990 in Prince William Sound. By 1993 however, there was little evidence of *Exxon Valdez* oil and related elevated microbial activity at most index sites in Prince William Sound, except at those associated with sheltered beaches that were heavily oiled in 1989. These index sites—at Herring, Northwest, and Sleepy bays—are among the few sites at which substantial subsurface oiling is still known to occur.

Based on the information above, sediments are considered to be recovering. However, the presence of surface and subsurface oil continues to compromise wilderness and recreational values, expose and potentially harm living organisms, and offend visitors and residents, especially those who engage in subsistence activities along still-oiled shorelines.

SOCKEYE SALMON

Injury

Commercial salmon fishing was closed in Prince William Sound and in portions of Cook Inlet and near Kodiak in 1989 to avoid any possibility of contaminated salmon being sent to market. As a result, there were higher-than-desirable numbers (i.e., "overescapement") of spawning sockeye salmon entering the Kenai River and also Red and Akalura lakes on Kodiak Island. Research carried out following the spill demonstrated that initially these high escapements produced an overabundance of juvenile sockeye that then overgrazed the zooplankton, thus altering planktonic food webs in the nursery lakes. The result was lost sockeye production as shown by reduced growth rates during the freshwater part of the sockeye life history and declines in the returns of adults per spawning sockeye.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

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

Recovery Status

Although sockeye freshwater growth tended to return to normal within two or three years following the overescapement, there are indications that these systems are less stable for several years after an initial overescapement event. The negative effects of the 1989 overescapement on sockeye productivity, as measured by return per spawner, in the Kenai River watershed were readily apparent for returns from the brood years 1989-92. Production of zooplankton in both Red and Akalura lakes on Kodiak Island has rebounded from the effects of the overescapement at the time of the oil spill. By 1997, Red Lake had responded favorably in terms of smolt and adult production and was at or near prespill production of adult sockeye. At Akalura Lake there were low juvenile growth rates in freshwater during the period 1989-92, and these years of low growth correspond to low adult escapements during the period 1994-97. Starting in 1993, however, the production of smolts per adult increased sharply and the smolt sizes and age composition suggested that rearing conditions have improved. There also was concern about overescapement effects in lakes on Afognak Island and on the Alaska Peninsula. However, analysis of sockeye freshwater growth rates of juveniles from Chignik Lake on the Alaska Peninsula did not identify any impacts associated with a 1989 overescapement event. On the basis of catch data through 2001 and in view of recent analyses of return per spawner estimates presented to the Alaska Board of Fisheries in 2001, the return-per-spawner in the Kenai River system is within historical bounds. Therefore, it is highly unlikely that the effects that reverberated from the overescapements in 1989 continue to affect sockeye salmon (e.g., cause abnormal

returns per spawner), and this species is considered to be recovered from the effects of the oil spill.

SUBTIDAL COMMUNITIES

Injury

Shallow subtidal habitats of Prince William Sound, from the lower intertidal zone to depths of about 20 meters, typically have dense stands of kelp or eelgrass and contain numerous polychaete worms, snails, clams, sea urchins, and other invertebrate life. These subtidal communities provide shelter and food for an array of nearshore fishes, birds, and marine mammals. Oil that was transported down to subtidal habitats, as well as subsequent cleanup activities involving extensive vessel traffic, apparently caused changes in the abundance and species composition of plant and animal populations below lower tides.

Biologically, negative effects of the oil were most evident for oil-sensitive species of amphipods, which were consistently less abundant at oiled than at unoiled sites. Reduced numbers of eelgrass shoots and flowers may have been due to increased turbidity associated with cleanup activities (e.g., boat traffic). Two species of sea stars and helmet crabs also were less abundant at oiled sites. Some invertebrates living in the sediment, including species in eight families of polychaete worms, two families of snails, and one family of mussels, were greater in numbers at oiled sites. These species are more tolerant of oil exposure and may have also responded to the organic enrichment associated with oil. Some of the species that showed increased numbers also may have benefited from reduced competition or predation due to the effects of the spill. It is also is to be expected that when comparing any two sets of bays that measuring a large number of species will turn up differences just on the basis of chance.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

Subtidal communities will have recovered when community composition in oiled areas, especially in association with eelgrass beds, is similar to that in unoiled areas or consistent with natural differences between sites such as proportions of mud and sand.

Recovery Status

Different habitats, emphasizing eelgrass beds and adjacent areas of soft sediment, were compared at oiled and unoiled sites from 1990-1995. It is difficult to draw firm conclusions from this study, because it is hard to distinguish between natural site differences (e.g., percent sand and mud) and those differences actually resulting from the oil spill or cleanup.

Concentrations of hydrocarbons in subtidal sediments were significantly higher at oiled sites than at unoiled reference sites, but never very high by comparison with concentrations known to cause community responses in the scientific literature. These oil concentrations dropped sharply by 1991, but evidence of oil contamination due to *Exxon Valdez* oil persisted at some locations through 1995 at very low concentrations. By 1995, based on postspill comparisons of oiled and unoiled sites, there was recovery of most constituents of the eelgrass community. In 1999 an article was published in the peer reviewed literature that acknowledged the role that natural factors may be playing in the remaining differences in subtidal communities between oiled and unoiled bays. Given that the remaining faunal differences could likely be due to the influence of natural factors and given that seven more years of additional natural recovery have occurred since the last study of subtidal fauna, the subtidal communities are judged to be recovered from the effects of the oil spill.

HUMAN SERVICES

COMMERCIAL FISHING

Injury

Commercial fishing is a service that was reduced through injury to commercial fish species (see individual resource accounts) and also through fishing closures. In 1989, closures affected fisheries in Prince William Sound, Cook Inlet, the outer Kenai coast, Kodiak, and Chignik. These closures harmed the livelihoods of persons who fish for a living. The period before the oil spill was a time of relative prosperity for many commercial fishermen. The years 1987-88 saw some of the highest ever per pound prices for salmon and increased capitalization of the fishery. Thus, fishermen's expectations for income in 1989 were very high, making the fishery closures and other spill effects even more disruptive.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

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

Recovery Status

Although pink salmon and sockeye salmon are considered to be recovered from the oil spill, recovery is still not complete for Pacific herring (see individual resource accounts), one of the injured resources that is commercially fished. The recovery status of rockfish is still unknown and will likely never be known. No spill-related district-wide fishery closures related to oil contamination have been in effect since 1989. However, the Prince William Sound herring fishery was closed from 1993-96 due to a disease outbreak that may be related to the oil spill, was open to limited commercial harvest in 1997 and 1998, and has remained closed since then. For these reasons, commercial fishing, as a lost or reduced service, is in the process of recovering from the effects of the oil spill, but full recovery has not been achieved.

For a variety of reasons, as discussed below, disruptions to income from commercial fishing continue today, as evidenced by changes in average earnings, ex-vessel prices, and limited entry permit values. For example, for the period 1981-2000, fishermen's average earnings in the Prince William Sound salmon seine fishery peaked in 1987 (\$176,500), dropped in 1989 by more than half, rebounded in 1990, hit a new low in 1992-93 (runs in 1992-93 were the lowest in 15 years), then hovered somewhat below the 1989 level until 1999-2000, when average earnings climbed to the \$130,000 level. Average per-fisher harvests have varied widely during this period, with the three highest years being 1996, 1999, and 2000. Exvessel prices were highest in the period 1987-90, and have been below prices of the early 1980s ever since. Limited entry permit prices in this fishery reached a peak in 1989-91, nearly double the price in any earlier year in this period, and have declined since to currently ten percent of their peak price (from \$236,000 in 1989 to \$22,000 in 2000). The number of permits fished, roughly 250 each year 1981-91, had declined to 130 in 2000.

Natural variability in fish returns and a number of economic changes in the commercial fishing industry since 1989 probably mean that many of these changes in income are not directly attributable to the spill. However, these factors also make discerning spill-related impacts difficult. Economic changes confronting the industry include the increased world supply of salmon (due primarily to farmed salmonids) and corresponding reduced prices, entry restrictions in certain fisheries (such as Individual Fishing Quotas, IFQs, for halibut and sablefish), allocation changes (e.g., a reduction in the allocation of Cook Inlet sockeye salmon to commercial fishermen), changes in processing capacity (closure of major processors in Cordova and Kenai, and a recently announced closure in Larsen Bay on Kodiak Island), and new measures imposed by the North Pacific Fishery Management Council on offshore groundfish fishing to protect the declining number of Steller sea lions.

Although a number of studies aimed at allocating financial impacts to the oil spill versus other factors have been carried out, the federal jury's compensatory award (as opposed to the \$5 billion in punitive damages) in the private lawsuit against Exxon is the current legal determination of the liability and damages regarding commercial fishermen (including permit holders, fishing crew, spotter pilots, and vessel owners). The jury award was less than the damage claimed by commercial fishermen and more than that acknowledged by Exxon. In

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brief, the jury determined that any financial effects on fishermen after 1989, with the exception of the salmon seine fishery in Prince William Sound in 1992-93 and the herring fishery in Prince William Sound in 1993, are not attributable to the spill. The jury considered damage claims for the period 1989-95, including claims related to size of harvest, fish prices, limited entry permit values, and vessel values.

PASSIVE USE

Injury

Passive use encompasses nonuse values, such as the appreciation of the aesthetic and intrinsic values of undisturbed areas and the value derived from simply knowing that a resource exists. Injuries to passive use are tied to public perceptions of injured resources. Immediately following the oil spill, the State of Alaska, using a contingent valuation approach, measured substantial losses of passive use values resulting from the spill. This approach involved surveying a sample of U.S. households to elicit how much people would be willing to pay in additional taxes to fund a program designed to prevent future spills. Prior to answering the survey questions, respondents were provided information about the spill's impact, including the number of miles of shoreline oiled, an estimate of the number of birds, sea otters, and harbor seals killed, and the conclusion that few fish were harmed, as well as projections of when recovery would occur (typically three to five years).

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

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

Recovery Status

Because recovery of a number of injured resources is incomplete and in some cases has not begun, the Trustee Council considers passive use, as a lost or reduced service, to be recovering from the spill but not yet recovered. In updating the status of passive uses, the Trustee Council has chosen not to repeat the contingent valuation study, which was very expensive and time consuming. However, the key to recovery of passive use is knowing that restoration of injured resources has occurred. Toward this end, in the years since the settlement between Exxon Corporation and the state and federal governments, the Trustee Council has undertaken a comprehensive program to restore injured resources and has made a deliberate and consistent effort to inform the public about the status of restoration. The two key components of the Trustee Council's restoration effort are the research, monitoring, and general restoration program and the habitat protection and acquisition program. The research, monitoring, and general restoration program, which is funded each year through the annual work plan, focuses mostly on knowledge and stewardship as the best tools for long-term health of the marine ecosystem. It also includes development of tools to benefit fisheries management and some direct enhancement activities, such as improving access to spawning habitat. Projects to monitor the status of injured resources, including resources such as killer whales for which no active restoration may be possible, have also been funded through the annual work plan. The habitat protection program preserves habitat important to injured resources through the acquisition of land or interests in land. As of March 2002, the Council has protected more than 643,600 acres of habitat, including more than 1,400 miles of coastline and over 300 streams valuable for salmon spawning and rearing. A summary of the Council's public information efforts follows.

Each year the Trustee Council prepares a number of documents for distribution to the public including; annual work plans, which describe the work underway to restore the injured resources and services; the *Annual Status Report*, which reports to the public on the progress of restoration; and updates to the Restoration Plan (1996, 1999). The Council's annual restoration workshop, which is open to the public, provides another venue for reporting on the progress of restoration. The Council has also published its Restoration Notebook series, which tells the story of injury and recovery from the spill of select injured species.

In addition, from 1996 through early 1999 the Council aired a weekly radio series, "Alaska Coastal Currents", throughout the state. Since 1997, the Trustee Council has had a web site (www.oilspill.state.ak.us) that offers detailed information about restoration efforts.

Project final reports, are also available to the public through the Alaska Resource Library and Information Services (ARLIS) in Anchorage as well as at several other libraries in the state, at the Library of Congress, and through NTIS (National Technical Information Service). In addition, the Council supports researchers in publishing their project results in the peer-reviewed scientific literature, which expands their audience well beyond Alaska. Nearly 500 such papers have been published as of April 2002.

The 17-member Public Advisory Group (PAG), is an important means of keeping stakeholders and others informed of the progress of restoration. In addition to holding quarterly meetings with the Trustee Council staff, in many years the PAG has held an open house in one or more communities in the spill area. Additional public meetings have been held throughout the spill area. All meetings of the Council are widely advertised and opportunity for public comment, is always provided.

RECREATION AND TOURISM

Injury

The oil spill disrupted use of the spill area for recreation and tourism. In addition, resources important to recreation were injured and beaches used for recreational activities were oiled. Recreation was also affected by changes in human use in response to the spill. For example, displacement of use from oiled areas to unoiled areas, particularly in the years immediately following the spill, increased management problems and facility use in unoiled areas.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

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

Recovery Status

In the years since the spill, there has been a marked increase in the number of visitors to Alaska. Preliminary data for the summer of 2001 indicate over 1.2 million visitors, compared to approximately 600,000 visitors in the summer of 1989. Visitation to the spill area has experienced a similar increase. For example, since 1993 the annual number of visitors to the Kenai Fjords National Park Visitor Center has been nearly double what it was in 1988. In 2000, the number of visitors to the USFS Crooked Creek Visitor Information Center in Valdez was nearly 70 percent greater than in 1989. From 1989 to 1997, the number of sportfishers increased by 65% in Prince William Sound, by 25% in the Kodiak Region, and by 15% in the Kenai Peninsula region. In 2000, the numbers were up slightly for Prince William Sound and Kodiak, and had decreased slightly for the Kenai Peninsula region.

Even though visitation has increased since the oil spill, however, the Trustee Council's recovery objective requires that the injured resources important to recreation be recovered and recreational use of oiled beaches not be impaired, and this objective has not been met. Therefore, the Council finds recreation to be recovering from the effects of the spill, but not yet recovered.

Several resources important for wildlife viewing still are not recovering from the spill or their recovery is unknown, including harbor seal, common loon, cormorant (three species), Kittlitz's murrelet, and pigeon guillemot. Other resources, including sea otter and marbled murrelet, are recovering. The bald eagle, another resource important for wildlife viewing, has recovered from the effects of the spill. (See individual resource accounts for more information on recovery status.)

Telephone interviews were conducted in early 1999 with key informants who recreated extensively in the oil spill area before the spill and currently. Contacted again in 2002, nearly all of the informants commented on increased visitation to the area since the spill. Informants with experience in Prince William Sound continued to report diminished wildlife sightings in the sound, particularly in heavily oiled areas such as around Knight Island. They reported seeing fewer seabirds, killer whales, sea lions, seals, and sea otters than were generally sighted before the spill, but also reported observing increases in the number of seabirds over the last several years. Key informants with experience along the outer Kenai coast reported diminished sightings of seabirds, seals, and sea lions. Changes in the amount of wildlife observed could be due to the oil spill or to other factors

Sportfishing resources for which the recovery status is unknown are cutthroat trout, Dolly Varden, and rockfish. In 1992-93, in response to evidence of injury to cutthroat trout, emergency closures were put in place in some locations in Prince William Sound. In addition, bag limits have been reduced since 1991 and a closure during the April 15-June 15 spawning season has been in effect since 1994. These measures reflect the management goals for a potentially vulnerable species at the edge of its range. The salmon species that were injured (pink and sockeye salmon) are recovered from the effects of the spill.

Harlequin ducks, which are hunted in the spill area, are still not recovered. The Alaska Board of Game restricted sport harvest of harlequin ducks in western Prince William Sound and Kenai Fjords in 1991. Those restrictions were removed in the 1999-2000 hunting season when sea duck limits were changed statewide to have different limits for resident and non-resident hunters. There are currently no special restrictions for harlequins in Prince William Sound or Kenai Fjords.

Trustee Council sponsored surveys of oiled shorelines indicate that residual oil is still present on some beaches. The results of the most recent survey in Prince William Sound (2001) indicate approximately 20 acres of shoreline are still contaminated with oil. Oil was found at 58 percent of the 91 sites assessed and is estimated to have the linear equivalent of 5.8 kilometers of contaminated shoreline. The most recent survey of the Kenai outer coast and the coast of Katmai National Park (1999) found oil mousse persisting in a remarkably unweathered state on five moderately-to-heavily-oiled boulder-armored beaches (the oil is chemically similar to 11-day old *Exxon Valdez* oil). A survey of 30 oiled sites in the Kodiak Archipelago in 1995 found no oil or only trace amounts.

Key informants telephoned in early 1999 indicated that some beaches in Prince William Sound, particularly in the western portion of the sound, continue to be avoided by some recreational users, particularly kayakers and campers, because of the presence of residual oil. Contacted again in early 2002, informants commented that visitors to the sound routinely inquire about the existence of oil on beaches, either in planning visits or while on tours. They also commented that experienced users of the sound can readily find oil on certain beaches and continue to avoid those areas. Since 1999, informants have indicated that the possible presence of residual oil has no effect on recreational activities along the outer Kenai coast, the Kodiak Archipelago, and the Lake Clark and Katmai national park coastlines.

In 1997, the Trustee Council provided funding for the residents of Chenega Bay, working with the Department of Environmental Conservation, to use PES-51, a citrus-based chemical agent, to clean some of the most heavily-oiled sites near their village. One year later, a statistical analysis showed that the cleanup method reduced the amount of oil remaining on these beaches by a factor of three compared with reductions observed on untreated beaches. However, considerable subsurface oil remains that was inaccessible at the time of treatment, but was uncovered during storms the following winter. NOAA's Auke Bay Lab found no biological injury due to the cleanup.

The State of Alaska dedicated over \$10 million of its criminal settlement with Exxon to restoring recreational facilities and use in state parks in the spill area. Improvements include trails, cabins, boat launches, interpretive displays, and campsites. In addition, the Trustee Council funded U.S. Forest Service development of a human use model for western Prince William Sound, which is intended to aid planning for and mitigation of human uses so that injured species continue to be protected. The model may also assist in planning for future recreation needs in the sound.

SUBSISTENCE

Injury

Fifteen predominantly Alaskan Native communities (with a total population of about 2,200 people) in the oil spill area rely heavily on harvests of subsistence resources, such as fish, shellfish, seals, deer, and waterfowl. Many families in other communities also rely on the subsistence resources of the spill area.

Household interviews conducted with subsistence users in communities throughout the spill area in 1989 indicated that subsistence harvests of fish and wildlife in most of the communities declined substantially following the spill. Key factors in the reduced harvests included reduced availability of fish and wildlife, concern about possible health effects of eating oiled fish and wildlife, and disruption of the traditional lifestyle due to cleanup and related activities.

Recovery Goal

A return to conditions that would have existed had the spill not occurred.

Recovery Objective

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

Recovery Status

Household interviews were repeated each year 1990-93 and again in 1998. By 1993, the estimated size of the subsistence harvest and participation in subsistence activities appeared to have returned to prespill levels in some communities, with the harvest rebounding first in the communities of the Alaska Peninsula, Kodiak Island, and the lower Kenai Peninsula and lagging behind a year or more in the Prince William Sound communities.

Many subsistence resources injured by the spill, including clams, mussels and harbor seals, have still not recovered from the effects of the spill. In addition, in 1998, household interviews indicated that subsistence users continued to feel the effects of the spill. For these reasons, subsistence continues to recover from the effects of the oil spill, but has not yet recovered. The percentage of those interviewed who reported that subsistence uses are lower than before the spill has declined. Concerns about food safety and effects on the traditional lifestyle have lessened. Concerns about resource availability and greater harvest effort remain, but harvest levels in all communities interviewed are at or approaching prespill levels. Subsistence harvests in 1998 varied among communities from 250-500 pounds per person usable weight, indicating continued strong dependence on subsistence resources.

Regarding resource availability, subsistence users continued to report scarcity of a number of important subsistence resources, including harbor seals, herring, clams, and crab. These observations are generally consistent with scientific studies funded by the Trustee Council that continue to find that some subsistence species (e.g., harbor seals, Pacific herring, clams) are not recovered from the effects of the spill (see individual resource accounts).

According to those interviewed, the 1998 increase in pounds harvested at a time of continued reduced resource availability reflects greater harvest effort (traveling farther, spending more time and money) than would have been required before the spill to achieve a similar harvest. It also reflects increased reliance on fish in the subsistence diet. Increased fish harvests and decreased marine mammal and shellfish harvests occurred in most communities where interviews were conducted. The cultural and nutritional importance of each resource varies, and these changes in diet composition remain a serious concern to subsistence users.

The decline in shellfish consumption reflects food safety concerns as well as reduced availability of shellfish. From 1989-94, subsistence foods were tested for evidence of hydrocarbon contamination, with no or very low concentrations of petroleum hydrocarbons found in most subsistence foods. However, because some shellfish can readily accumulate

hydrocarbons, subsistence users have been advised not to eat shellfish from beaches where oil can be seen or smelled on the surface or subsurface. By 1998, a large majority of those interviewed expressed confidence about most foods except certain shellfish, such as clams, and concerns about the presence of PSP (paralytic shellfish poisoning) in clams outweighed concerns about lingering hydrocarbon contamination from the oil spill.

Subsistence users continue to emphasize that the value of subsistence cannot be measured in pounds alone. Harvest levels do not encompass the cultural value of traditional and customary use of natural resources. Following the oil spill, there was concern that the spill disrupted opportunities for young people to learn cultural subsistence practices and techniques, and that this knowledge may be lost to them in the future. In 1998, the number of subsistence users reporting a decline in the influence of elders in teaching subsistence skills and values had decreased and the number reporting that young adults are learning enough subsistence skills had increased. Also, the number reporting less sharing of subsistence resources, another integral aspect of subsistence culture, had decreased. However, many of those interviewed continue to express concern about these elements of the traditional lifestyle, with more than 50 percent responding that the traditional way of life has not recovered since the spill.

In the 1998 household interviews, a number of subsistence users commented that some of the current influences on subsistence may not be attributable to the oil spill. Factors such as demographic changes in village populations, ocean warming, increased competition for subsistence resources by other people (e.g., sport fishing charters) and predators (e.g., sea otters), and increased awareness of PSP and other contaminants may play a role in resource availability, food safety, and participation in traditional practices. The Trustee Council will likely repeat the household interviews with subsistence users in communities through the spill area in 2004 or 2005.

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Recovery Objectives for Injured Resources and Services

Resources	1994	1999	2002	Analysis
Archaeological Resources	Spill-related injury ends, looting and vandalism are at or below prespill levels, and artifacts and scientific data which remain in vandalized sites are preserved (e.g., through excavation or other forms of documentation, or through site stabilization).	Spill-related injury ends, looting and vandalism are at or below prespill levels, and artifacts and scientific data remaining in vandalized sites are preserved (e.g., through excavation, site stabilization, or other forms of documentation).	Spill-related injury ends, looting and vandalism are at or below prespill levels, and the artifacts and scientific data remaining in vandalized sites are preserved (e.g., through excavation, site stabilization, or other forms of documentation).	NO CHANGE
Bald eagles	Population and productivity return to prespill levels.	Population and productivity return to prespill levels.	Population and productivity (reproductive success) return to prespill levels.	NO CHANGE
Black oystercatchers	Prince William Sound populations attain prespill levels and reproductive success of nests and growth rates of chicks raised in oiled areas are comparable to those in unoiled areas.	Population returns to prespill levels and reproduction is within normal bounds. An increasing population trend and comparable hatching success and growth rates of chicks in oiled and unoiled areas, after taking into account geographic differences, will indicate that recovery is underway.	Population returns to prespill levels and reproduction and productivity are within normal bounds. An increasing population trend and comparable hatching success and growth rates of chicks in oiled and unoiled areas, after taking into account geographic differences, will indicate that recovery is underway.	NO CHANGE to basic recovery objective. Wording added in 1999 to acknowledge that differences in habitat and food between western (oiled) and eastern (unoiled) parts of Prince William Sound may contribute to differences in reproductive success and productivity. Does not change restoration strategies.
Clams	Populations and productivity have returned to levels that would have prevailed in the absence of the oil spill, based on prespill data or unoiled control sites.	Populations and productivity have returned to levels that would have prevailed in the absence of the oil spill, based on comparisons of oiled and unoiled sites.	Population and productivity measures (such as size and distribution) at oiled sites are comparable to populations and productivity measures at unoiled sites, taking into account geographic differences.	NO CHANGE to basic recovery objective. Wording revised in 2002 for accuracy and clarity and to acknowledge that differences in habitat and food between western (oiled) and eastern (unoiled) parts of Prince William Sound may contribute to differences in population and productivity. Does not change restoration strategies.
Common Loons	Not on injured list in 1994 Restoration Plan.	Population returns to prespill levels in the oil spill area. An increasing population trend in Prince William Sound will indicate recovery is underway.	Population returns to prespill levels in the oil spill area. An increasing population trend in Prince William Sound will indicate that recovery is underway.	NO CHANGE

Common Murres	Population trends are increasing significantly at index colonies in the spill area and reproductive timing and success are within normal bounds.	Populations at index colonies have returned to prespill levels and productivity is sustained within normal bounds. Increasing population trends at index colonies will be a further indication that recovery is underway.	Populations at index colonies have returned to prespill levels and reproductive success (productivity) is sustained within normal bounds. Increasing population trends at index colonies will be an indication that recovery is underway.	Modified in 1999 from increasing population trends to "return to prespill levels." Murres were not in decline at the time of the spill and a return to prespill levels should have been the recovery objective in 1994. Does not change restoration or monitoring strategies.
Cormorants (pelagic, red-faced, and double-crested)	Not on injured list in 1994 Restoration Plan.	Populations return to prespill levels in the oil spill area. An increasing population trend in Prince Willam Sound will indicate that recovery is underway.	Populations return to prespill levels in oiled areas. An increasing population trend in Prince William Sound will indicate that recovery is underway.	NO CHANGE to basic recovery objective. Minor wording changes to clarify that return to prespill levels is for oiled areas, not the entire oil spill area (which also includes unoiled areas). No effect on restoration strategies.
Cutthroat trout	Growth rates within oiled areas are comparable to those for unoiled areas.	Growth rates within oiled areas are similar to those for unoiled areas, after taking into account geographic differences.	Growth rates within oiled areas are similar to those for unoiled areas, after taking into account geographic differences.	NO CHANGE to basic recovery objective. Added language in 1999 to acknowledge that differences in habitat and food between western (oiled) and eastern (unoiled) sides of Prince William Sound may contribute to differences in growth rates. Does not affect restoration strategies.
Designated Wilderness Areas	Oil is no longer encountered in these areas and the public perceives them to be recovered from the spill	Oil is no longer encountered in them and the public perceives them to be recovered from the shill	Oil is no longer encountered in them and the public perceives them to be recovered from the spill	NO CHANGE
Dolly Varden	Growth rates within oiled areas are comparable to those for unoiled areas.	Growth rates within oiled streams are comparable to those in unoiled streams, after taking into account geographic differences.	Growth rates within oiled streams are comparable to those in unoiled streams, after taking into account geographic differences.	NO CHANGE to basic recovery objective. Added language in 1999 to acknowledge that differences in habitat and food between western (oiled) and eastern (unoiled) sides of Prince William Sound may contribute to differences in growth rates. Does not affect restoration strategies.
Harbor Seals	Population trends are stable or increasing.	Population is stable or increasing.	Population is stable or increasing.	NO CHANGE

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Harlequin Ducks	Breeding and postbreeding season densities and production of young return to estimated prespill levels, or there are no differences in these parameters between oiled and unoiled areas.	Breeding- and nonbreeding-season densities return to prespill levels. An increasing population and decreasing indications of exposure to hydrocarbons in oiled parts of Prince William Sound will indicate that recovery is underway.	Breeding- and nonbreeding-season demographics return to prespill levels and biochemical indicators of hydrocarbon exposure in harlequins in oiled areas of Prince William Sound are similar to those in harlequins in unoiled areas.	Changes in 1999 made to recognize studies showing continued hydrocarbon exposure to harlequins. Reference to densities includes production of young, as well as adults. Changes in 2002 made to more accurately refer to the measurements being taken as "demographics" and to recognize that hydrocarbon exposure is being assessed using biochemical indicators. Does not change
Intertidal Communities	Commuity composition, population abundance of component species, age- class distribution, and ecosystem functions and services in each injured intertidal habitat have returned to levels that would have prevailed in the absence of the oil spill.	Community composition on oiled shorlines is similar to that which would have prevailed in the absence of the spill. Indications of recovery are the reestablishment of important species, such as <i>Fucus</i> at sheltered rocky sites, the convergence in community composition and organism abundance on oiled and unoiled shorelines, and the provision of adequate, uncontaminated food supplies for top predators in intertidal and nearshore	Important species such as <i>Fucus</i> have been reestablished at sheltered rocky sites, the differences in community composition and organism abundance on oiled and unoiled shorelines are no longer apparent after taking into account geographic differences, and the intertidal and nearshore habitats provide adequate, uncontaminated food supplies for top predators.	restoration strategies. Changed in 1999 to reflect the actual kinds of data that were being collected in the intertidal area. Wording changed in 2002 for clarity and to acknowledge possible geographic differences in habitat and food supply between western (oiled) and eastern (unoiled) sides of Prince William Sound.
Killer whales	Injured pod grows to at least 36 individuals (1988 level).	Number of individuals in the AB pod is stable or increasing relative to the trends of other major resident pods in Prince William Sound.	Return to prespill numbers for the AB pod at least 36 individuals.	Objective changed in 1999 because of possibility of some prespill injury and thinking at the time the pod might totally distintegrate. Recent data is more positive, and that, plus public comment, led to a return to the 1994 recovery objective. Both objectives would have had the same restoration strategies, but they would have affected when recovery was determined. Achieving earlier recovery does not necessarily mean an end to monitoring, especially given the beginning of the Trustee Council's long-term monitoring program - GEM.
Kittlitz's Murrelets	Not on injured list in 1994 Restoration Plan	No recovery objective can be identified for Kittlitz's murrelet at this time.	No recovery objective can be identified for Kittlitz's murrelet at this time.	NO CHANGE

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Marbled Murrelets	Population trends are increasing.	Populations are stable or increasing. Stable or increasing productivity will be an indication that recovery is underway.	Populations are stable or increasing. Sustained or increasing productivity within normal bounds (based on adults and juveniles on the water) will be an indication that recovery is underway.	Added "stable" in 1999 to be consistent with recovery objectives for other species that had experienced prespill declines. No effect on restoration strategies. Also added productivity as a measure for indicating recovery underway. No effect on restoration strategies.
Mussels	Populations and productivity are at prespill levels and they do not contain oil that contaminates higher trophic levels.	Concentrations of oil in the mussels and in the sediments below mussel beds reach background levels, do not contaminate their predators, and do not affect subsistence uses.	Concentrations of oil in the mussels reach background concentrations and mussels do not contaminate their predators.	Changed in 1999 because the populations of mussels in the spill area are not "counted." Instead, the focus for recovery has been on those mussel beeds that have large amounts of oil trapped beneath them. In 2002 the affect on subsistence uses was removed because it is already covered under the recovery objective for subsistence service. The changes did not affect the restoration strategies.
Pacific Herring	Populations are healthy and productive and exist at prespill abundances.	The next highly successful year class is recruited into the fishery and other indicators of population health are sustained within normal bounds in Prince William Sound.	The next highly successful year class is recruited into the population and other indicators of population health (such as biomass, size-at-age, and disease expression) are within normal bounds in Prince William Sound.	Changed in 1999 to add recruitment of a highly successful year class as a specific indicator of population health. No change in restoration strategies. In 2002, specific examples of indicators of population health are added.
Pigeon Guillemots	Populations are stable or increasing.	Populations are stable or increasing. Stable or increasing productivity will be an indication that recovery is underway.	Population is stable or increasing. Sustained or increasing productivity within normal bounds will be an indication that recovery is underway.	NO CHANGE to recovery objective. Added productivity measures in 1999 as an indicator of recovery underway, which has no effect on restoration strategies.

Recovery	/ Objectives	for Injured	Resources an	nd Services
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		PODUATION INDICATORS SHOP as prowin and	Population indicators such as illivenile	Since nink salmon nonulations are extremely
	and exist at presnill abundance. An	survival are within normal hounds and there	arowth and curvival aro within normal	variable, changed in 1999 to add population
	indication of recovery is when and	su vival, are within hornal bounds and there	bounde and appreire all experime which	indicators such as growth and output within
	mortalition in ailed areas match presmill	are no statistically significant differences in	bounds and ongoing oil exposure, which	indicators such as growin and survival within
	monalities in olieu areas match prespil	egg mortalities in olied and unolied streams	may cause injury to pink salmon empryos	normal bounds. The egg mortality objective
	levels or levels in unoiled areas.	for two years each of odd- and even-year	(eggs), is negligible.	was made more specific in 1999 because of
		runs in Prince William Sound.		the ongoing, 4-year study. Since the results of
				that study were potentially confounded by other
			,	environmental factors, it was decided that
				repeating a study of that nature would not
				provide conclusive results. For that reason, the
		· · ·	· · · · · · · · · · · · · · · · · · ·	objective was changed in 2002 to focus on the
				pathway for egg mortality, which could be
				continued oil exposure <i>Exxon Valdez</i> oil will
				remain in the environment at measurable level
				for decades so an objective of negligible
				angeing eil expensive was chosen. The change
	· · · · · ·			ongoing oil exposure was chosen. The change
			· · ·	
River Otters	Habitat use, food habitats and	Biochemical indices of hydrocarbon	Biochemical indicators of hydrocarbon	Since prespill conditions were not known,
	physiological indices have returned to	exposure or other stresses and indices of	exposure or other stresses and indices of	recovery objective was changed in 1999 to
	prespill conditions.	habitat use are similar between oiled and	habitat use are similar between oiled and	focus on indices that could be compared
		unoiled areas of Prince William Sound, after	unoiled areas of Prince William Sound,	between oiled and unoiled areas. No change
		taking into account any geographic	after taking into account any geographic	to restoration strategies.
		differences.	differences	······································
Rockfish	Without further study, recovery cannot	No recovery objective can be identified	No recovery objective can be identified	NO CHANGE
	be defined.		no recovery objective can be identified.	
Sea Otters	Population abundance and distribution	Population in oiled areas returns to its	Population in oiled areas returns to its	NO CHANGE to basic recovery objective.
	are comparable to prespill abundance	prespill abundance and distribution. An	prespill levels and distribution, and	Added indicators for recovery underway in
	and distribution, and all ages appear	increasing population trend and normal	biochemical indicators of hydrocarbon	1999. Added biochemical indicators of
	healthy.	reproduction and age structure in western	exposure in otters in the oiled areas are	hydrocarbon exposure in 2002 because of
,		Prince William Sound will indicate that	similar to those in otters in unoiled areas	recent study results showing continued oil
,		recovery is underway	An increasing population trend and	exposure having effects on sea otter health in
,			normal reproduction and are structure in	heavily oiled areas. The restoration strategies
1			Western Prince William Sound will	remain unchanged
			indicate that recovery is underway	ารกาสถา นางกลางระง.
			Indicate that recovery is underway.	

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Sediments	Contamination of sediments causes no	No longer residues of Exxon Valdez oil on	No longer significant residues of Exxon	Changed in 1999 to be more specific about
	negative effects to the spill ecosystem.	shorelines (both tidal and subtidal) in the oil	Valdez oil on shorelines (both intertidal	Exxon Valdez oil as the source of
	· ·	spill area. Declining oil residues and	and subtidal) in the oil spill area.	contamination. Presence and toxicity of oil can
		diminishing toxicity are indications that	Declining oil residues and diminishing	have negative effects on the ecosystem, and
		recovery is underway.	toxicity are indications that recovery is	this language was added. In 2002 the recovery
			underway.	objective was modified to take into account
				recent studies that show Exxon Valdez oil at
		· · ·		very low levels will remain in the environment
				for a very long time. At some point, the levels
				and toxicity will be low enough to be
				insignificant. The restoration strategies remain
	· · ·			unchanged.
Sockeye Salmon	Populations in affected lakes are able	Adult returns-per-spawner in Kenai River	Adult returns-per-spawner in the Kenai	After consultation with the Alaska Dept of Fish
	to support overwinter survival rates and	system and Red and Akalura lakes are	River system and Red and Akalura	and Game biologists in 1999, it was determined
	smolt outmigrations comparable to	within normal bounds.	lakesare within normal bounds.	that adult returns-per-spawner was a more
	prespill levels.	·		useful measure of population recovery. No
	· · · · ·			affect on basic restoration strategies.
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	· · · · · · · · · · · · · · · · · · ·			
Subtidal Communities	Community composition, age-class	Community composition in oiled areas,	Community composition in oiled areas,	Changes made in 1999 and 2002 to reflect the
	distribution, population abundance of	especially in association with eelgrass beds,	especially in association with eelgrass	kinds of data that are collected. Focus on
	component species, and ecosystem	is similar to that in unoiled areas.	beds, is similar to that in unoiled areas or	community composition in oiled areas remains
	functions and services in each injured	Indications of recovery are the return of oil-	consistent with natural differences among	throughout. No effects on restoration
	subtidal habitat return to levels that	sensitive species, such as amphipods, and	sites (such as proportions of mud and	strategies.
	would have prevailed in the absence of	the reduction of opportunistic species at	sand).	-
	the oil spill.	oiled sites.		
Commercial fishing	Population levels and distribution of	Commercially important fish species have	Commercially important fish species have	Changes in 1999 primarily for clarity in
	injured or replacement fish used by the	recovered and opportunities to catch these	recovered and opportunities to catch	language and because of a better
	commercial fishing industry match	species are not lost or reduced because of	these species are not lost or reduced	understanding of what commercial fishing is as
· · ·	conditions that would have existed had	the effects of the spill.	because of the effects of the oil spill.	a "service". The primary restoration strategy of
	the spill not occurred. Because of the			restoring commercially important fish species
	difficulty of separating spill-related			and opportunities to fish them remains
	effects from other changes in fish runs,			unchanged.
	may use prespill conditions as a			_
· · ·	substitute measure for conditions that			
	would have existed had the spill not			
	occurred.			

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Recreation & tourism	Fish and wildlife resources on which recreation and tourism depend have recovered, recreation use of oiled beaches is no longer impaired, and facilities and management capabilities can accommodate changes in human use.	Fish and wildlife resources on which recreation and tourism depend have recovered and recreation use of oiled beaches is no longer impaired.	Fsh and wildlife resources on which recreation and tourism depend have recovered and recreation use of oiled beaches is no longer impaired.	In 1999 removed "facilities and management capabilities can accommodate changes in human use." The changes referred to here were actually a result of cleanup activities, and once cleanup ended, those changes were no longer present. The language was no longer relevant and did not affect restoration
				strategies.
Passive Use	People perceive that aesthetic and	People perceive that aesthetic and intrinsic	People perceive that aesthetic and	NO CHANGE
	intrinsic values associated with the spill	values associated with the spill area are no	intrinsic values associated with the spill	
	area are no longer diminished by the oil	longer diminished by the oil spill.	area are no longer diminished by the oil	· · · · ·
	spill.		spill.	
Subsistence	Injured resources used for subsistence	Injured resources used for subsistence are	Injured resources used for subsistence	NO CHANGE
Υ. · · · · · · · · · · · · · · · · · · ·	are healthy and productive and exist at	healthy and productive and exist at prespill	are healthy and productive and exist at	· ·
1.	prespill levels, and people are confident	levels. In addition, there is recognition that	prespill levels. In addition, there is	
	that the resources are safe to eat. One	people must be confident that the resources	recognition that people must be confident	
	indication that recovery has occurred is	are safe to eat and that the cultural values	that the resources are safe to eat and that	
	when the cultural values provided by	provided by gathering, preparing, and	the cultural values provided by gathering.	
	gathering, preparing, and sharing food	sharing food need to be reintegrated into	preparing, and sharing food need to be	
	are reintegrated into community life.	community life.	reintegrated into community life.	
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MISC. ITEMS AND ARTICLES

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COMPASS: Points of view from the community

Collaboration on sea issues vital

By ARLISS STURGULEWSKI

Alaska, with its 44,000 miles of coastline, looks to the sea and the seashore for some 75,000 fisheries-related jobs as well as important subsistence fisheries and recreational uses.

Ocean and fisheries interests came together in mid-June to present the Oceans and Watersheds symposium, "Sustainability in the Context of Change." Scientists, observers and users discussed such topics as:

• Why are some salmon and other marine fish and mammal populations declining and others increasing?

 What are the challenges to managing, monitoring and interpreting impacts of contaminants on Alaska's wild and traditional foods?

• How will changing technology further our knowledge of how Alaska's oceans and watersheds function ecologically?

• What does ecosystem-based management mean and how do we get it?

 And, most importantly, what changes are needed in ocean and watershed policies and governance?

In response to "crashes" of some fisheries and attendant economic hardships, decline of the sea lion and other protected marine-related populations, huge amounts of federal impact and research dollars are flowing to federal and state agencies and universities that do research involving Alaska waters. Some dollars come from protected revenue sources such as the Exxon Valdez Trustee Council Research Fund and the Dinkum Sands Settlement Fund, which provides funding to the North Pacific Research Board.

The North Pacific Research Board, created by Congress with strong support of our congressional leadership, is authorized to recommend marine research pri-



The NPRB's critical charge is to ensure the many voices involved with our oceans and watersheds have a place at the table as the plan is developed and implemented.

orities to the U.S. secretary of commerce, who makes final funding decisions. High on the priority list of the NPRB is developing an inclusive research plan for the North Pacific, for Alaska's coastline. No easy task!

The NPRB's critical charge is to ensure the many voices involved with our oceans and watersheds have a place at the table as the plan is developed and implemented. This includes those doing research and those benefiting from and utilizing the riches of our seas.

In recent years, groups of Alaskans have come together to solve complex problems:

The University of Alaska Anchorage, Providence Medical Center, Alaska Psychiatric Institute, Alaska Mental Health Authority, Mental Health Trust Land Office and the Alaska Department of Health and Social Services entered into a memorandum of agreement to settle competing demands of various landowners in the university area. Perseverance and working together resulted in major progress resolving land ownership patterns.

The Denali Commission, a vision of Sen. Ted Stevens and ably led by federal Co-Chair Jeff Staser, was created to fund basic rural infrastructure. The Denali Commission was the force behind a memorandum of agreement that has been developed with some 22 state and federal agencies to create a system giving information on funding, developing sound capital projects, prioritizing needs, etc. Information to help funders and funds-seekers is being made available to Alaska. Great approach! In developing a research plan, the NPRB needs to sponsor a consortium of important groups, regulatory bodies, user groups, federal, state, local and tribal entities to come together. Discussion should center around what we know, what we are learning, what we need to know and, importantly, how we develop, maintain and share a comprehensive, open data system. We need a continuing structure to maintain these relationships.

Many players need to be involved, including the NPRB, Exxon Valdez Oil Spill Trustee Council, Seward-based SeaLife Center, University of Alaska Fairbanks, Alaska Department of Fish and Game, National Marine Fisheries Service, Northern Fund of the Pacific Salmon Commission and the Southeast Sustainable Salmon Fund. A daunting task, but we have some workable models of success right here in our own state. The wealth and health of our oceans and watersheds and all who depend on them call for wisdom and care and, most importantly, meaningful collaboration.

Arliss Sturgulewski, a former state senator, serves on the Advisory Council to the University of Alaska Fairbanks School of Fisheries and Ocean Sciences.

EVOS Trustee Council Meeting

August 6, 2002

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Exxon Valdez Oil Spill Trustee Council

441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

AGENDA EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL TELECONFERENCE MEETING August 6, 2002 2:00 p.m. 441 West 5th Ave., Suite 500, ANCHORAGE



DRAFT

Trustee Council Members:

CRAIG TILLERY Assistant Attorney General State of Alaska MICHELE BROWN Commissioner Alaska Department of Environmental Conservation

DAVE GIBBONS

Forest Supervisor

DRUE PEARCE Senior Advisor to the Secretary for Alaskan Affairs U.S. Department of the Interior

JAMES W. BALSIGER Administrator, Alaska Region National Marine Fisheries Service Forest Service Alaska Region U.S. Department of Agriculture

FRANK RUE Commissioner, Alaska Department of Fish & Game

Teleconferenced in Anchorage, Restoration Office, 441 W 5th Ave, Suite 500 _____State Chair

- Call to Order 2:00 p.m.

 Approval of Agenda*
 Approval of Meeting Notes*
 July 9, 2002
- 2. Public Advisory Group meeting summary June 20, 2002
- 3. Public comment 2:15 p.m.
- Executive Director's report
 Quarterly Project Report
 Investment fee amendment*

- 5. FY 03 Work Plan Phase I*
- 6. FY 02 Work Plan Amendment (02126)*
- 7. Support for northern Afognak acquisition efforts*
- 8. Extension of Habitat Grant*
- 9. Update on Status of Injured Resources and Services*

Adjourn - 4:00 p.m.

* Indicates tentative action items.

MEETING NOTES July 9, 2002

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Exxon Valdez Oil Spill Trustee Council

441 W. 5" Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

TRUSTEE COUNCIL MEETING NOTES

Anchorage, Alaska July 9, 2002

By Molly McCammon Executive Director

Trustee Council Members Present:

rank Rue. ADF&G

DRAFT

●Dave Gibbons, USFS *Drue Pearce, DOI James Balsiger, NMFS Frank Rue, ADF&G Michele Brown, ADEC Craig Tillery, ADOL

* Chair

In Anchorage: Lisowski, Pearce, Balsiger, Rue, Brown and Tillery

Alternates

Maria Lisowski served as alternate for Dave Gibbons for the entire meeting.

Meeting convened at 10:45 a.m., July 9, 2002, in Anchorage.

1. Approval of the Agenda

APPROVED MOTION:

Approved the July 9, 2002 agenda, amended by removing the small parcel KEN 310/Swartzes (Attachment A.)

Motion by Tillery, second by Brown.

2. Approval of Meeting Notes

APPROVED MOTION:

Approved the June 14, 2002 meeting notes (Attachment B).

Motion by Tillery, second by Brown.

Federal Trustees U.S. Department of the Interior U.S. Department of Agriculturg National Oceanic and Atmospheric Administration State Trustees Alaska Department of Fish and Game Alaska Department of Environmental Conservation Alaska Department of Law


Public comment period bege__at 10:53 a.m.

Public comment received from one individual in Anchorage.

Public comment period closed at 11:10 a.m.

3. GEM Program Document

APPROVED MOTION:

Approved a motion to approve the GEM Program Document Final Draft dated July 1, 2002 in its entirety.

Motion by Rue, second by Brown.

4. Revised Operating and Report Procedures

APPROVED MOTION:

Approved a motion to approve the revised Trustee Council Procedures, review draft dated June 24, 2002, with minor language revisions.

Motion by Brown, second by Rue.

5. Trustee Council Data Policy

APPROVED MOTION:

Approved motion to approve the revised Trustee Council/GEM data policy with revised language indicating it refers to all Trustee Council projects and is effective October 1, 2002.

Motion by Tillery, second by Rue

6. <u>Executive Session</u>

APPROVED MOTION:

Approved a motion to move to an Executive Session.

Motion by Tillery, second by Rue.

BREAK

Off Record at (11:39 a.m.) On Record at (11:45 p.m.)

EXECUTIVE SESSION

Off record at (11:45 a.m.) On record at (1:53 p.m.)

7. Injured Resource Update

Deferred action on Injured Resources Update until the August 6, 2002 meeting.

8. Habitat Protection

APPROVED MOTION:

Approved a motion to provide \$41,000 to the Alaska Department of Natural Resources to be used to equalize the values of the lands on Sitkalidak Island to be conveyed by the State of Alaska to the Old Harbor Native Corporation for lands in Kiliuda Bay to be conveyed to the State by OHNC.

Motion by Tillery, second by Rue.

ADOPTED RESOLUTION: Adopted a resolution to provide \$160,000 in funds to the Alaska Department of the Interior for the State of Alaska to acquire all of the seller's rights and interests in the small parcel KAP 1087/Chokwak pursuant to the conditions outlined in the Resolution 02-06 (Attachment C).

Motion by Tillery, second by Rue.

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Meeting adjourned 2:48 p.m.

PAG MEETING SUMMARY JULY 6, 2002

Meeting Summary

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

B. DATE/TIME: June 20, 2002

C. LOCATION: Anchorage, Alaska

D. MEMBERS IN ATTENDANCE:

<u>Name</u> Chris Beck Gary Fandrei Brett Huber Chuck Meacham, Chair Stan Senner Stacy Studebaker Martha Vlasoff Principal Interest Public-at-Large Public-at-Large Sport Hunting & Fishing Science/Academic Environmental Recreation Users Subsistence

E. NOT REPRESENTED:

Name Dan Hull James King Torie Baker Chris Blackburn Dave Cobb Pat Norman Gerry Sanger Vacant Chuck Totemoff Ed Zeine John Harris Loren Leman Principal Interest Public-at-Large Conservation Commercial Fishing Public-at-Large Public-at-Large Native Landowner Commercial Tourism Aquaculture Forest Products Local Government Alaska State House of Representatives (*ex officio*) Alaska State Senate (*ex officio*)

F. OTHER PARTICIPANTS:

<u>Name</u> DeDe Bohn Mimi Hogan Sheila Isanaka Molly McCammon Phil Mundy Doug Mutter Brenda Norcross Theresa Obermeyer Sandra Schubert

Organization

U.S. Geological Survey Chugach Regional Resources Commission Dept. of the Interior Trustee Council Staff Trustee Council Staff Designated Federal Officer, Dept. of the Interior University of Alaska Public Trustee Council Staff Trustee Council Staff

The meeting was convened June 20 at 8:35 a.m. by chairperson Chuck <u>Meacham</u>. Roll call was taken, a quorum was not present. The agenda was reviewed.

Molly <u>McCammon</u> gave the Executive Director's report. She reported that the "Alaska's Oceans and Watersheds: Sustainability in the Context of Change" Symposium held June 18-19 was a success. Video tapes will be available at the Alaska Resources Library and Information System (ARLIS). Transcripts of sessions will be on the EVOS web site in about two weeks. A printed report will also be issued. She noted that it would be useful for this type of symposium to be held on a regular basis. <u>Meacham</u> said he supported a follow-up on continued coordination and that a formal body should be considered to carry this forward. Stacy <u>Studebaker</u> agreed.

<u>McCammon</u> said the last core peer reviewer group meeting was held in mid-May to review proposals for FY2003 Phase I. The group also met jointly with the new Scientific and Technical Advisory Committee (STAC). EVOS investments are at about where they were 1-1/2 years ago due to stock market fluctuations. This October the \$55 million for the habitat part of GEM will be moved into its own account. <u>McCammon</u> mentioned a letter received from Patty <u>Brown-Schwalenberg</u> requesting the Trustee Council discuss its relationship with Tribal governments. The North Pacific Research Board will have a joint meeting with the Trustee Council on October 29.

<u>McCammon</u> reviewed the National Research Council (NRC) pre-publication report evaluating the GEM program document. The final NRC report should be out in another month. She noted that Brenda <u>Norcross</u>, who is on the NRC review committee, is also a member of the STAC and will be the STAC nomination for a PAG seat during the next two-year session. <u>McCammon</u> distributed a memorandum she wrote in response to the NRC report (see handout). The NRC review has been an iterative effort, so many of the recommendations have already been implemented into the current GEM document. The Trustee Council does not agree with the NRC comments in the community involvement chapter. Martha <u>Vlasoff</u> suggested looking at the work of the Maoris in New Zealand or Canada's northern contaminants program for a model approach to involving indigenous peoples. She said she was willing to assist with this. Phil <u>Mundy</u> said the latest GEM draft reflects most of the recommendations of the NRC report. If there are any questions, call <u>Mundy</u>, or Katharine <u>Miller</u>, the new EVOS Science Coordinator, or <u>McCammon</u>.

<u>Norcross</u> stated that the GEM document had a good synthesis of where things are at, but needed to be a shorter document with background information attached. It is important that consistency in long-term data sets be achieved and that data management be a priority. The GEM program is a unique opportunity in the world for truly long-term data gathering. She said the NRC review group did not endorse the GEM program because there were details they did not agree on and they had to follow the strict directions given for their review. <u>Norcross</u> noted that the STAC will assist in making detailed plans to implement the GEM program. Chris <u>Beck</u> asked if the emphasis on data management would lead to a change in GEM. <u>McCammon</u> replied that it was already slated to be approximately 20% of the GEM program. She also noted that the Trustee Council

decided not to change its mission or goals for GEM. The Trustee Council will meet July 9 to address the NRC report. <u>Meacham said that while GEM needed to promote long-term projects</u>, it also needed flexibility to address the "issue of the day" and to link with local communities.

<u>McCammon</u> discussed the status of the STAC. The seven members are in place and they have had an initial meeting. The members are: Phil <u>Mundy</u> (non-voting), Brenda <u>Norcross</u>, Warren <u>Wooster</u>, Charles <u>Miller</u>, Stephen <u>Braund</u>, Ron <u>O'Dor</u>, and Bill <u>Seitz</u>. <u>Mundy</u> said the STAC was creating one subcommittee for habitat to start with.

<u>McCammon</u> reviewed the draft FY2003 Invitation for Proposals, Phase II–which is out for internal review. About \$2 million is available for projects. <u>Mundy</u> noted that cross-habitat studies and synthesis projects would be favored. They are working on criteria for use in evaluating proposals. <u>Beck</u> said he was pleased with the emphasis on synthesis and would also like to see the linkages with agencies and resource management.

<u>McCammon</u> reported on the status of the revised PAG charter. The group name will be changed to the Public Advisory Committee (PAC). Modifications to the last version of the charter have been made and the Trustee Council approved the charter. It has been submitted to the Department of the Interior in Washington, D.C. for signature by the Secretary of the Interior. A request for nominations for the next two-year session will go out shortly and nominations will need to be to the Trustee Council by September 1. The new PAC is expected to be ready to operate in October. Any PAG members who wish to sit on the next session of the PAC should submit nomination packages. <u>Vlasoff</u> asked about alternates for members. <u>McCammon</u> responded that alternates were not allowed. Brett <u>Huber</u> said it was important to engage the public on specific issues. The group discussed ways to improve public participation. <u>Studebaker</u> suggested that the PAG could help design the next EVOS symposium, which may help increase public participation.

<u>McCammon</u> discussed the FY2003 work plan. Only two proposals submitted were not recommended for further consideration. Proposals and their status for Phase I were summarized by the following clusters:

Oil spill: lingering injury Oil spill: recovery monitoring Oil spill: ecosystem recovery and function GEM cross-habitat linkage: synthesis GEM cross-habitat linkage: community involvement GEM: watershed habitat GEM: intertidal/subtidal habitat GEM: Alaska coastal current habitat GEM: offshore habitat Data management and information transfer Science management Public information and administration <u>Beck</u> suggested the need for a good popular science writer to put together a synthesis of EVOS information. <u>McCammon</u> said that Joe Hunt has completed a book on EVOS lessons learned, they are looking for a publisher.

<u>McCammon</u> noted that Bob <u>Spies</u> will chair the lingering oil subcommittee and continue to review related project reports. Katharine <u>Miller</u> will take on STAC support and the peer review process. Stan <u>Senner</u> asked what the status of CIIMMS, the internet database tool, was. <u>McCammon</u> said it needed Department of Natural Resources and Department of Environmental Conservation support to maintain it. Bob <u>Walker</u> is reviewing it and other options for data management tools, including U.S. Geological Survey and Division of Governmental Coordination systems. She said people want to see mapped information.

<u>McCammon</u> outlined proposed changes to the Trustee Council operating procedures. She said there were a lot of financial procedure fixes, elimination of agency liaison positions, and revised report writing requirements for projects. Multi-year projects will not be required to submit annual proposals, and annual reports will be streamlined. The new data policy is more comprehensive. The Trustee Council will consider the changes at their July 9 meeting.

At 12:05 the meeting was open for public comment. Theresa <u>Obermever</u> gave personal testimony.

The proposed update to the Injured Resources list was discussed by <u>McCammon</u>. The public review process has yielded only 15 written comments (see handout) and 3 public testimonies. The Trustee Council is scheduled to act on the list at their July 9 meeting, but may postpone a decision until their next meeting. Disagreement has centered over the recommended status of harlequin ducks, clams, sediments/intertidal, herring, and killer whales. Discussion also occurred about the definition of the categories and what evidence is required to move a resource between categories. This status is only related to effects from the oil spill, not the general health of a resource. Another issue, said <u>McCammon</u>, is determining "how clean is clean," that is, when does injury stop occurring to a resource even though it may still be exposed to oil in the environment?

The PAG discussed various ways to examine the health of resources and their relation to the spill. <u>Meacham</u> suggested eliminating categories and using more general definitions. <u>Studebaker</u> suggested using the Audubon Society's "Watch List" as a model. <u>Senner</u> said that the current categories should be used to "close out" the restoration work on these resources, and that a new approach could be used in the future. <u>Beck</u> said there was value in measuring things, but it needed to be in a context. <u>Meacham</u> noted that as time progressed further from the spill, it becomes less likely to link resource status to spill effects. Gary <u>Fandrei</u> said he likes the list as an indicator of how long recovery really takes. <u>McCammon</u> stated that a summer intern was working on a project to examine various ways to determine how and when an injured resource had recovered.

<u>Fandrei</u> asked about the status of the traveling artifact displays. <u>McCammon</u> said they were now being developed as part of the larger archaeological project. <u>Vlasoff</u> mentioned that the Nuchek spirit camp in Prince William Sound has been modernized, and could be used as a retreat or training facility.

The meeting adjourned at 12:45 p.m.

H. FOLLOW-UP:

- 1. McCammon will send to PAG members a copy of the Symposium report.
- 2. PAG members are to get any comments on the NRC report to <u>McCammon</u> next week.
- 3. <u>McCammon</u> will send to the PAG biographical information on the STAC members.
- 4. PAG members are to get any comments on the Invitation for Proposal for Phase II to <u>McCammon</u> as soon as possible.
- 5. PAG members who wish to continue on the PAC should submit nomination packages in July.
- 6. PAG members are to get any comments on the proposed Trustee Council operating procedures to <u>McCammon</u> as soon as possible.

I. NEXT MEETINGS:

- A field trip to Prince William Sound in early September
- Possibly a joint meeting with the STAC in November

J. ATTACHMENTS: (Handouts, for those not present)

- 1. Memorandum to Trustee Council regarding NRC Report
- 2. Letter from Chugach Regional Resources Commission regarding Tribal Relationships
- 3. EVOS Tribal and Community Involvement paper
- 4. Recommendations for Citizen Volunteer Monitoring Models paper
- 5. Public comments on the draft Update to Injured Resources

K. CERTIFICATION:

PAG Chairperson

Date

Quarterly Project Report



441 W. 5" Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178 **MEMORANDUM**

TO:	Trustee Council
FROM:	Sandra Schubert Jude Program Director
THROUGH:	Molly McCammon Executive Director
DATE:	July 25, 2002

RE: Quarterly Project Status Summary -- April 1 - June 30, 2002

This memorandum summarizes the status of reports for the quarter ending June 30, 2002, for all restoration projects funded by the Trustee Council for FY 92-01. The memorandum also includes progress updates for FY 02 projects and the status of the 22 NRDA reports that were not final at the time the settlement agreement was reached.

Attachment A summarizes the status of project reports (including NRDA reports) by agency.

Attachment B lists the reports that are significantly behind schedule. Reports are on this list if (1) their due dates have passed and they have not yet been submitted to the Chief Scientist, (2) they were reviewed by the Chief Scientist, returned to the PI for revision longer ago than six months, and have not been revised and resubmitted to the Chief Scientist, or (3) they were submitted to the Chief Scientist for peer review more than six months ago and have not yet been peer reviewed.

Attachment C summarizes activities conducted during the April-June quarter for all projects underway in FY 02.

As of June 30, 2002, a total of 403 restoration project reports had been peer reviewed and accepted by the Chief Scientist (this is up from 395 reports accepted as of March 31, 2002). Once accepted by the Chief Scientist, reports are submitted to the Alaska Resources Library and Information Services (ARLIS). As of June 30, 364 reports were available to the public through ARLIS and other libraries around the state. Please contact the Trustee Council Office or ARLIS if you would like a list of the reports that are currently available to the public.

Status of FY 92 Project Reports as of June 30, 2002

A total of 75 reports are being produced on projects funded in the 1992 Work Plan. These reports are considered "final" reports and are subject to peer review and approval by the Chief Scientist. (NOTE: Reports "in progress" are in peer review, are under revision by the Pl in



Trustee Council July 25, 2002 Page 2

response to peer reviewer comments, or have been revised and are undergoing a second review by the Chief Scientist.)

Reports Available	Reports Accepted	Reports	No Report
to Public at ARLIS	by Chief Scientist	<u>in Progress</u>	Yet Submitted
	but Not Yet Available		
	<u>to Public</u>		
74	1	0	0

Status of FY 93 Project Reports as of June 30, 2002

A total of 28 final reports are being produced on projects funded in the 1993 Work Plan.

Reports Available	Reports Accepted	Reports	No Report
to Public at ARLIS	by Chief Scientist	in Progress	Yet Submitted
	but Not Yet Available		
	<u>to Public</u>		
25	2	0	1

Status of FY 94 Project Reports as of June 30, 2002

A total of 37 final reports are being produced on projects funded in the FY 94 Work Plan.

Reports Available	Reports Accepted	Reports	No Report
to Public at ARLIS	by Chief Scientist	in Progress	Yet Submitted
	but Not Yet Available		
	<u>to Public</u>		
37	0	0	0

Status of FY 95 Project Reports as of June 30, 2002

A total of 53 reports are being produced on projects funded in the FY 95 Work Plan. Beginning with the FY 95 project year, "annual" reports on continuing projects are peer reviewed, but are not required to be rewritten in response to peer review comments. Rather, the peer review comments are to be used to guide future work on the project.

Reports Available to Public at ARLIS	Reports Accepted by Chief Scientist but Not Yet Available	Reports <u>in Progress</u>	No Report <u>Yet Submitted</u>
53	<u>to Public</u> 0	0	0

Trustee Council July 25, 2002 Page 3

Status of FY 96 Projects as of June 30, 2002

A total of 50 reports are being produced on projects funded in the FY 96 Work Plan.

Reports Available	Reports Accepted	Reports	No Report
to Public at ARLIS	by Chief Scientist	in Progress	Yet Submitted
•	but Not Yet Available		
	<u>to Public</u>		
47	1	2	0

Status of FY 97 Projects as of June 30, 2002

A total of 53 reports are being produced on projects funded in the FY 97 Work Plan.

Reports Available	Reports Accepted	Reports	No Report
to Public at ARLIS	by Chief Scientist	<u>in Progress</u>	<u>Yet Submitted</u>
	but Not Yet Available		
	<u>to Public</u>		
53	0	0	0

Status of FY 98 Projects as of June 30, 2002

A total of 47 reports are being produced on projects funded in the FY 98 Work Plan.

Reports Available	Reports Accepted	Reports	No Report
to Public at ARLIS	by Chief Scientist	<u>in Progress</u>	Yet Submitted
	but Not Yet Available		
	<u>to Public</u>	· .	
38	4	5	0

Status of FY 99 Projects as of June 30, 2002

A total of 55 reports are being produced on projects funded in the FY 99 Work Plan.

Reports Available to Public at ARLIS	Reports Accepted by Chief Scientist but Not Yet Available <u>to Public</u>	Reports in Progress	No Report <u>Yet Submitted</u>
29	· 11	9	6

Trustee Council July 25, 2002 Page 4

Status of FY 00 Projects as of June 30, 2002

A total of 43 reports are being produced on projects funded in the FY 00 Work Plan.

Reports Available	Reports Accepted	Reports	No Report
to Fublic at ANLIS	but Not Yet Available	<u>III FIOGIESS</u>	<u>Tet Submitted</u>
7	18	10	7

Status of FY 01 Projects as of June 30, 2002

A total of 30 reports are being produced on projects funded in the FY 01 Work Plan.

Reports Accepted	Reports	No Report
by Chief Scientist	in Progress	Yet Submitted
but Not Yet Available		
to Public		
4	16	9
	Reports Accepted by Chief Scientist but Not Yet Available <u>to Public</u> 4	Reports AcceptedReportsby Chief Scientistin Progressbut Not Yet Availableto Public416

Status of FY 02 Projects as of June 30, 2002

A project-by-project summary of activities conducted during the April-June quarter is presented in **Attachment C**.

Status of NRDA Reports as of June 30, 2002

A total of 22 NRDA reports that were not final at the time the settlement agreement was reached are in the process of being finalized.

Reports Available	Reports Accepted	Reports	No Report
to Fublic at Artels	but Not Yet Available	<u>III FIOGLESS</u>	Ter Submitted
	to Public		
21	0	1	0

Summary of Project Report Status as of June 30, 2002

1992 WORK PLAN

1992 WORK	PLAN				
AGENCY	NUMBER OF	Not Yet	In Progress	Peer Rev'd/	Available to
	REPORTS	Submitted to		Accepted by	Public at
		Chief Sci.		Chief Scientist	ARLIS
ADEC	2	0	0	2	2
ADFG	26	. 0	0	26	25
ADNR	1	0	0	1	1
DOI	33	0	· 0	33	33
NOAA	11	0	0	11	11
USFS	2	0	0	2	2
TOTAL	75	0	0	75	74

1993 WORK PLAN

AGENCY	NUMBER OF REPORTS	Not Yet Submitted to Chief Sci	In Progress	Peer Rev'd/ Accepted by Chief Scientist	Available to Public at ARLIS
ADEC	2	0	0	2	2
ADFG	12	0	. 0	11	10
ADNR	0	0	0	0	0
DOI	9	0	0	9	9
NOAA	3	0	0	3	3
USFS	2	0	0	2	1
TOTAL	28	1	0	27	25

1994 WORK PLAN

	NUMBER OF	Not Yet	In Progress	Peer Rev'd/	Available to
AGENCY	DEDODTS	Submitted to		Accepted by	Public at
	KEPUK15	Chief Sci.		Chief Scientist	ARLIS
ADEC	·· 1	0	0	1	1
ADFG	19	0	0	19	19
ADNR	2	0	0 .	2	2
DOI	6	0	0	б	6
NOAA	5	0	0	5	5
USFS	4	0	0	4	4
TOTAL	37	0	0	37	37

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Summary of Project Report Status as of June 30, 2002

1995 WORK PLAN

AGENCY	NUMBER OF	Not Yet	In Progress	Peer Rev'd/	Available to
	REPORTS	Submitted to		Accepted by	Public at
		Chief Sci.		Chief Scientist	ARLIS
ADEC	4	0	0	3	4
ADFG	27	0	• 0	26	27
ADNR	1	0	0	1	1
DOI	7	0	0	7	7
NOAA	8	. 0	0	8	8
USFS	6	0	0	6	6
TOTAL	53	0	0	51	53

1996 WORK PLAN

AGENCY	NUMBER OF	Not Yet	In Progress	Peer Rev'd/	Available to
	REPORTS	Submitted to		Accepted by	Public at
		Chief Sci.		Chief Scientist	ARLIS
ADEC	1	0	0	. 1	0
ADFG	-27		· · · · · · · · · · · · · · · · · · ·	25	25
ADNR	3	0	0	3	. 3
DOI	3	0	0	3	3
NOAA	9	0	0	9	9
USFS	7	0.	0	7	7
TOTAL	50	0	2	48	47

1997 WORK PLAN

AGENCY	NUMBER OF	Not Yet	In Progress	Peer Rev'd/	Available to
	REPORTS	Submitted to		Accepted by	Public at
		Chief Sci.		Chief Scientist	ARLIS
ADEC	2	0	0	2	2
ADFG	28	0	0	28	28
ADNR	4	0	0	· 4	4
DOI	6.	0	0	6	6
NOAA	7	0	0	7	7
USFS	6	0	0	б -	б
TOTAL	53	0	0	53	53

Summary of Project Report Status as of June 30, 2002

1998 WORK PLAN

AGENCY	NUMBER OF	Not Yet	In Progress	Peer Rev'd/	Available to
	REPORTS	Submitted to		Accepted by	Public at
		Chief Sci.	·	Chief Scientist	ARLIS
ADEC	1	0	1	0	0
ADFG	21	0	2	19	17
ADNR	2	0	0	2	2
DOI	7	0	0	7	7
NOAA	12	0	0	12	10
USFS	4	0	2	2	2
TOTAL	47	0	5	42	38

1999 WORK PLAN

AGENC	Y	NUMBER OF	Not Yet	In Progress	Peer Rev'd/	Available to
		REPORTS	Submitted to		Accepted by	Public at
[Chief Sci.		Chief Scientist	ARLIS
ADEC	;	1	0	0	1	0
ADFG	+ .	24	2 .	. 5	18	. 14
ADNR		4	0	1	3	3
DOI		10	0	2	8	4
NOAA		11	3.	0	7	6
USFS		5	1	1	3	2
TOTAL	Ĺ	55	6	9	40	29

2000 WORK PLAN

AGENCY	NUMBER OF	Not Yet	In Progress	Peer Rev'd/	Available to
	REPORTS	Submitted to		Accepted by	Public at
		Chief Sci.		Chief Scientist	ARLIS
ADEC	2	0	1	1	0
ADFG	18	2	5	11	3
ADNR	0	0	0	0	0
DOI	9	3	1	5	2
NOAA	12	2	3	7	0
USFS	2	0	0	- 1	2
TOTAL	43	7	10	25	7

Summary of Project Report Status as of June 30, 2002

2001 WORK PLAN

AGENCY	NUMBER OF	Not Yet	In Progress	Peer Rev'd/	Available to
	REPORTS	Submitted to		Accepted by	Public at
		Chief Sci.		Chief Scientist	ARLIS
ADEC	0	0	0	0	0
ADFG	9	2	4	3	0
ADNR	1	0	0	1	1
DOI	7	2	5	0	0
NOAA	12	5	6	1	0
USFS	1	0	1	0	0
TOTAL	30	9	16	. 5	1

NRDA REPORT COMPLETION

AGENCY	NUMBER OF	Not Yet	In Progress	Peer Rev'd/	Available to
	REPORTS	Submitted to		Accepted by	Public at
		Chief Sci.		Chief Scientist	ARLIS
ADEC	1	0	0	1	1
ADFG	17	0	1	16	16
DOI	2 .	0	0	2	2
NOAA	2	0	0	2	2
TOTAL	22	0	1	21	21

ATTACHMENT B Overdue Reports (as of 6/30/02)

Agency	Project	PI	Final or	Project Title	Status of Report
	Number	·	Annual		-
ADEC	98291	See	Final	Chenega shoreline oiling	Peer reviewed; returned to PI for revision 2/18/00.
ADEC	00530	See	Final	Lessons learned	Peer reviewed; returned to PI for revision 12/10/01.
ADFG	93033-2	Rothe	Final	Harlequin restoration	Never submitted; most recent due date was 7/1/98;
				•	then expected 5/31/00; now expected 7/1/02.
ADFG	99139A2	Dickson	Final	Port Dick restoration	Peer reviewed; returned to PI for revision 12/15/00.
ADFG	99162B	Kennedy	Ms.	Herring disease	4 manuscripts were due 9/30/00; 3 not submitted.
ADFG	99252-1	L. Seeb	Final	Genetics project: pollock	Never submitted; was due 9/30/99; then expected
				component	4/30/00; then expected 3/02.
ADFG	99252 - 2	L. Seeb	Final	Genetics project: black	Never submitted; was due 1/31/00; then expected
				rockfish component	6/30/00; then expected 4/02.
ADFG	00273	Rosenberg	Annual	Surf scoters	Never submitted; was due 9/30/01.
ADFG	00371	Schell	Final	Harbor seal isotopes	Never submitted; was due 11/15/01 (extended from
					9/30/01).
ADFG	00509	Small, Frost	Final	Harbor seal long-term	Peer reviewed; returned to PI for revision 6/18/01.
				monitoring	
ADFG	01064	Frost	Ms.	Harbor seals	7 ms. due in March, June, Sept., and Dec. 2001 &
		•			March 2002 are overdue
ADFG	01163	E. Brown	Ms.	APEX synthesis ms. (A/T)	Never submitted; was due 9/30/01. Now expect
				:	6/30/02.
ADFG	02441	R. Davis	Final	Harbor seal diet	Never submitted; was due 6/30/02. (5 ms. also being
				:	prepared)
ADFG	02612	Hauser	Plan	Marine-terrestrial linkages	Never submitted; was due 4/15/02. Now expect mid-
					July 2002.
ADNR	99007A	Bittner	N'book	Archaeology	Restoration Notebook Series was due 4/15/00; never
					submitted. Bittner has taken over for Reger, who
					retired.
ADNR	99180	Weiner	Final	Kenai River Restoration	Peer reviewed; returned to PI for revision 10/11/01.
DOI	99459	Irvine	Final	GOA residual oil	Peer reviewed; returned to PI for revision 3/27/01.
DOI	00169	Friesen	Final	Seabird genetics	Never submitted; was due 3/31/02; then expected
1					5/31/02; now expected 7/31/02.
DOI	00327-2	Divoky	Final	Pigeon guillemots	Never submitted; was due 9/30/01.
report2				7/25/02	

ATTACHMENT B Overdue Reports (as of 6/30/02)

DOI	00501	Piatt	Final	Seabird monitoring	Never submitted; was due 9/30/00; due date extended to 10/31/00; then expected 3/31/02.
DOI	01163	Piatt	ms.	APEX synthesis ms. (M/E/I/)	Never submitted; was due 9/30/01.
DOI	01338	Piatt	Final	Murre/kittiwake survival	Never submitted; was due 9/15/01; now expect 9/15/02.
DOI	01404	Nielsen	Annual	Archive tags	Never submitted; was due 4/15/02; then expected 5/15/02.
DOI	01555	Lanctot	Final	Stress hormones	Peer reviewed; returned to PI for revision 11/19/01. Now expected 10/1/02 as additional sample collection and lab work is need to respond to peer review.
NOAA	99090 ,	Carls	Final	Mussel bed monitoring	Never submitted due to loss of 2 ABL personnel; was due 4/15/00; due date was extended to 8/25/00; then expected 1/1/01; then expected 2/02; then expected 5/02. (ms. also not submitted)
NOAA	99163	Duffy, et al	Final	APEX	Never submitted; was due 9/30/00 (delay due to delay in Piatt's subproject M, which has now been submitted).
NOAA	99347	Heintz	Final	Fatty acids & lipids RE diet composition	Never submitted; was due 9/30/00; then expected 10/30/01; now expected 7/27/02.
NOAA	00048	Ruggerone	Ms.	Sockeye salmon	2 manuscripts were due 12/99; then expected 11/15/00 and 3/01.
NOAA	00195	Short	Annual	Pristane	Never submitted; was due 4/15/01; then expected 7/1/01; now expected 7/26/02.
NOAA	00330	Pauly & Okey	Ms.	Mass-balance model	4 manuscripts were due 9/30/00; 1 not submitted.
NOAA	00454	Rice	Final	Salmon natal habitats	Never submitted; was due 9/30/01.
NOAA	00493	Anderson	Final	Trawl survey	Peer reviewed; returned to PI for revision 7/12/01.
NOAA	00510	McDonald	Ms.	Intertidal monitoring recommendations	Two manuscripts were due 4/15/00; 1 not submitted.
NOAA	00598	Short	Ms.	EVO vs. regional background hydrocarbons	Never submitted; was due 8/00; was expected 7/1/01 then 5/02; then 8/02; now 12/02.
NOAA	01163	Duffy, et al	14 ms.	APEX synthesis ms.	Never submitted; were due 9/30/01.

ATTACHMENT B Overdue Reports (as of 6/30/02)

NOAA	01195	Short	Annual	Pristane	Never submitted; was due 4/15/02; now expected 7/26/02.
NOAA	01401	O'Clair	Final	Spot shrimp	Never submitted. Was due 4/15/02 but PI retired; now expect 9/1/02.
NOAA	01476	Heintz	Annual	Oiled incubation	Never submitted; was due 4/15/02.
NOAA	01492	Thedinga	Final	Bias in pink salmon embryo studies	Never submitted; was due 4/15/02; now expect 9/1/02.
NOAA	01599	Short	Final	Yakataga oil seeps	Never submitted; was due 4/15/02; now expect
USFS	98145	Reeves	Final	Cutts & dollys: anadromous forms	Peer reviewed; returned to PI for revision 12/15/00; was expected 1/02; then expected 4/02.
USFS	99339-2	Suring	Final	Human use model & recommendations	Never submitted; was due 12/31/99, then expected 4/1/02. PI transferred out of state and is completing on own time.
The follov	ving reports	s were submitte	d to the C	hief Scientist for peer revie	w more than 6 months ago:
	internation (Constraint) Charles (Constraint)				Date submitted:
00245	Annual	Harbor seal bi	osamplino	i i	9/18/01

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Exxon Valdez Oil Spill Project Status Summary FY 02 Work Plan Quarter Ending June 30, 2002

<u>Proj.No.</u>	Project Title	<u>Proposer</u>	<u>Lead</u> Agency
02012-BAA	Photographic and Acoustic Monitoring of Killer Whales in Prince William Sound and Kenai Fjord	C. Matkin/North Gulf Oceanic Is Society	NOAA
Project Ta	sks to be Completed this Quarter		
<u>Oct-Dec</u> DONE-Analy DONE-Input	ze photos from 2001 fieldwork data into GIS system		
<u>Jan - March</u> DONE-Sumr DONE-Analy UNDERWAY DONE-Atten	narize monitoring field work for 2001 ze killer whale calls from 2001 ′; WILL INCLUDE IN FINAL REPORT DUE 4/15/03Ar d Annual Workshop (1/22-25)	nalyze and interpret GIS data for Kenai	Fjords region
<u>April-June</u> DONE-Analy DUE DATE E RATHER TH	ze remote hydrophone data collected through 2001 EXTENDED TO 4/15/03 (THE NOAA CONTRACT ON IAN ON THE FISCAL YEAR); ANNUAL REPORT SUI	I THIS PROJECT RUNS MARCH-FEB 3MITTED 4/02-Final report due 4/30/02	EACH YEAR,
July-Sept			
Conferences DONE; PRE Biology of Ma	SENTED PAPER ON KILLER WHALE POPULATION arine Mammals, Vancouver, BC (funded in FY 01)	DYNAMICS-November 2001: Biennial	Conference on
Publications UNDERWAY (carried over	′-Matkin, et al. Populations of killer whales in PWS 11 from FY 01)	years after EVOS; submit to Marine Ma	ammal Science
·			

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<u>Proj.No.</u>	Project Title	Proposer	<u>Lead</u> Agency
02052	Natural Resource Management and Stewardship Capacity Building	P. Brown- Schwalenberg/CRRC	ADFG
Project Ta NOTE: PRC AUTHORIZI WORKSHO JULY 2002. JUNE UPDA Jan-March DONE-Com ?-Natural Re	asks to be Completed this Quarter DJECT DEFERRED IN AUGUST (EXCEPT FOR SMALL ED TO PAY TRAVEL EXPENSES FOR COMMUNITY F. P). TC APPROVED BALANCE OF FUNDS 4/18/02, BU ATE NOT PROVIDED. Munity facilitators attend Annual Restoration Workshop (esource Specialists attend Region X EPA Environmental	AMOUNT OF INTERIM FUNDS THAT ACILITATORS TO ATTEND ANNUAL R T FUNDS NOT ACTUALLY RECEIVED (1/22-25) Conference and Alaska Forum on the E	WERE ESTORATION BY PI UNTIL
Conference ?-Natural Re	esource Specialists attend BIA Integrated Resource Man	agement Program Development Confere	ence
April-June DONE (MIM Renew subc Renew contr Contract with Natural Rese	II HOGAN)-Hire Tribal Natural Resource Program Planne contracts with tribes for Natural Resource Specialists ract with TEK Specialist h a Science Advisor ource Specialists attend Native American Fish & Wildlife	er Society Conference	
<u>July-Sept</u> Complete Tr Complete In Complete Ta	ibal Natural Resource Management Plans for Eyak, Port ter-Tribal Integrated Natural Resource Management Plan atitlek Tribal Action Plans for specific marine species	Graham, Nanwalek, and Ouzinkie n	
<u>Ongoing</u> Participate ir Participate ir	n GEM planning meetings and workshops n capacity building and training activities as the opportun	ities arise	
<u>FY 00 tasks</u> -Identify spe -Pilot commu -Develop dra -Work with n	<u>not completed during FY 00:</u> cies on which to develop monitoring programs at local le unities talk to adjacent landholders regarding stewardshi aft GEM Community Integration Plan non-pilot communities to develop tribal natural resource r	vel p & mgt. ngt. programs	
02100	Public Information, Science Management, and Administration	All Trustee Council Agencies	ALL
Project Ta	sks to be Completed this Quarter		··
N/A	· ·		
).			,

Exxon Valdez Oil Spill Project Status Summary FY 02 Work Plan

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Quarter Ending June 30, 2002

<u>Proj.No.</u>	Project Title	<u>Proposer</u>	<u>Lead</u> Agency
02126	Habitat Protection and Acquisition Support	ADNR, DOI/USFWS, U	ADNR USFS DOI
	·		
Project Ta	asks to be Completed this Quarter		
In FY 02, wo	ork is expected on the following parcels:		
<u>Small parce</u> Kodiak Tax USFS & UN RECEIVED USFS & UN RECEIVED Alaska Peni ALSO, CHO	Is: & Larsen Bay Shareholder parcels: KAP 1098, 2000, 2 IVERSITY CONTINUE NEGOTIATIONS OVER SUBS LEGISLATIVE AUTHORITY -Valdez Duck Flats: PWS IVERSITY CONTINUE NEGOTIATIONS OVER PURC LEGISLATIVE AUTHORITY -Kenai parcels: KEN 294 , nsula parcels: KAP 281 3 Saints Bay, KAP 283 Chiniak KWAK NEARING COMPLETION (HAZMAT DONE) A	019, 2042, 2069, and 6 not yet identified URFACE-Valdez Duck Flats: PWS 05 06 HASE AGREEMENT-Jack Bay: PWS 10 Anchor River, KEN 309 Ninilchik River & Bay, KAP 285 Hook Bay ND WORK STARTED ON SWARTZES	010
Large parce	i <u>s</u> :		
ONGOING-I	Koniag Phase II with exchange		
EXCLUSION	NS DONE-AKI Phase IV, exclusion V		
	Did Harbor exchange		
	AJV subsurface		
NEGOTIATI	ONS ONGOING-Karluk		
Eyak final cl DONE-Tatifl	osing (Power Creek) ek exchange		
02144	Common Murre Population Monitoring	D. Roseneau/USFWS	DOI
<u>Project La</u>	sks to be Completed this Quarter		
<u>OCI-Dec</u>			
Ion Mor			
DONE-Atten	d Annual Workshop (1/22-25)		
DONE-Subn	nit draft final report for in-house review		
April-June			
DONE-Subn	nit final report to Chief Scientist (4/15/02)		
July-Sent			
<u></u>			
02154	Support Costs: Archaeological Repository/Displa	av J. Bittner/ADNR	
	Facilities/Exhibits		
)			•
Proiect Ta	sks to be Completed this Quarter		
N/A			

Exxon Valdez Oil Spill Project Status Summary FY 02 Work Plan

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Quarter Ending June 30, 2002

<u>Proj.No.</u>	Project Title	Proposer	<u>Lead</u> Agency
02159	Surveys to Monitor Marin William Sound	ne Bird Abundance in Prince D. Irons/USFWS	DOI
Project Ta NOTE: THIS FINAL REPO	sks to be Completed this Q S PROJECT WAS APPROVE DRT PREPARATION ONLY;	Quarter ED 12/11/01 CONTINGENT ON A REVISED DPD THAT REE AS OF 7/24/02 REVISED DPD NOT YET RECEIVED.	DUCES SCOPE TO
Jan-Mar			
<u>April-June</u> July-Sept			
)			
~02163M	APEX: Numerical and Fur Seabirds to Fluctuations	in Forage Fish Density	DOI
Project Ta NO UPDATE	<u>sks to be Completed this Q</u> PROVIDED.	<u>uarter</u>	
June 30 Complete 8 f -Role of food -Feeding ecc -Chick feedin colonies with -Breeding bid -Spatial asso -Foraging ec -Cost of egg -Breeding bid	Final synthesis manuscripts: I supply & environmental varia ology of common murres & bla ng rates, foraging time budget differing food regimes; Beha ology of common murres & bl ociations of seabirds and their ology of seabirds in lower Co production in common murre blogy and feeding ecology of l	ability in regulation of seabird population; Ecological Monogra ack-legged kittiwakes in relation to food availability; MEPS ts, & nest site attendance of common murres & black-legged avioral Ecology lack legged kittiwakes in relation to food availability; Ecology prey; MEPS ok Inlet; Speckman PhD dissertation es; Oecologia horned puffins at Chisik Island; Condor	phs kittiwakes at 3
<u>Sept 30</u> Submit manu	uscripts for journal publication	1	



Proj.No.	Project Title	Proposer	<u>Lead</u> Agency
02190	Construction of a Linkage Map for the Pink Salmon Genome	F. Allendorf/Univ. Montana	ADFG
-			
Project Tas Conferences MAY 29 PRE	sks to be Completed this Quarter SENTED POSTER AT LOWELL WAKEFIELD SYMPOSIU	IM/JUNEAU; MAY 21 PRESENTED	TALK ON
PRELIMINAF IDAHO-Natio	RY FINDINGS FROM RETURNING FISH AT PACIFIC INL/ onal meeting (\$900)	AND SALMONID RENDEZVOUS, U	INIV.
Manuscripts Lindner, et al	(from FY 01) . To be submitted to Genetics. Linkage map for pink salmo	n based on gynogenetic haploids &	half-tetrads
by Dec 2001 GENOTYPEI LOCI (SSA40 Perform mor	D ALL 262 EXPERIMENTAL PINK SALMON COLLECTED 08, 0MY301, 0TS1). Complete genetic analyses of fry from phological analysis of returning adults from 1999 cohort	IN AUG. & SEPT. 2001 AT 3 MICR 1999 cohort samples at time of rele	OSATELLITE ase from ASLC
by Mar 2002 GENOTYPIN PLACED INT MAP COMPL linkage map	IG COMPLETED AT 9 LOCI AND A GROWTH HORMONE O THEIR FAMILY OF ORIGIN EXCEPT FOR 3 FISH THA ETED; 103 OF 123 LOCI HAVE BEEN ADDED TO 33 LIN	LOCUS. THIS ALLOWED ALL TH T DO NOT BELONG TO THE 1999 KAGE GROUPS-Add markers to th	E FISH TO BE COHORT. e even-year
<u>April 15, 2002</u> DONE-Subm JUNE UPDA ADDITIONAL	<u>2</u> it annual report TE: CONTINUED ANALYSIS OF THE 259 PINK SALMON _ 13 ALLOZYME LOCI.	COLLECTED AUG/SEPT 2001 AT	AN
<u>by July 2002</u> CALCULATE COMPONEN WEIGHT-Per	D HERITABILITIES OF BODY LENGTH AT SEXUAL MAT TS OF FEMALE REPRODUCTIVE SUCCESS: MEAN EG form genetic analyses of adults from 1999 cohort that retur	URITY AS WELL AS THOSE OF S G SIZE, TOTAL EGG NUMBER, TO n to ASLC	EVERAL DTAL EGG
<u>by Sept 2002</u> Perfrom data survival and f Submit ms. d Submit ms. c	analysis to test for correlations between markers from the fitness in the returns of the 1999 cohort lescribing results of marine survival and fitness experiment omparing odd- and even-year linkage maps	linkage map and traits associated w	vith marine
)			

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<u>Proj.No.</u>	Project Title	<u>Proposer</u>	<u>Lead</u> <u>Agency</u>
02195	Pristane Monitoring in Mussels	J. Short, P. Harris/NOAA	NOAA

Project Tasks to be Completed this Quarter

NOTE: March 21, 2002 Executive Director approved additional year of sample collection in FY 02, rather than the closeout described in the DPD.

Oct-Dec

DONE-Submit sample collection and pristane concentration data to pristane database DONE-Compile pink salmon survival data from PWSAC and ADF&G

<u>Jan-March</u> DONE-Attend Annual Workshop (Jan 22-25)

<u>April-June</u> DELAYED-Submit annual report (4/15)

July-Sept

<u>Conferences</u> 2 unidentified scientific meetings (\$2,600)

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<u>Proj.No.</u>	Project Title	Proposer	<u>Lead</u> Agency
02210	Prince William Sound/Lower Cook Inlet Youth Area Watch	R. DeLorenzo/Chugach School District	ADFG
Project Ta Sept 3 TEACHER DONE-Site I DONE-Site I DONE-Scho DONE-Selec Oct-Dec DONE-Stud DONE-Com DONE-Prepa Jan-March CANCELED BROADCAS DONE-Coord DONE-Site I DONE-Site I DO	Asks to be Completed this Quarter Asks to be Completed this Quarter Asks PI WERE TRAINED - JASON training (all YAW site con- leacher orientation of site orientation of site orientation at training plete protocol training for teachers are weather station at each site ; NONE OF THE PROJECT'S STUDENTS WERE SELECT T-JASON live broadcast (1 coordinator, 2 students) dinator sends data to PIs 3/1/02 eacher follow-up training dinator sends data to PIs 6/1/02 Dents complete project reports 6/1/02 DENTS TRAVELED TO ALASKA SEALIFE CENTER AND A ACKING AND IDENTIFICATION CRUISES dent Activities: b site mussel collection er station monitoring or seal samples with local hunters al projects cumenting local TEK exchange information with PIs	ordinators and 5 additional teachers) TED TO PARTICIPATE IN THE ALSO TRAVELED TO SEWARD TO	PARTICIPATE

NRΔF

Lead Proj.No. **Project Title** Proposer Agency V. Vanek/ADFG, M. Riedel/Alaska 02245 Community-Based Harbor Seal Management and ADFG **Biological Sampling** Native Harbor Seal Commission Project Tasks to be Completed this Quarter Ongoing Collect biological samples Process samples Oct-Dec DONE; HOWEVER, PERRYVILLE HUNTERS NOT ABLE TO ATTEND DUE TO WEATHER; HUNTERS FROM NON-EVOS AREA ATTENDED WITH OTHER FUNDING-Hold training sessions for new community technicians and students ALSO: PARTICIPATE IN JASON PROJECT <u>Jan-Mar</u> UNABLE TO ATTEND DUE TO PARTICIPATION IN JASON PROJECT-Attend Annual Workshop (Jan 22-25) CANCELED-Produce & distribute newsletter (ANHSC) April-June DONE-ANHSC meeting July-Sept Final report due 9/30/02

Exxon Valdez Oil Spill Project Status Summary FY 02 Work Plan

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Proj.No.	Project Title	<u>Proposer</u>	<u>Lead</u> Agency
02247	Kametolook River Coho Salmon Subsistence Proje	ct J. McCullough, L. Scarbrough/ADFG	ADFG
Project Ta Oct-Dec A Local assist ADFG perso Stream surv juvenile fish Set up scho Obtain FTP Perform ma Conduct eso Perform coh Sample saln Meet with st Meet with C	ALL TASKS DONE ants conduct stream surveys for coho & report findings to onnel travel to Perryville to capture adult coho & place in h eys & genetic /pathological work in local area river system to Kametolook R. and egg boxes ol aquarium for school aquarium intenance of instream incubation system capement surveys to salmon egg take, fertilize eggs, place in incubation boxe non for genetic & pathology tests udents & community to discuss project hignik RPT/CRAA & Perryville Subsistence Work Group to	ADFG olding pens n for FTP requirement to transport es (Kametook and a nearby river if o discuss project	coho eggs and/or FTP allows)
Dec-March DONE-Loca COMPLETIC DONE-ADF DID NOT AT DONE-Atter DONE-Atter	l assistants make monthly trips to incubation boxes to insp DN DELAYED TO AUGUST 2002-ADFG analyze subsiste G analyze commercial harvest data TEND-Attend Annual Workshop (Jan. 22-25) Id Chignik Subsistence Work Group meeting (Anchorage) Id Board of Fisheries meeting to discuss Kametolook proje	pect condition of boxes & eggs ence data ect (Anchorage or Kodiak)	
<u>April-June</u> DONE-Meet DONE-Loca DONE-Sanit DONE MID-	with assessment team to evaluate project I assistants monitor boxes for fry release ize boxes after fry leaves APRIL-Students release aquarium fry into Kametolook Riv	ver	
<u>July-Sept</u> DONE-RPT -Final report	meet in Chignik Bay to review project status & look for oth due 9/30/02	ner funding sources	
02250	Project Management	All Trustee Council Agencies	ALL
Project Ta	sks to be Completed this Quarter		<u>~</u>

N/A



Proj.No.	Project Title	Proposer	<u>Lead</u> Agency
02256B-CLO	Sockeye Salmon Stocking at Solf Lake	D. Gillikin/USFS	USFS
	· · ·		
Project Ta	sks to be Completed this Quarter	<u> </u>	
<u>Jan</u> Attend Annua	al Workshop (Jan 22-25)		
<u>Jan-April</u> Prepare for fi	ield season; hire crew		
April-July "STARTED N returning adu	MAINTENANCE IN JULY AND ARE MONITORING F	OR RETURNING FISH"Evaluate fish	way & monitor
<u>Sept</u> Final report d	lue 9/30/02	· · · · · · · · ·	
2290	Hydrocarbon Database and Interpretation Servic	ce J. Short, B. Nelson/NOAA	NOAA
Project Tas	sks to be Completed this Quarter	·····	
<u>Jan</u> DONE-Attend	d Annual Workshop (Jan 22-25)		
<u>April 15</u> DONE-Subm	it annual report in form of updated release of hydroca	arbon data software	
<u>Conferences</u> -Quality Assu	rance Control/NIST (\$1,400)		
02320	Sound Ecosystem Assessment (SEA): Printing t Final Report	he W. Hauser/ADFG	ADFG
Project Tas	sks to be Completed this Quarter		
<u>Jan-Mar</u> DELAYED-Pi DELAYED-Pi	rint and distribute final report. ost final report on web.	•	

Exxon Valdez Oil Spill Project Status Summary FY 02 Work Plan DRAFT

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·	Project Title	Proposer	<u>Lead</u> Agency
02340	Toward Long-Term Oceanographic Monitoring of Gulf of Alaska Ecosystem	the T. Weingartner/ UAF	ADFG
Project Ta	sks to be Completed this Quarter		
<u>Monthly</u> CTD survey Update horr Prepare win	s lepage as data are processed & entered dfields and acquire meteorological fieldds		
<u>Nov-Dec</u> DONE IN M	ARCH-Deploy mooring		
<u>Jan-Mar</u> DONE-Atter ALSO PRES	nd Annual Workshop (Jan 22-25) SENTED SOME PROJECT RESULTS TO A NORTH PC	DLE HIGH SCHOOL SCIENCE CLASS	
<u>April</u> DONE-Subr ALSO PRES	nit annual report 4/15 ENTED SOME PROJECT RESULTS TO GLOBEC NA	TIONAL SCIENCE STEERING COMMI	TTEE
Sept Recover mo	oring, send instruments for post-calibration, begin data p	processing	
Publications Budget inclu	des \$1,000 in page charges for 1 ms.		· · · · · · · · · · · · · · · · · · ·
02360-BAA	The Exxon Valdez Oil Spill: Guidance for Future Research Activities	C. Elfring/Polar Research Board NRC	, NOAA
02360-BAA	The Exxon Valdez Oil Spill: Guidance for Future Research Activities sks to be Completed this Quarter	C. Elfring/Polar Research Board NRC	, NOAA
02360-BAA Project Ta Oct-Dec DONE-5th n	The Exxon Valdez Oil Spill: Guidance for Future Research Activities sks to be Completed this Quarter neeting (report-writing workshop, finalize conclusions & r	C. Elfring/Polar Research Board NRC ecommendations)	, NOAA
<u>Project Ta</u> <u>Oct-Dec</u> DONE-5th n <u>Jan-Mar</u> DONE-6th m DONE-Repo DONE-Outs DONE-Resp DONE-Resp DONE-Final	The Exxon Valdez Oil Spill: Guidance for Future Research Activities sks to be Completed this Quarter neeting (report-writing workshop, finalize conclusions & r neeting (editorial subgroup work on final report) ort prepared for NAS outside review process (Jan) de review occurs (Jan) onse to review (Feb) revisions: NAS approval process (Mar)	C. Elfring/Polar Research Board NRC ecommendations)	, NOAA

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<u>Proj.No.</u>	Project Title	Proposer	<u>Lead</u> Agency
02395	Workshop on Nearshore/Intertidal Monitoring	T. Dean/Coastal Resources Associates, C. Schoch/Kachemak Bay NERR	ADFG
Project Ta	asks to be Completed this Quarter		
<u>Nov</u> DONE-Conv	vene expert panel		
<u>Jan</u> DONE-Pres	ent draft plan at workshop (citizen review)		
<u>March 31</u> DRAFT FIN to TC	AL REPORT SUBMITTED TO CHIEF SCIENTIST 4/4/02;	UNDER PEER REVIEW-Complete pla	an and present
02396	Alaska Salmon Shark Assessment	J. Rice, L. Hulbert/NOAA	NOAA
Oct-Dec DONE-Orga DONE-Anal Dec-July DONE-Atter	anize & analyze stomach data yze SPOT2 satellite tag data (position only tags) od Annual Workshon (Jan 22-25)		
UNDERWA UNDERWA	Y; LAST TAG WILL POP UP IN JULY-Retrieve, analyze, a Y-Analyze salmon shark stomach contents from contribution	and synthesize satellite tag data ons to the project from other sources	
<u>Sept 30</u> Final report	due		
02401	Assessment of Spot Shrimp Abundance in Prince William Sound	C. Hughey/ Valdez Native Tribe, C. O'Clair/ NOAA	NOAA
Project Ta	asks to be Completed this Quarter		
<u>Oct-Dec</u> UNDERWA` ovigerous fe	Y-Complete comparison of spot shrimp abundance, sex ar males between sites and years	nd size composition, fecundity & propo	rtion of
<u>Jan-March</u> ?-Attend An DONE-Com historical da	nual Workshop (Jan 22-25) plete comparison of the abundance data and the date on p ta collected by ADF&G	population structure obtained under the	project with
April 15 DELAYED D	DUE TO RETIREMENT OF NOAA PI; NOW EXPECT TO	SUBMIT REPORT SEPTEMBER 1, 20	02-Submit final

report & recommendations to ADF&G for PWS shrimp management plan

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<u>Proj.No.</u>	Project Title	<u>Proposer</u>	<u>Lead</u> Agency
02404	Testing Archival Tag Technology in Coho Salmon	J. Nielsen/USGS-BRD	DOI
Project T	asks to be Completed this Quarter		
Delayed fro DONE; REC	<u>m FY 01:</u> COVERED MAY 2002-Deploy light sensor tag array on stati	onary buoy in PWS	
<u>Dec-Jan</u> DONE-Initia DONE-Impl DONE-Atte	ate accelerated growth protocols for 300 coho at Fort Richa lement population monitoring for growth and survival in coho nd Annual Workshop (Jan 22-25)	rdson Hatchery. o salmon.	
<u>March</u> DONE-Purc DONE, BUT ATTACHIN	chase additional archive tags (2nd generation) for coho stuc T USED PIT TAGS (NOT VI) BECAUSE THE PIT TAGS AF G WELL)-Initiate VI tagging in fish at critical size.	ly. RE MORE RELIABLE (VI TAGS \	WERE NOT
April-June DONE (IMP year surgica	PLANTED 175; OF ORIGINAL ESTIMATE OF 200, 25 WEF al implants of tags in captivity for estimates of survival, stres Richardson Hatchery	RE NOT LARGE ENOUGH FOR ss, swimming ability and delayed	SURGERY)-Second mortality in tagged
⁻ DELAYED ⁻ report (4/15	TO 10/30/02 SO THAT SOME DATA CAN BE INCLUDED F	PENDING RETURN OF SOME F	ISH-Submit annual
DONE-Rele	, ase tagged coho wITh general hatchery release into Ship C	Creek	
July-Sept	d avaluate tagged fich receivery survival, helpovier and tag	rotantian from fich recovered in t	an Shin Crook coort

-Monitor and evaluate tagged fish recovery, survival, behavior and tag retention from fish recovered in the Ship Creek sport fishering and weir and the Cook Inlet commercial fishery

-Present at AFS meeting (Baltimore, August, \$800)

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<u>Proj.No.</u>	Project Title	Proposer	<u>Lead</u> <u>Agency</u>
02407	Harlequin Duck Population Dynam	nics D. Rosenberg/ADFG	ADFG
Project 7	asks to be Completed this Quarter		
<u>Conference</u> -Harlequin	<u>es</u> Duck Working Group (\$1,100; Nov. 200	2 Vancouver, BC)	
<u>Oct-Dec</u> DONE-Coo DONE-Pre DONE-Cor DONE-Hire	ordinate and plan surveys pare equipment ntract for vessel support e personnel		
Jan-March DONE-Cor DONE-Atte	nduct population surveys and Annual Workshop (1/22-25)		
April-June UNDERWA DONE-Mai	AY-Data analysis and report preparation ntain equipment		
July-Sept -Submit fin	al report (9/30/02)		

Exxon Valdez Oil Spill Project Status Summary

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<u>Proj.No.</u>	Project Title	Proposer	<u>Lead</u> Agency
02423	Patterns and Processes of Population Change Selected Nearshore Vertebrate Predators	e in J. Bodkin, D. Esler/USGS-BRD	DOI
Project Ta	asks to be Completed this Quarter	· ·	
<u>Conterence</u> American C DONE-Cont	<u>s</u> prnithologists Union (date & location TBD)-Esler, \$1,0 ference on Biology of Marine Mammals, Nov. 2001,	000 Vancouver, BC-Bodkin, \$1,000	
<u>Oct-Dec</u> DONE-Con DONE-Capt	duct studies of captive flock of harlequins at ASLC (ture harlequins for field studies of survival and CYP1	with birds captured late FY 01) A induction	
<u>Jan-March</u> DONE-Obta DONE-Biop CANCELED capture site	ain/update marine mammal permits sy livers of captive harlequins for EROD activity); BIRDS CONTRACTED A VIRUS AND WILL NOT	BE RE-RELEASED TO THE WILD-Release	birds at original
DONE-Mon	itor radioed harlequins for survival study	Х	
April-June DONE-Colle DONE-Aeria DONE-Subr	ect beach-cast carcasses of sea otters al surveys of sea otters mit annual report (4/15/02)		•
July-Sept			
02423am	Patterns and Processes of Population Change Selected Nearshore Vertebrate Predators (amendment)	in S. Atkinson/ASLC	ADFG
Project Ta	asks to be Completed this Quarter		
NOTE: TC	APPROVED FUNDS FOR THIS AMENDMENT 4/18	3/02.	
<u>April-Sept.</u> UNDERWA DONE-Conc DONE-Conc	Y-Conduct refined reovirus study duct feeding trial (vitamin study) duct stress assessment study (endocrine study)		
Feb. 2003 Submit final 1. Reovirus 2. Vitamin/co 3. Endocrine 4. Endocrine	report, which will consist of 4 ms.: study. Hollmen, et al oagulopathy study. Tuomi, et al e studycircadian pattern of cortisol release. Atkinso e studyACTH. Atkinson & Nilsson	n & Nilsson	
)		· · ·	• • •

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<u>Proj.No.</u>	Project Title	Proposer	<u>Lead</u> <u>Agency</u>
02441	Harbor Seal Recovery: Effects of Diet on Lipid Metabolism and Health	R. Davis/Texas A&M	ADFG
Project T	asks to be Completed this Quarter		
UNDERWA	AY-Analyze remaining blubber samples		
DELAYED-	Statistical analysis and integration of data, including healt	h and body condition results from	Castellini
DELAYED July-Sept Submit 5 m 1. Effects o	TO AUGUST-Submit final report (due 6/30/02) is. (page charges \$500): f diet on fatty acid signature in blubber of harbor seals		
2. Effects o 3. Spatial d 4. Skeletal 5. Aerobic o	f diet on aerobic capacity and lipid content of harbor seal istribution of aerobic enzymes for lipid metabolism in mus muscles of harbor seals are composed of oxidative fibers capacity and lipid droplet density in heart, liver, kidneys, an	muscle cles of harbor seals : implications for lipid metabolism nd small intestine of harbor seals	
02455	GEM Data System	Restoration Office	ALL
	、		

Project Tasks to be Completed this Quarter

DATA SYSTEM MANAGER HIRED MID-APRIL 2002. NEW DATA POLICY ADOPTED BY TC 7/9/02. DEVELOPMENT OF NEW PROJECT TRACKING DATABASE UNDERWAY.
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Exxon Valdez Oil Spill Project Status Summary FY 02 Work Plan Quarter Ending June 30, 2002

<u>Proj.No.</u>	Project Title	Proposer	<u>Lead</u> Agency
02462-CLO	Effects of Disease on Pacific Herring Population Recovery in Prince William Sound	G. Marty/Univ. of California, Davis	ADFG
Proiect Ta	sks to be Completed this Quarter		
FY 01 Tasks DONE-Statis DONE-Scale DONE-Virolo	<u>Not Completed</u> tical analysis of spring 2001 samples (Marty) analysis of spring 2001 samples (Carpenter) ogy and bacteriology of spring 2001 samples (Meyers)	·	
<u>Oct-Dec</u> DONE (100 I DONE-Scale	FISH)-Collect fall samples (Marty) analysis fall samples-age (Moffitt)		
<u>Jan-Mar</u> DONE-Virolo DONE-Atten	ogy & bacteriology fall samples (Meyers) d Annual Workshop, 1/22-25 (Marty)		
<u>April-June</u> DONE-Collec	ct spring 2002 samples (Marty)		
July-Sept Statistical an DONE-Scale DONE-Virolo	alysis fall samples (Marty) analysis spring 2002 samples-age (Moffitt) gy & bacteriology spring 2002 samples (Meyers)		
<u>Oct-April</u> Statistical an Submit final ı	alysis spring samples (Marty) report 4/15/03 (Marty)		
02476	Effects of Oiled Incubation Substrate on Pink Salme Reproduction	on R. Heintz/NOAA	NOAA
Project Ta	sks to be Completed this Quarter		
<u>Oct-Dec</u> WILL BE DO	NE OCT/DEC 2002-Evaluate F2 survival to eyeing		• •
<u>Jan-March</u> DONE-Begin	analysis of results & development of life history model		
April-June			
<u>Aug-Oct</u> Final report c	lue (9/15/03)		
<u>Conferences</u>)-SETAC (\$1,	800)		

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<u>Proj.No.</u>	Project Title	Proposer	<u>Lead</u> Agency
02479	Effects of Food Stress on Survival and Repro Performance of Seabirds	ductive J. Piatt/USGS-BRD, A. Kitaysky/Univ. of Washington	DOI n
Project Ta: NOTE: THIS Final Report Ms. #1 anti-stress h Ms. #2 & 3 food abundar Ms. #4 & 5 corticosteron Ms. #6	 sks to be Completed this Quarter SCHEDULE SUPERSEDES THAT IN THE 0247 Project /479 Final Report Endocrine responses to varying foraging condition ormones? Wingfield & Kitaysky Relationships among corticosterone levels, reported, and post-breeding survival. Kitaysky, Piatt, W Relationships among food provisioning, nutritice e secretion in juvenile seabirds. Kitaysky, Wingfiel Field endocrinology protocol for monitoring searched 	DPD (letter on file McCammon to Piatt, Due 4/30/03 tions: stress or Due 8/30/02 roduction, Due 4/30/03 ingfield nal state and Due 8/30/02 d, Piatt ibird populations Due 8/30/02	3/6/02)
02492	Were Pink Salmon Embryo Studies in Prince Sound Biased?	William J. Thedinga/NOAA	NOAA
Project Tas Incomplete T EXPECT TO (1) Detection (2) Ability of c Oct-Dec	sks to be Completed this Quarter asks from FY 01: COMPLETE SEPTEMBER 1, 2002-Complete 2 m of pink salmon eggs killed by hydraulic sampling observers to discriminate shock mortality in pink sa	is. Ilmon eggs as a function of time after sho	ock
<u>Jan-Mar</u> DONE-Attend	d Annual Workshop 1/22-25 (Thedinga)		
<u>April-June</u> DELAYED TO	D SEPTEMBER 1, 2002-Submit final report (4/15/0)2)	
02514	Lower Cook Inlet Waste Management Plan Implementation Phase 1	T. Turner/ADEC	ADEC
Project Tas	sks to be Completed this Quarter	4	
NOTE: THIS NO JUNE 30	PROJECT WAS APPROVED BY THE TC 12/11/ UPDATE PROVIDED.	01.	
Jan-Mar DELAYED TO DELAYED TO	D MAY-Site visit to each communitySeldovia, Na D JUNE-Submit recommendations to Trustee Cou	nwalek, Port Graham (Jan. 2002) ncil that might be addressed in a Phase I	l (Feb. 28, 2002)
<u>April-June</u> DELAYED TC (Jan-June 20	D MAY/JUNE-Complete training and follow-up visit	s to each communitySeldovia, Nanwale	k, Port Graham

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<u>Proj.No.</u>	Project Title	Proposer	<u>Lead</u> Agency
02535	EVOS Trustee Council Restoration Program Fina Report	J. Hunt/EVOS Restoration Office	ALL
Project T Oct-Dec PROVIDED DRAFT OU JUNE UPD SELF-PUBI -Gather pho -Work with -Layout boo -Edit & rew -Provide fin Sept. 2002 -Book is pu	asks to be Completed this Quarter DRAFT TEXT OF BOOK TO EDITOR; OTHER TASKS T FOR EXTERNAL REVIEW. ATE: EDITOR WE WERE WORKING WITH DECLINES ISH. MUCH OF THE WORK LISTED BELOW HAS BE otos, graphics, etc. publisher on design & content ik using PageMaker ite as needed ished inside pages of book to editor	S DELAYED. AS OF 3/31/02, EDITOR ST S; NOW LOOKING FOR NEW EDITOR O EEN COMPLETED.	ILL HAS R WILL
02538	Evaluation of Two Methods to Discriminate Pacif Herring Stocks along the Northern Guif of Alaska	ic T. Otis/ADFG, R. Heintz/NOAA	NOAA & ADFG
Project Ta Oct-Dec DONE-Colle analysis of 3 DONE-Perf DONE-Perf Jan-Mar DONE-Anal samples co DONE-Attes April-June	asks to be Completed this Quarter ect fall samples of PWS herring and store them for poss 2001 spring samples) orm fatty acid analyses of soft tissues from 2001 spring orm elemental analyses of otholiths from 2001 spring sa ysis of results from spring 2001 samples expected Feb. ntingent on preliminary results of this analysis and EVOS Annual Workshop (1/22-25)	ible future analysis (analysis depends on r samples mples 2002; TC approved funds for analysis of t	results of Fall 2001
EXTENDE		- - -	

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<u>Proj.No.</u>	Project Title	Proposer	<u>Lead</u> Agency
02543	Evaluation of Oil Remaining in the Intertidal from the Exxon Valdez Oil Spill	J. Short/NOAA	NOAA
Project Ta	asks to be Completed this Quarter		<u> </u>
Oct-Apr DONE-Ente DONE-Anal DONE-Atter ALSO, 2 MS	r FY 01 data into database yze FY 01 gravimetric & fingerprinting GS-MS samples nd Annual Workshop (1/22-25) S. DRAFTED AND 1 MS. IN PREPARATION	·	
<u>May-Sept</u> HAVE REP0 in PWS	ORTED RESULTS TO LOCAL COMMUNITIES-Produc	e map depicting sampled locations	s and present to locals
Submit final	report (9/30/02)		
02550	Alaska Resources Library and Information Servic (ARLIS)	es All Trustee Council Agenc	ies ALL
Project Ta	sks to be Completed this Quarter	·	<u>.</u>
During the q and respond (routine required loans, includ annual report to update the topic bibliog on web hits awarded AR	Juarter ending 6/30/02, ARLIS staff received 5,222 visited ded to 3,234 requests for in-depth information, 320 of w uests for EVOS documents are handled by the Trustee ling 211 requests for EVOS materials. ARLIS staff revier rts; 385 reports, 2 map sets, 3 CD-ROM sets, and 2 vid e Trustee Council Office GEM reference files and 29 for raphies for the Trustee Council web site. On 5/21, the 7 was lost; between 5/21 and 6/30, 7,304 people used the RLIS a citation honoring the library and staff for receiving	ors and 955 incoming calls; issued hich were EVOS questions and 53 Council Office). ARLIS staff proce ewed, approved, and distributed 3 eos are now available. ARLIS sta r the Trustee Council bibliography ARLIS web server crashed and wa e ARLIS web page. On 5/8/02, the g the 2001 National Award for Libra	91 new library cards; were related to GEM essed 3,039 interlibrary final reports and 2 ff obtained 28 articles file, and updated 4 as replaced; some data Alaska Legislature ary Service.
02552-BAA	Exchange Between Prince William Sound and the Gulf of Alaska	S. Vaughan/PWSSC	NOAA
Project Ta Oct-Dec	sks to be Completed this Quarter		
<u>Jan-Mar</u> DONE-Atten DID NOT AT	nd Annual Workshop (1/22-25) ITEND-Attend AGU Ocean Sciences Meeting, Honolulu	ı, 2/11-15 (\$2,000)	

<u>April-June</u> DONE-Retrieve mooring (May)

July-Sept

<u>FY 03</u> Submit final report (4/15/03)

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<u>Proj.No.</u>	Project Title	Proposer	<u>Lead</u> Agency
02556	Mapping Marine Habitats: Kachemak Bay	C. Schoch/Kachemak Bay NERR	ADFG
Project Ta	asks to be Completed this Quarter	· · ·	
	S PROJECT WAS APPROVED BY TC 4/18/02.		
UNDERWA	Y-Complete fieldwork (high resolution mapping)		
UNDERWA UNDERWA	Y-Complete data entry Y-Complete draft GIS database		
-Submit fina	al report	-	<u>,</u>
02558	Harbor Seal Recovery: Application of New Technologies for Monitoring Health	S. Atkinson/UAF	ADFG
Project T	asks to be Completed this Quarter		<u></u>
<u>FY 01 Task</u> DONE-Anal	<u>s Not Completed at End of FY 01</u> yze FY 01 endocrine samples		
DONE-Anal	yze FY 01 immunology samples		
Conference DONE-Bien	<u>s</u> nial Conference of the Biology of Marine Mammals, Vi	ancouver, Canada (\$1,600)	0
Monthly			
ON TRACK	-Blood sampling	· .	
<u>Oct-Dec</u>	t blood & blubber samples from captive seals for cost	aminant analysis	
DONE-Colle	ect blood samples to assess circadian pattern of T3, T	4, & cortisol	
Jan-Mar			
DONE-Unde DONE-Atter	ertake endocrine assays with batches of samples to as nd Annual Workshop, 1/22-25	ssist with quality control	
April-June			
DONE-Seal	s collected for rehabilitation arrive at ASLC		
DONE-Subr	nit annual report (4/15)		
<u>July-Sept</u> UNDERWA	Y-Analyze endocrine & immunology samples		
Release reh	abilitation seals		

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<u>Proj.No.</u>	Project Title	<u>Proposer</u>	<u>Lead</u> Agency
02561	Evaluating the Feasibility of Developing a Community- Based Forage Fish Sampling I GEM	D. Roseneau/USFWS Project for	DOI
Project Ta Oct-Dec DONE (POS meeting ma DONE-Cont DONE-Set u	asks to be Completed this Quarter STERS, POSTER HANDOUTS, FISH IDENTIFIC terials & agendas tact key individuals up community meetings	ATION SHEETS, RELEVANT APEX REPO	ORTS)-Prepare
<u>Jan-Mar</u> UNDERWA DONE-Atter	Y-Community visits nd Annual Workshop (1/22-25)		
<u>April-June</u> NO UPDATi Community	E PROVIDED. visits		
<u>July-Sept</u> Compile & o	organize information collected		
02574-BAA	Assessment of Bivalve Recovery on Treate Mixed-Soft Beaches in Prince William Soun	d D. Lees/Littoral Eco.& Enviro d Services	on. NOAA
Project Ta JUNE 30 UF	asks to be Completed this Quarter PDATE NOT PROVIDED.		
<u>Jan-Mar</u> DONE-Cont DONE-Com DONE-Atter	ract with subcontractors mence sampling site selection process nd Annual Workshop (1/22-25)		
<u>April-June</u> Finalize list (RESCHEDL RESCHEDL Ship bivalve	of candidate sampling sites JLED TO JULY 20-28-Conduct reconnaissance s JLED TO AUGUSTField sampling (June 22-30) and sediments samples to lab for analysis	urvey to finalize selection of sampling sites	(June 9-16)
<u>July-Sept</u> Analyze biva	alve and sediment samples		
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Proj.No.	Project Title	Proposer	<u>Lead</u> Agency
02584	Evaluation of Airborne Remote Sensing Tools for GEM Monitoring	E. Brown/UAF, J. Churnside/NOAA	ADFG
Project Tas NOTE: TC A	sks to be Completed this Quarter APPROVED FUNDING FOR THIS PROJECT 12/11/01.		
<u>Conferences</u> 4/29/02 E-M/ GLOBEC/PIC	AIL FROM PI THAT CONFERENCE FUNDS BEING TRAN CES (Brown, \$1,200 POSSIBLY OCT 2002, WHICH IS A	ISFERRED TO FIELD TRAVEL-Atte CTUALLY IN FY 03)	nd
<u>Jan-Mar</u> DONE-Atten ?-Develop su	d Annual Workshop (1/22-25) ırvey design and flight plan		
<u>Apr-June</u> DONE; INST AND HAS O ^T preparation a	RUMENT PACKAGE IS MOUNTED ON THE AIRCRAFT THER SURVEYS SCHEDULED FOR MAY PRIOR TO TH and calibration	AND HAS BEEN FLYING SURVEYS E EVOS WORK-Complete instrumer	IN MARCH
FIELD SCHE NORTHERN Initiate valida Complete sig	DULE FOR JULY WORK COMPLETED; COOPERATION GOA & WEST OF PWS-Complete field data collection tion data collation anal processing	PLANNED WITH ASLC AND GLOB	BEC IN
<u>April 15, 200:</u> Submit final r	<u>3</u> report		
02585	Lingering Oil: Bioavailability and Effects to Prey and Predators	J. Rice, J. Short/NOAA; J. Bodkin, B. Ballachey/USGS; D. Esler/Simon Fraser Univ.	NOAA & DOI
Project Tas	sks to be Completed this Quarter		
NOTE: TC A	PPROVED FUNDING FOR THIS PROJECT 12/11/01.		
<u>Jan-Mar</u> DONE-Plan s UNDERWAY DONE-Biops DONE-NOAA DONE-NOAA DONE-Attend	sea otter capture '-Obtain/update marine mammal permits y livers of captive harlequins at ASLC for histopathology A deployment (Feb.) A pick-up cruise (Mar.) d Annual Workshop (1/22-25)	· ·	
<u>Apr-June</u> DONE-NOAA	A deployment (June)		
July-Sept NOAA pick-u Capture sea	p cruise (July) otters in WPWS; sample blood & liver (July)		

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Exxon Valdez Oil Spill Project Status Summary FY 02 Work Plan Quarter Ending June 30, 2002

<u>Proj.No.</u>	Project Title	Proposer	<u>Lead</u> Agency
02593	River Otters and Fishes in the Nearshore Environment: A Synthesis	S. Jewett/UAF, M. Ben-David/U.Wyo., G. Blundell/UAF	ADFG
Project T	asks to be Completed this Quarter	········	
<u>Oct-Dec</u> UNDERWA	Y-Complete spatial analyses of spatial & temporal data of	fishes & otters	
<u>Jan-Mar</u> DONE-Atte	nd Annual Workshop (1/22-25)	•	
<u>Sept</u> Submit mar spatial & ter	nuscript to Ecology: Blundell, Brown, Kern, Ben-David, & Jenporal distributions.	ewett. Forage fishes & river otter socialit	y: variation in
02600	Synthesis of the Ecological Findings from the EVO Damage Assessment and Restoration Programs, 1989-2001	8 R. Spies/EVOS Chief Scientist, et al	ADNR
Project Ta	asks to be Completed this Quarter		
NOTE: TC	APPROVED FUNDING FOR THIS PROJECT 12/11/01.		
Mor Mov			
DONE-Synt	hesis team meets to identify approach	· · · · ·	· · ·
<u>July-Sept</u> -Preliminary -List of refer	chapter outlines completed ences assembled		
-Book outlin	e finalized		
02603	Implementation of an Ocean Circulation Model: A Transition from SEA to GEM	J. Wang/UAF	ADFG
Project Ta	asks to be Completed this Quarter		
NOTE: TC A	APPROVED FUNDING FOR THIS PROJECT 12/11/01.		
<u>Conference</u> DONE-Ocea	<u>s</u> an Science meeting, Hawaii Feb. 9-16 (\$1,700)		
Ion Mor			
DONE-Com DONE-Atter	plete tide simulation & preparation of NCEP climatologica of Annual Workshop (1/22-25) to implement the forcing data to the 3D-GOA model	forcing	
	PDATE: SIMULATION OF GOA CIRCULATION USING D Y CONDITIONS ARE TESTED, SO NOW READY TO DO	AILY WIND, HEATH, FRESH FLOW. C THE SEASONAL CYCLE.	PEN
July-Sept Complete m Post simulat	odeling of the seasonal cycle tion on web (9/15/02)		

Dec 15, 2002 -- Final report due

DRAFT

<u>Proj.No.</u>	Project Title	<u>Proposer</u>	<u>Lead</u> Agency
02608	Permanent Archiving of Specimens Collected in Nearshore Habitats	N. Foster/UAF	ADFG
Project Ta	sks to be Completed this Quarter		
DONE-Assig	gn accession numbers and create accession log		
DONE-Atter DONE-Prep	nd Annual Workshop (1/22-25) are specimen labels		
<u>Apr-June</u> COMPLETIC	ON DELAYED TO JULY 30-Unpack specimens and sort	by taxon	
<u>July-Sept</u> Label specin Provide all s Submit ms. Submit final	nens and incorporate into Museum shelving pecies locality data to Arctic Observatory database on distribution of marine mollusks and polychaetes report		
02610	Kodiak Archipelago Youth Area Watch	T. Schneider/Kodiak Island Borough School District	ADFG
Project Ta	sks to be Completed this Quarter		
<u>Sept-Dec</u> DONE-Stude DONE EXCI DONE EXCI DONE-Proje	ents selected EPT FOR AHKIOK (WEATHER DELAYS)-Site teacher, tr EPT FOR AHKIOK (WEATHER DELAYS)-Student orienta ects submitted to regional science fair	ibal, and researcher orientation ation and training	
<u>Jan-March</u> DONE-Atten	d Annual Workshop (Schneider, 1/22-25)		
<u>April-June</u> DONE-Regio DONE-Sumi	onal workshop mer plans for continued work by students submitted to PI		
<u>July-Sept</u> Participate ir	n Science Camp		•
		·	

<u>Proj.No.</u>	Project Title	Proposer	<u>Lead</u> Agency
02612	Detecting and Understanding Marine-Terrestrial Linkages in the Kenai River Watershed	W. Hauser/ADFG	ADFG
Project Ta	asks to be Completed this Quarter	· · · · · · · · · · · · · · · ·	
<u>Oct-Dec</u> DONE-Form DONE-Initia	n agency & technical science teams te planning meetings		
<u>Jan-Mar</u> DONE-Work DELAYED T	kshop (1/25) TO JULY 19-Distribute draft plan for public comment & revie	w (Feb)	
<u>Apr-June</u> DELAYED T	O MID-SEPTEMBER-Submit final plan (April)		
<u>July-Sept</u> Investigate f	unding sources		
02613	Mapping Marine Habitats: Prince William Sound to McCarty Fjord	J. Harper/Coastal & Ocean Resources, Inc.	ADFG
Project Ta	sks to be Completed this Quarter	····	· · · · · ·
NOTE: PRO	DJECT APPROVED BY TC 4/18/02.		
April-Sept COMPLETE following low Project deliv UNDERWA UNDERWA UNDERWA TAPE COPI	D JUNE 30-Field survey (aerial video imagery) of approxim -tide windows: June 11-15, June 23-27, or July 9-15 erables: Y-Storage of interpreted data in a GIS-compatible database Y-Registration of metadata through the Alaska State Geo-sy Y-Website from which other researchers and TC can acquir ES TO BE DELIVERED TO ADF&G 7/30/02-Video imagery	ately 2,100 km of coastline during c that is available online through Arc patial Data Clearinghouse e the data (perhaps PI's FTP site) , as data, provided to TC directly as	ne of the MS a dataset
02614	Monitoring Program for Near-Surface Temperature, Salinity, and Fluorescence in the Northern Pacific Ocean	S. Okkonen/UAF	ADFG
Project Ta	sks to be Completed this Quarter		
Oct-Dec DONE (DEL DELAYED T THERMOSA FLOW RATE UPDATE SA DATA 7/6/02	IVERY DATE 2/15/02)-Order instrumentation & ancillary ha O JUNE. 3/31/02 QTR. RPT. SAYS, "WE ARE EXCHANG LINOGRAPH FOR MODEL SBE45 IN RESPONSE TO CO E AND SIZE OF THE SBE21. THE SBE45 IS SMALLER A YS INSTALLED ON TANKER POLAR ALASKA AND BEG. 2-Install TSG & fluorometer on tanker	rdware ING THE SEABIRD MODEL SBE2 INCERNS BY POLAR TANKERS A ND HAS A LOWER FLOW RATE". AIN COLLECTING TEMPERATURI	1 BOUT THE JUNE 30 E AND SALINITY
<u>Jan-Sept</u> DONE-Atten Data acquisi	d Annual Workshop (1/22-25) tion		

DRAFT

<u>Proj.No.</u>	Project Title	Proposer	<u>Lead</u> Agency
02619	Mapping Marine Habitats: Kodiak	R. Foy/UAF, J. Harper/Coastal & Ocean Resources, Inc.	ADFG
Project T	asks to be Completed this Quarter		
NOTE: PR	OJECT APPROVED BY TC 4/18/02.		
April-Sept COMPLETE 11-15 low-ti Project deliv UNDERWA UNDERWA UNDERWA TAPE COP	ED JUNE 16, 2002-Field survey (aerial video de window verables: Y-Storage of interpreted data in a GIS-comp Y-Registration of metadata through the Alas Y-Website from which other researchers and IES TO BE DELIVERED TO UAF 7/30/02-Vi	imagery) of approximately 1,600 km of coastline duri natible database that is available online through ArcIM ka State Geo-spatial Data Clearinghouse d TC can acquire the data (perhaps PI's FTP site) deo imagery, as data, provided to TC directly as a da	ng the June S taset
02622	Digital Maps from Existing Seasonal E Sensitive Area Maps: Cook Inlet/ Kena	nvironmental J. Whitney/NOAA i Peninsula	NOAA
Project T:	asks to be Completed this Quarter		· · · · · · · · · · · · · · · · · · ·
NOTE: TC	APPROVED FUNDING FOR THIS PROJEC	T 12/11/01.	
<u>Jan-Mar</u> DONE-Revi DONE-Fina DONE-Atter <u>Apr-June</u> UNDERWA UNDERWA	ew content of 1994 summary ESI maps of C lize digital files of Cook Inlet/Kenai Peninsula nd Annual Workshop (1/22-25) Y-Finalize updated digital files into the 4 star Y-Prepare and review CDs of the above	ook Inlet/Kenai Peninsula and provide any new or up a summary ESI maps ndardized digital map products	dated data to
<u>July-Sept</u> Distribute fir Post the ma	nal CD (100 cc) of the updated digital data fo ps on web	r the summary maps (7/31/02)	
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Exxon Valdez Oil Spill Project Status Summary FY 02 Work Plan Quarter Ending June 30, 2002 DRAFI

<u>Proj.No.</u>	Project Title	Proposer	<u>Lead</u> Agency
02624-BAA	A CPR-Based Plankton Survey Using Ships of Opportunity to Monitor the Gulf of Alaska	S. Batten/SAHFOS, D. Welch/DFOC	NOAA

Project Tasks to be Completed this Quarter

NOTE: TC APPROVED FUNDING FOR THIS PROJECT 12/11/01.

<u>Conferences</u>

Attend PICES XI, China (Oct. 2002) (\$3,200)

<u>Jan-Mar</u>

DONE (BATTEN)-Attend Annual Workshop (1/22-25) DONE-Ship equipment to vessel in Long Beach DONE-1st sampling from AK to CA (late March)

Apr-June

DONE-2nd sampling from AK to CA (late April) DONE-Ship equipment to vessel in Vancouver DONE-3rd sampling from AK to CA (early June) DONE-Sampling from Vancouver to Kamchatka

July-Sept

COMPLETION EXPECTED LAST WEEK OF JULY-4th sampling from AK to CA (mid-July) COMPLETION DELAYED TO SEPTEMBER-5th sampling from AK to CA (mid-Aug) Integrate biological data with physical data acquired by Okkonen & Royer UNDERWAY-Preliminary taxonomic processing complete

April 15, 2003 Submit final report

DRAFT

Quarter Ending June 30, 2002

<u>Proj.No.</u>	Project Title		Proposer	<u>Lead</u> Agency		
02630	Planning for GEM		Restoration Office	ALL		
Project Ta	asks to be Completed this Quarter					
<u>OCI-Dec</u> DONE-Parti DONE-Mee DONE-Hold DONE-Parti DONE-Parti DONE-Com DONE-Upda	icipate in PICES MONITOR task team me nd NPMR presentations on project results t with NRC to hear oral comments on draf physical oceanographic modeling worksh icipate in Watershed Workshop Planning I icipate in US GOOS Steering Committee r splete GEM brochure ate web site	eting t GEM Program op Meeting neeting	Document			
DONE-Annu DONE-Issue DONE-Parti	ual Workshop (1/22-25) e FY 03 Invitation, Phase I cipate in AGU meeting session on cross-s	helf transport	·			
April-June DONE-Receive comments from NRC on GEM Program Document (Apr) DONE-STAC process in place DONE-First STAC meeting (May) DELAYED TO SEPTEMBER (NOMINATION SOLICITATION PACKET CIRUCLATED JULY)-Subcommittee process in place DONE-Submit revised GEM Program Document for TC approval (June)						
July-Sept FINAL REVISIONS TO GEM PROGRAM DOCUMENT WORK WITH STAC ON GEM HYPOTHESES AND QUESTIONS						
02630am	Planning for GEM: ADEC Surface Wa Monitoring Amendment	iter Quality	R. Klein/ADEC	ADEC		

Project Tasks to be Completed this Quarter

NOTE: TC approved funding for this component of Project 02630 2/25/02.

June 30, 2002

OASIS ENVIRONMENTAL CONSULTANTS HAS COMPLETED REPORT; ADEC NEEDS TO PROVIDE COPY TO TRUSTEE COUNCIL OFFICE-Receive from term contractor final report summarizing surface water quality monitoring strategies that other states have developed and the approaches they use to fund their surface water quality monitoring programs.

Exxon Valdez Oil Spill Project Status Summary FY 02 Work Plan Quarter Ending June 30, 2002 DRAFT

Proi No	Project Title	Proposer	Lead Agency
			<u></u>
02636-BAA	Management Applications: Commercial Fish	ing K. Adams, R. Mullins/Cordova	NOAA
Project Ta	sks to be Completed this Quarter		
APPROVED	2/25/02.	01 CONTINGENT ON A REVISED DPD; REV	
<u>March-April</u> HELD MEET (Fisheries M	INGS 3/8/02 & 4/2/02; IDENTIFICATION OF ISS anagement Application working group)	UES AND NEEDS UNDERWAY-Conduct 2 m	neetings of FMA
<u>September</u> Conduct 1 m	eeting of FMA		
		-	
02649	Reconstructing Sockeye Populations in the Alaska over the Last Several Thousand Year	Gulf of B. Finney/UAF, D. Mann	ADFG
-L			
Project Ta	sks to be Completed this Quarter		
Conferences		. <u>.</u>	
DID NOT AT LATER DAT	TEND DUE TO SCHEDULING CONFLICT; WILL E-AGU, San Francisco (\$1,400)	ATTEND OTHER APPROPRIATE CONFER	ENCE AT
Oct-Dec			
	7-Complete del15N analyses on Eshamy Lake an 7-Submit Eshamy and Solf samples for 14C and 2	d Solf Lake (control) cores 10Pb dating	· .
Jan-Mar			
DONE-Atten DELAYED T	d Annual Workshop (1/22-25) O APRIL 2003 BECAUSE BROKE CORER IN ES	HAMY LAKE IN APRIL 2002 -Core Upper Ru	ssian Lake
Apr-Jupo Al		BROKE CORER IN ESHAMY LAKE IN APRI	1 2002
Complete de	115N analyses on cores from Upper Russian Lake	BROKE COKEN IN ESHAMT LAKE IN ALKI	<u>L_2002</u>
Submit Uppe	er Russian Lake samples for 14C and 210Pb datir	ng	
ALSO: WILL	CORE KARLUK LAKE (KODIAK ISLAND) AUGL	IST BY COST-SHARING LOGISTICAL EXPE	NSES WITH
SEVERAL O	THER PROJECTS.		
July-Sept			
Complete lite	erature reviews of proxy data describing climate/or	ceanographic changes in northern GOA over	last several
Develop hype	otheses relating changes in salmon populations to	o climatic changes	
Submit ms. c	concerning applications of retrospective records o	f sockeye populations in fisheries manageme	nt

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<u>Proj.No.</u>	Project Title	Proposer	<u>Lead</u> Agency
02656	Retrospective Analysis of Nearshore Marine Communities Based on Analysis of Archaeological Material and Isotopes	G. Irvine/USGS, J. Schaaf/NPS	DOI
Project Ta Oct-Dec	sks to be Completed this Quarter		
<u>Jan-Mar</u> UNDERWAY SLIP INTO F UNDER 036 DONE-Atten	/; IDENTIFICATION OF LOWER MIDDEN MATTERIAL H, Y 03 (SOME FY 02 FUNDS WILL LAPSE AND A LIKE AN 56)-Complete evaluation of climate record, midden materia d Annual Workshop (1/22-25)	AS BEEN DELAYED SO SOME ACT IOUNT OF FUNDS HAS BEEN REQ als for selection of target dates and sh	IVITIES WILL UESTED nells for analysis
<u>April-July</u> UNDERWAY UNDERWAY	Y-Complete evaluation of isotopic techniques, preliminary a Y-Test archaeological material	ssessments of recent material	
Aug-Sept Complete isc Radiocarbon Complete ec Present resu	otopic analysis of recent (test) bivalves and archaeological (14c) analysis of selected clam shells ological analysis of composition/size structure of selected i Its to Ecological Society of America, Tucson (\$2,800)	midden shells midden species	
02667	Effectiveness of Citizens' Environmental Monitoring Program	S. Mauger/Cook Inlet Keeper	ADEC
Project Ta Oct-Dec 200 UNDERWAY	<u>sks to be Completed this Quarter</u> <u>1</u> ′-Begin analysis of CEMP data to determine effectiveness	of protocols	
<u>Jan-Mar 200</u> DONE-Atten UNDERWAY	2 d EVOS Annual Restoration Workshop (Jan. 22-25) ⁄-Continue analysis of CEMP data	· · · ·	
<u>April-June 20</u> UNDERWAY	002 /-Continue analysis of CEMP data		
<u>July-Sept 200</u> -Complete ar -Produce & r	<u>02</u> nalysis of CEMP data (July 31) elease final report, which will include recommendations for	improvements to CEMP protocols (S	Sept. 30)
<u>Oct-Dec 200</u> -Convene me	<u>2</u> eeting with current & potential monitoring partners & agenc	ies to communicate findings from and	alysis
Jan-April 200 -Incorporate -Submit final) <u>3</u> suggestions into the CEMP Quality Assurance Project Plar report to EVOS (April 15)	1	

Exxon Valdez Oil Spill Project Status Summary FY 02 Work Plan Quarter Ending June 30, 2002)RAF

 Proj.No.
 Project Title
 Proposer
 Lead Agency

 02668
 Developing an Interactive Water Quality and Habitat Database and Making it Accessible on the Web
 J. Cooper/Cook Inlet Keeper
 ADEC

 Project Tasks to be Completed this Quarter

NOTE: TC APPROVED FUNDING FOR THIS PROJECT 12/11/01.

Jan-Mar

DONE-Contract with database and web specialist

DONE-Determine best data system that allows for all parameters and methods and meets committee's database priorities identify and create GIS maps (UNDERWAY) and graphs (DONE) to link with database (UNDERWAY) UNDERWAY; COMPLETION OF THIS TASK DEPENDS ON DEVELOPMENT OF A STORET DATA WAREHOUSE BY EPA-Create interface between database, GIS and internet

DONE-Attend Annual Workshop (1/22-25)

UNDERWAY-Establish securities for database access on the web

UNDERWAY-Formalize Standard Operative Procedures for quality overisght of database use and data management

<u>Apr-June</u>

DELAYED TO SEPTEMBER-Uplink database on the web and conduct press and other outreach to announce its availability DELAYED TO AUGUST/SEPTEMBER-Oversee use of the database by monitoring partner groups as a way to enter and manage their habitat and water quality data

<u>July-Sept</u> Evaluate product UNDERWAY-Update web page

April 15, 2003 Submit final report

ADDITIONAL INFORMATION SUBMITTED 7/24/02: The PI worked with Gold Systems Inc to finalize a bid for completion of the Access database for the CEMP data management system that can be interfaced with STORET and will be compatible with CIIMMS. This bid was broken down into modules. Unfortunately, the bid exceeds the \$15,000 contractual funds available through this project and from the USFWS Coastal Grant program. Bid items under contract were chosen based on the database committee's priorities list. Funds for this Additional Result QC Module and the New Station Module are being sought through ADEC. The partner database committee believes that committee members could develop the Users Guide, Equipment Tracking Module and Volunteer Tracking Module in house to cut costs and complete the project.

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Proj.No.	Project Title	<u>Proposer</u>	<u>Lead</u> Agency
02671	Coordinating Volunteer Vessels of Opportunity to Collect Oceanographic Data in Kachemak Bay and Lower Cook Inlet	D. Stram, C. Schoch/Kachemak Bay NERR	ADFG
Project Tas Oct-Dec DONE-Order DONE-Const DONE-Devel DONE-Set up	sks to be Completed this Quarter equipment for KBBR boat (thermo-salinograph) truct and deploy Fall drift cards (KBBR) op outreach plan (CIK) o database (CIK)		
<u>Jan-Mar</u> DONE-Attend UNDERWAY DONE-Const DONE-KBRF	d Annual Workshop (1/22-25) -Install thermosalinograph on KBRR vessel ruct Spring drift cards (KBRR) R personnel participate in workshop on oceanographic mon	itoring	
Apr-June DONE-Prelim UNDERWAY DONE-Deplo	ninary spring transects completed (KBRR, CIK) -Summer data collection transects y Spring drift cards (KBRR, CIK)	• •	
<u>July-Sept</u> Analyze colle Complete vol Complete dril Establish pro Submit final r	cted transect data (KBRR) unteer vessel database ft card study tocol for data collection and processing (KBRR, CIK) eport		

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Exxon Valdez Oil Spill Trustee Council

441 W. 5" Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178



MEMORANDUM

- TO: Trustee Council
- FROM: Molly McCammon Executive Director

RE: FY 03 Phase I Work Plan: Executive Director's Recommendation

DATE: July 25, 2002

Please find attached the following materials on the FY 03 Phase I work plan:

Numbers Spreadsheet (A)

This spreadsheet contains, in summary form, my recommendation on all projects submitted for funding under FY 03 Phase I. The spreadsheet is arranged in clusters of like projects. Cluster assignments are based on the underlying objective for each project or the type of activity the project would perform (for example, Lingering Injury, Recovery Monitoring, Intertidal/Subtidal Habitat, Cross-Habitat Linkage: Synthesis, etc.)

Total Fund/Fund Contingent	\$ 3,698,100	(27 projects)
Total Deferred	<u> </u>	(4 projects)
	\$ 4,203,900	(31 projects)

A recommendation is not yet being made for projects in the deferred category because more information or further review is necessary. I would propose that deferred projects be taken up at the Trustee Council meeting scheduled for November 25, 2002, at the same time FY 03 Phase II proposals are considered.

The cap for the FY 03 work plan (both phases) is \$6 million. If the full \$4,203,900 recommended for Phase I is approved, roughly \$1.8 million will remain for Phase II. (Note that in a departure from prior years, the \$4,203,900 <u>includes</u> funding for Project 030100/Public Information & Administration in the amount of \$1,114,300.)

Text Spreadsheet (B)

This spreadsheet contains, for each project submitted for funding under FY 03 Phase I, the complete text of the Chief Scientist's recommendation, my recommendation, and an abstract of each project. The spreadsheet is arranged by cluster (a table of contents of the clusters is included).

<u>Other</u>

The following materials are also included:

- a summary table showing the breakdown of funds between projects related to lingering oil effects and projects related to GEM, and also showing the breakdown between continued and new projects
- a summary of the public comment received on the FY 03 Phase I Draft Work Plan
- the Public Information & Administration budget (Project 030100)

03rectc

Exxon Valdez Oil Spill Trustee Council

441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

FAX MEMORANDUM (4 pp. with attachments)

- TO: Trustee Council
- FROM: Molly McCammon Executive Director

RE: Additional Materials for August 6 Trustee Council Meeting

DATE: August 5, 2002

Regarding FY 03 Phase | Work Plan:

My recommendation has been revised as follows since the Trustee Council meeting binder was distributed.

Project No.	Title	Change
030052	Tribal Natural Resource Stewardship	Recommendation was to defer pending review of FY 02 results; revised recommendation is to approve interim funding (\$30,100) and defer the balance (\$150,500). Revised language attached
030584	Airborne Remote Sensing Tools	Remove contingency as budget has now been approved
030596	Flow Data: Kenai Peninsula Salmon Stream	Reduce budget by \$3,000 (from \$25,600 to \$22,600) based on revised request from proposer

The recommended funding total is now:

Total Fund/Fund Contingent	\$3,725,200	(earlier recommendation \$3,698,100)
Total Deferred	<u> </u>	(earlier recommendation \$505,800)
	\$4,200,900	(earlier recommendation \$4,203,900)

Support for Northern Afognak Acquisition Efforts:

A firm estimate of ADNR's cost of performing appraisal review, title review, and hazmat/site inspection has now been provided. As outlined in the attached memo, the cost estimate is \$37,700. (The original estimate, which was included in the Trustee Council meeting binder, was roughly \$25,000.)



SPRELSHEET B: EXECUTIVE DIRECTOR'S RECOMENDATION (TEXT SPREADSHEET)--FY 03 ASE I

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
G-030052	Tribal Natural Resource Stewardship and Meaningful Tribal Involvement in GEM	P. Brown- Schwalenberg/CRRC	ADFG	Cont'd 9th yr.	\$180.6	\$180.6	\$192.6	

Project Abstract

In FY 03, this project will focus on four objectives: (a) establishing Core Action Plans for the Tribal Natural Resource Plans being developed in FY 02, (b) identifying priority regional and community-specific research and monitoring issues and concerns and fitting them to community-based research and monitoring activities, especially those related to GEM, (c) conducting a "Wisdomkeeper Series" for discussing and sharing research and monitoring issues with selected biologists, scientists, elders, and traditional knowledge experts, and (d) developing pilot community-based research and monitoring projects for potential implementation in FY 04. Communities involved in the project are Tatitlek, Chenega Bay, Port Graham, Nanwalek, Cordova/Eyak, Seward/Qutekcak, Seldovia, Valdez, Kodiak Island Region/Ouzinkie, and the Alaska Peninsula Region/Chignik Lake.

The Trustee Council has committed to community involvement in both the GEM and ongoing oil spill programs. This proposal cannot be fully evaluated

Chief Scientist's Recommendation

programs. This proposal cannot be fully evaluated until the Tribal Natural Resource Plans scheduled for completion in FY 02 from this project have been reviewed by the Trustee Council. These need to be reviewed for their content, relationship to GEM, and community commitment to implementation of the plans. Defer funding pending receipt of these plans.

Executive Director's Recommendation

Fund interim amount--\$30,100 for Resource Program Planner first guarter salary (\$15,000), WisdomKeeper Workshop scheduled for November (\$7,000), tribal participation in GEM planning meetings (\$2,000), and related overhead (\$3,600) and general administration (\$2,500) costs; defer decision on balance of funding pending a review of FY 02 results (completion of 7 Natural Resource Plans; tribal participation in technical workshops/training sessions; communication of EVOS results to villages). The Detailed Project Description and budget need to be revised to more directly build on the work performed in FY 02 and to avoid duplication with Project 03575, Designing a Community Involvement/Community Based Monitoring Plan for GEM. The overall goal of this project--community involvement and development of local stewardship capacity--is a priority of the Trustee Council and an essential component of GEM.

MEMORANDUM Department of Natural Resources

TO: Molly McCammon Executive Director Exxon Valdez Oil Spill Trustee Council

State of Alaska Office of the Commissioner

DATE: August 2, 2002

TELEPHONE NO: 269-8431

FROM: Carol Friesd

SUBJECT: EVOS Habitat Protection Funding AJV Lands Rev.

The Department of Natural Resources supports the acquisition of additional AJV lands on the northern shore of Afognak Island. Completion of this acquisition would provide for a consistent management scheme on the northern tier of Afognak Island. Public access and recreational use of this area will be ensured and users will enjoy consistency in terms of permitting, regulations, and opportunities for recreational hunting, fishing, camping, and subsistence use.

Should the Council choose to support the acquisition of remaining AJV lands located on Northern Afognak Island, DNR will need to pursue the following activities in support of this acquisition. Support costs associated with these activities are estimated below. Please note that these costs are only estimated based on previous experience at this point in time. This memo has been revised based on new acreage figures provided by the organizations coordinating this acquisition effort.

Appraisal Review

A review of the timber component of the appraisal will be required.Estimated cost:Contractual \$5,000A review of the land component of the appraisal and the final appraisal will be required.Estimated cost:Contractual \$7,500 .

Title Review

A comprehensive review of title will need to be conducted prior to closing. In the past the majority of this work has been provided via contract acceptable to both the US and the State. Further in house review is required in order to verify legals and confirm title prior to closing. Estimated cost: Estimated cost: Contractual: \$11,000 Personal Services: \$7,000

8/2/02

Hazmat Survey and Site Inspection

A level one hazmat survey with site inspection will be required prior to closing. Estimated cost: Travel: \$2,400

Personal Services: \$7,000

Total estimated expenses: \$40,000

{ see attached budget. Actual total, { meluding GA, is \$37,700 for FV 03.

Given the uncertainties associated with the delivery of the completed appraisal and the anticipated timetable for negotiations, DNR expects that funding could be allocated between the FY02 and FY03 fiscal years as follows:

FY02-\$5,000 - C 02126 budget. These tinds are for review of the FY03-\$35,000 - C 02126 budget. These tinds are for review of the FY03-\$35,000 - timber apprecisal - the following paragraph refers to this \$5,000.

Because the appraisal work for this acquisition is being done by the Kodiak Brown Bear Trust, American Lands Conservancy, Rocky Mountain Elk Foundation and others it is impossible to predict whether these expenditures will be incurred in fiscal year 02 or fiscal year 03. If the expenditures are not made in 02 it will be necessary for the TC to reauthorize them in 03.

Should you have any additional questions or concerns, please do not hesitate to contact me at your earliest convenience. It would be beneficial if this matter could be addressed at the August 6 Trustee Council meeting. Thank you.

cc: Marty Rutherford

8/2/02

Investment Fee Amendment

Exxon Valdez Oil Spill Trustee Council

441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178



MEMORANDUM

TO:	Trustee Council /
FROM:	Molly McCanimon Executive Director
RE:	Investment Fund Fees - REVISED

DATE: August 6, 2002

Background

At the July 5, 2000 meeting, the Trustee Council approved the "Resolution of the *Exxon Valdez* Oil Spill Trustee Council Pertaining to the Transfer of the Joint Trust Funds and Fees on the Investment Fund". In this resolution fixed flat fees and specific fee rates (basis points) per service or type of asset class were detailed. However, we have since learned that these fees fluctuate. For example, two of the variable rates depend upon the total amount the Alaska Division of Treasury has invested in each asset class. As a result, we are out of compliance with the July 5th resolution and would like to correct it by having the Trustee Council approve a motion that supersedes this resolution.

<u>lssue</u>

Alaska Division of Treasury negotiates the management fee contracts for the Alaska State Pension Investment Board (ASPIB). The Council's Investment Fund "piggybacks" on these fee contracts, especially for the International and Domestic Equity pools of the Investment Fund. The fee rates do not remain constant. This is because the fee schedule is incremental. Each additional increment of invested dollars is invested at a lower rate than the previous.

1. International Pool

For example, the fee schedule for the International pool of the Investment Fund is detailed below:

Amount Invested		Cumulative Assets	Basis Point Fee	
1 st	\$200 m	\$200,000,000	50	
Next	\$100 m	\$300,000,000	45	
Next	\$100 m	\$400,000,000	40	
Next	\$100 m	\$500,000,000	35	
Next	\$100 m	\$600,000,000	30	
Next	\$100 m	\$700,000,000	25	
Next	\$300 m	\$1,000,000,000	20	
Remai	nder	Over \$1 billion	15	

Non-retirement funds are charged at the lowest incremental rate. In the case above this means that, so long as the retirement assets remain at a market value of over \$1 billion, the non-retirement assets pay the final and lowest incremental rate of 15 basis points. In the event that the retirement assets market value decreases to a market value (MV) between \$700 million and \$1 billion, the non-retirement assets rate actually increases to the incremental rate of 20 basis points.

Non-retirement funds choose this option, along with the associated risk of an increase in basis point fees, because they would be hard pressed to go out and obtain active international management fees at even the retirement systems highest incremental rate of 50 basis points.

2. Domestic Equity Pool - REVISED

The fee schedule for domestic equity assets follows:

Amount Invested		Cumulative Assets	Basis Point Fee	
1 st	\$250 million	\$250,000,000	1.4	
Next	\$375 million	\$625,000,000	1.0	
Next	\$1,075 million	\$1,700,000,000	0.8	
Remainder		Over \$1,700 million	0.6	

EVOS participates along with <u>several other non-retirement funds</u> in the above domestic equity pool. At June 30, EVOS' assets represented 17% of the total \$426 million in the fund. Each fund pays its prorated share of the fees for this pool. For example, for EVOS, the calculation would be:

EVOS average month end MV for the quarter

Total average month end MV, all funds

X quarterly fee = EVOS share

Note that if the international fees were allocated using this same formula (Domestic Equity), EVOS' fee for FY02 would have been over 30 basis points.

Recommendation

Recommend that the Trustee Council approve a motion that would approve Investment Fund fees based upon a basis point range instead of a flat rate. The motion should also recognize that the Division of Treasury's personal services costs will most likely increase each year and that Treasury charges funds it manages based upon a percentage of its personal services costs. Therefore, the Investment Management Fee should not be dollar specific but stated only as 0.5% of the Division of Treasury's budgeted personal services amount. Note that the 0.5% is charged per account that is established at Treasury's custodial bank, State Street Company. Treasury may cap the total Investment Management Fee to 1.0% of personal services for funds who require more than 2 accounts at the custodial bank.

The table below shows the fee approved by the Trustee Council in its July 5, 2000 resolution, the actual fees incurred for the past quarter, and the recommended fee range.

Description of Fee	Fee Approved by Trustee Council	Actual Fees for SFY 02	Fee Ranges Likely to Cover Actual Fees as Recommended by Division of Treasury	Notes
Custody Safekeeping Fee	\$5,000	Fee waived	Fee waived	Treasury has waived this fee for funds over a certain size as the 1 basis point variable fee is sufficient to cover larger funds share of the costs.
Custody Transaction Fee	1 basis point	1 basis point	No Change	
Investment Management Fee (Treasury personal services for fixed income management and accounting)	\$11,222 (0.5% of budgeted amount for Division of Treasury's personal services)	¹ ⁄ ₄ of \$11,900 (0.5% of budgeted amount for Division of Treasury's personal services)	(0.5% of budgeted amount for Division of Treasury's personal services)	This fee fluctuates as Division of Treasury's personal services fluctuate. In SFY 03 our fee will be \$13,100 for the year. This increase is because Treasury received an increment in their 2003 budget to cover increased investment officer salaries.
Domestic Equity Fee	1.3 basis point	2.0 basis point	0.8 to 1.4 basis points	The fee would only go as high as 1.4 basis points if all other participants were to exit and EVOS was the only fund left (at approximately their existing \$70 million investment).
International Equity Management Fee	15 basis point	20 basis point	15.00 to 25.00 basis points	The retirement assets would have to be reduced by \$300 million before EVOS' fees increased to the next increment, which would be 25 basis points. This is unlikely to happen from market conditions alone. However the ASPIB board could move a portion of these assets to another manager.

The Trustee Council approves the EVOS Investment Fund fees for one account as follows:

- Custody fees shall be charged monthly at 1 basis point of the month end market value divided by 1/12.

- Investment Management fees shall be charged monthly at 0.5% of the budgeted amount of the Division of Treasury's personal services divided by 1/12.

- Domestic Equity fees shall be charged quarterly (based on agreement with Department of Revenue per the formula described in Attachment A), on the average month-end market value for the quarter, at a basis point rate not to exceed 1.4 basis points divided by 4.

- International Equity fees shall be charged quarterly (based on agreement with Department of Revenue per the formula described in Attachment A), on the average month-end market value for the quarter, at a basis point rate not to exceed 25 basis points.

If in one fiscal year the EVOS Investment Fund (assumes EVOS adds no new money in the fund, i.e., contributions and not earnings) fees for one investment account exceed \$150,000, approval of these fees is required by the Trustee Council.

Attachment A

The fees Treasury shall charge EVOS for providing domestic and international equity management are based upon Treasury's existing contracts, which expire June 2003. The fee schedules are shown below:

Domestic Equity Management - Provided by State Street Global Advisors (SSGA) - Russell 3000 Common Trust Fund

Amount Invested		Cumulative Assets	Basis Point Fee
1 st	\$250 million	\$250,000,000	1.4
Next	\$375 million	\$625,000,000	1.0
Next	\$1,075 million	\$1,700,000,000	0.8
Remainder		Over \$1,700 million	0.6

EVOS shall be charged a prorated share of the quarterly billing from SSGA based upon EVOS' total assets in this investment as a percent of the total of all assets in this investment. EVOS' total fee cannot exceed 1.4 basis points in this investment.

International Equity Management - Provided by Lazard Frere Asset Management

		Cumulative	Basis Point	
Amount invested		Assets	Fee	
1 st	\$200 m	\$200,000,000	50	
Next	\$100 m	\$300,000,000	45	
Next	\$100 m	\$400,000,000	40	
Next	\$100 m	\$500,000,000	35	
Next	\$100 m	\$600,000,000	30	
Next	\$100 m	\$700,000,000	25	
Next	\$300 m	\$1,000,000,000	20	
Remainder		Over \$1 billion	15	

EVOS shall be charged the lowest incremental rate applicable during the billing period after taking into account the total assets held by Treasury in this investment. For example, if the total assets equal \$950,000,000 then EVOS' fee would be 25 basis points.

The incremental rate over the last 24 months has ranged from 15 to 20 basis points. Total assets in this investment are approximately in the \$900-1,000 million range. If the Pension Board were to significantly reduce their investments in this account, the incremental rate would move progressively up (in 5 basis point adjustments). These fees for international are contingent upon the Pension Board's continued relationship with Lazard and their concurrence with Treasury's method of allocating costs of this contract.

Should either fee schedule change, Treasury will notify EVOS of the expected impact on fees to EVOS.

Attachment A

The fees Treasury shall charge EVOS for providing domestic and international equity management are based upon Treasury's existing contracts, the domestic contract is an open contract and the international contract expires March 2005. The fee schedules are shown below:

Domestic Equity Management - Provided by State Street Global Advisors (SSGA) - Russell 3000 Common Trust Fund

Amount Invested		Cumulative Assets	Basis Point Fee
1 st	\$250 million	\$250,000,000	1.4
Next	\$375 million	\$625,000,000	1.0
Next	\$1,075 million	\$1,700,000,000	0.8
Remainder		Over \$1,700 million	0.6

EVOS shall be charged a prorated share of the quarterly billing from SSGA based upon EVOS' total assets in this investment as a percent of the total of all assets in this investment. EVOS' total fee cannot exceed 1.4 basis points in this investment.

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Amount Invested		Cumulative Assets	Basis Point Fee
1 st	\$200 m	\$200,000,000	50
Next	\$100 m	\$300,000,000	45
Next	\$100 m	\$400,000,000	40
Next	\$100 m	\$500,000,000	35
Next	\$100 m	\$600,000,000	30
Next	\$100 m	\$700,000,000	25
Next	\$300 m	\$1,000,000,000	20
Remainder		Over \$1 billion	15

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Should either fee schedule change, Treasury will notify EVOS of the expected impact on fees to EVOS.





Exxon Valdez Oil Spill Trustee Council

441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178



MEMORANDUM

TO:	Trustee Council
FROM:	Molly McGammon Executive Director
RE:	Investment Fund Fees
DATE:	July 29, 2002

Background

At the July 5, 2000 meeting, the Trustee Council approved the "Resolution of the *Exxon Valdez* Oil Spill Trustee Council Pertaining to the Transfer of the Joint Trust Funds and Fees on the Investment Fund". In this resolution fixed flat fees and specific fee rates (basis points) per service or type of asset class were detailed. However, we have since learned that these fees fluctuate. For example, two of the variable rates depend upon the total amount the Alaska Division of Treasury has invested in each asset class. As a result, we are out of compliance with the July 5th resolution and would like to correct it by having the Trustee Council approve a motion that supersedes this resolution.

lssue

Alaska Division of Treasury negotiates the management fee contracts for the Alaska State Pension Investment Board (ASPIB). The Council's Investment Fund "piggybacks" on these fee contracts, especially for the International and Domestic Equity pools of the Investment Fund. The fee rates do not remain constant. This is because the fee schedule is incremental. Each additional increment of invested dollars is invested at a lower rate than the previous.

1. International Pool

For example, the fee schedule for the International pool of the Investment Fund is detailed below:

Amount Invested		Cumulative Assets	Basis Point Fee
151	\$200 m	\$200,000,000	50
Next	\$100 m	\$300,000,000	45
Next	\$100 m	\$400,000,000	40
Next	\$100 m	\$500,000,000	35
Next	\$100 m	\$600,000,000	30
Next	\$100 m	\$700,000,000	25
Next	\$300 m	\$1,000,000,000	20
Remainder		Over \$1 billion	15

Non-retirement funds are charged at the lowest incremental rate. In the case above this means that, so long as the retirement assets remain at a market value of over \$1 billion, the non-retirement assets pay the final and lowest incremental rate of 15 basis points. In the event that the retirement assets market value decreases to a market value (MV) between \$700 million and \$1 billion, the non-retirement assets rate actually increases to the incremental rate of 20 basis points.

Non-retirement funds choose this option, along with the associated risk of an increase in basis point fees, because they would be hard pressed to go out and obtain active international management fees at even the retirement systems highest incremental rate of 50 basis points.

2. Domestic Equity Pool

The fee schedule for domestic equity assets follows:

Amount Invested		Cumulative Assets	Basis Point Fee
1 st	\$25 million	\$25,000,000	3
Next	\$50 million	\$75,000,000	2
Remainder		Over \$75 million	1

EVOS participates along with <u>several other non-retirement funds</u> in the above domestic equity pool. At June 30, EVOS' assets represented 17% of the total \$426 million in the fund. Each fund pays its prorated share of the fees for this pool. For example, for EVOS, the calculation would be:

EVOS average month end MV for the quarter

Total average month end MV, all funds

X quarterly fee = EVOS share

Note that if the international fees were allocated using this same formula (Domestic Equity), EVOS' fee for FY02 would have been over 30 basis points.

Recommendation

Recommend that the Trustee Council approve a motion that would approve Investment Fund fees based upon a basis point range instead of a flat rate. The motion should also recognize that the Division of Treasury's personal services costs will most likely increase each year and that Treasury charges funds it manages based upon a percentage of its personal services costs. Therefore, the Investment Management Fee should not be dollar specific but stated only as 0.5% of the Division of Treasury's budgeted personal services amount. Note that the 0.5% is charged per account that is established at Treasury's custodial bank, State Street Company. Treasury may cap the total Investment Management Fee to 1.0% of personal services for funds who require more than 2 accounts at the custodial bank.

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Custody Transaction Fee	1 basis point	1 basis point	No Change	
Investment Management Fee (Treasury personal services for fixed income management and accounting)	\$11,222 (0.5% of budgeted amount for Division of Treasury's personal services)	¹ ⁄4 of \$11,900 (0.5% of budgeted amount for Division of Treasury's personal services)	(0.5% of budgeted amount for Division of Treasury's personal services)	This fee fluctuates as Division of Treasury's personal services fluctuate. In SFY 03 our fee will be \$13,100 for the year. This increase is because Treasury received an increment in their 2003 budget to cover increased investment officer salaries.
Domestic Equity Fee	1.3 basis point	2.0 basis point	1.25 to 2.4 basis points	The fee would only go as high as 2.4 basis points if all other participants were to exit and EVOS was the only fund left (at approximately their existing \$70 million investment).
International Equity Management Fee	15 basis point	20 basis point	15.00 to 25.00 basis points	The retirement assets would have to be reduced by \$300 million before EVOS' fees increased to the next increment, which would be 25 basis points. This is unlikely to happen from market conditions alone. However the ASPIB board could move a portion of these assets to another manager.

The Trustee Council approves the Investment Fund fees for one account as follows:

- Custody fees shall be charged monthly at 1 basis point of the month end market value divided by 1/12.

- Investment Management fees shall be charged monthly at 0.5% of the authorized amount of the Division of Treasury's personal services divided by 1/12.

- Domestic Equity fees shall be charged quarterly, on the average month-end market value for the quarter, at a basis point rate not to exceed 2.4 basis points divided by 4.

- International Equity fees shall be charged quarterly, on the average month-end market value for the quarter, at a basis point rate not to exceed 25 basis points.

If in one fiscal year the Investment Fund (assumes EVOS adds no new money in the fund) fees for one investment account exceed \$150,000, approval of these fees is required by the Trustee Council.

Number Spreadsheet

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SPREASHEET A: EXECUTIVE DIRECTOR'S RECOMMENDA (NUMBERS SPREADSHEET) -- FY 03 PHASE I

		FY 03	Exec	's Recommendation		
Proj. No.	Project Title	Request	FY 03	FY 04		
Oil Spill: L	ingering Injury	\$707.5	\$579.3	\$52.7		
030190	Linkage Map for Pink Salmon Genome	\$54.5	\$54.5	\$0.0	Fund	
030290	Hydrocarbon Database	\$22.5	\$22.5	\$22.7	Fund contingent	
030476	Effects of Oiled Incubation on Salmon Reproduction	\$37.1	\$37.1	\$0.0	Fund contingent	
030585	Lingering Oil: Bioavailability & Effects	\$121.6	\$121.6	\$0.0	Fund contingent	
030594	Toxicity Testing: Alaska Green Urchin	\$128.2	\$0.0	\$0.0	Do not fund	\bigcirc
030620	Lingering Oil: Exposure Pathways/Population Status	\$343.6	\$343.6	\$30.0	Fund part/Defer part	
Oil Spill: Recovery Monitoring		\$427.8	\$365.8	\$0.0		
030012	Killer Whale Monitoring	\$18.1	\$18.1		Fund contingent	
030462	Herring Disease	\$87.0	\$25.0	\$0.0	Defer	
030558	Harbor Seals: Monitoring Technologies	\$286.7	\$286.7	\$0.0	Fund	
030574	Bivalve Recovery on Treated Beaches	\$36.0	\$36.0	\$0.0	Fund	
Oil Spill: E	cosystem Recovery & Function	\$403.0	\$365.5	\$0.0		
030423	Nearshore Vertebrate Predators: Population Change	\$216.6	\$216.6	\$0.0	Fund	\bigcirc
030587	Cellular Processes of Recovery	\$186.4	\$148.9	\$0.0	Defer	
GEM Cros	s-Habitat Linkage: Synthesis	\$311.2	\$254.5	\$184.8		
G- 030600	EVOS Synthesis, 1989-2001	\$215.9	\$215.9	\$184.8	Fund	
G- 030607	GIS Map of Water Quality Monitoring Sites	\$13.1	\$13.1	\$0.0	Fund contingent	
G- 030625	Isotope Ecology Synthesis	\$25.5	\$25.5	\$0.0	Fund	

SPREA HEET A: EXECUTIVE DIRECTOR'S RECOMMENDAL N (NUMBERS SPREADSHEET) -- FY 03 PHASE I

		FY 03	Exe	cutive Director	's Recommendation	
Proj. No.	Project Title	Request	FY 03	FY 04		
G- 030631	Top-Down Process Synthesis	\$56.7	\$0.0	\$0.0	Do not fund	•
GEM Cros	s-Habitat Linkage: Community Involvement	\$519.7	\$519.7	\$0.0		
G- 030052	Tribal Natural Resource Stewardship	\$180.6	\$180.6		Defer	
G- 030210	PWS/LCI Youth Area Watch	\$98.6	\$98.6		Fund contingent	
G- 030561	Community-Based Forage Fish Sampling	\$17.0	\$17.0	\$0.0	Fund	
G- 030575	Community Involvement/Monitoring Plan	\$109.6	\$109.6	\$0.0	Fund part/Fund part contingent	ز
G- 030610	Kodiak Island Youth Area Watch	\$63.0	\$63.0		Fund	
G- 030636	Commercial Fishing Management Applications	\$50.9	\$50.9	\$0.0	Fund	
GEM: Wate	ershed Habitat	\$118.1	\$118.1	\$26.6		
G- 030596	Flow Data: Kenai Peninsula Salmon Stream	\$25.6	\$25.6	\$0.0	Fund	
G- 030649	Reconstructing Sockeye Populations	\$92.5	\$92.5	\$26.6	Fund	
GEM: Inter	rtidal/Subtidal Habitat	\$93.0	\$93.0	\$0.0	<u> </u>	
G- 030584	Airborne Remote Sensing Tools	\$39.3	\$39.3	\$0.0	Fund contingent	
G- 030656	Nearshore Analysis: Archaeology & Isotopes	\$53.7	\$53.7	\$0.0	Fund contingent	Ú
GEM: Alas	ka Coastal Current Habitat	\$51.6	\$51.6	\$32.1		<u>.</u>
G- 030340	Long-Term Oceanographic Monitoring (GAK1)	\$51.6	\$51.6	\$32.1	Fund contingent	
GEM: Offs	hore Habitat	\$18.1	\$18.1	\$0.0		
G- 030614	Ships of Opportunity: Temp./Salinity/Fluorescence	\$18.1	\$18.1	\$0.0	Fund	

SPREA HEET A: EXECUTIVE DIRECTOR'S RECOMMENDA N (NUMBERS SPREADSHEET) -- FY 03 PHASE I

		Г	FY 03	Exe	cutive Director's Recommendation	
Proj. No.	Project Title		Request	FY 03	FY 04	
Data Mana	Data Management & Information Transfer		\$308.0	\$308.0		
G- 030455	GEM Data System		\$212.9	\$212.9	Fund	
G- 030550	ARLIS		\$95.1	\$95.1	Fund	
Science M	lanagement		\$416.0	\$416.0		
G- 030250	Project Management		\$137.6	\$137.6	Fund	
G- 030630	Science Management		\$278.4	\$278.4	Fund	\bigcirc
Public Info	ormation/Administration		\$1,114.3	\$1,114.3		
030100	Public Info. & Admin.	· · · · · · · · · · · · · · · · · · ·	\$1,114.3	\$1,114.3	Fund	
	·	Total:	\$4,488.3	\$4,203.9	\$296.2	
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Executive Director's Recommendation FY 03 Phase I Work Plan / July 25, 2002

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Oil Spill: Lingering Injury	1-5	
Oil Spill: Recovery Monitoring	6-8	
Oil Spill: Ecosystem Recovery & Function	. 9-10	
GEM Cross-Habitat Linkage: Synthesis	11-12	
GEM Cross-Habitat Linkage: Community Involvement	13-17	
GEM: Watershed Habitat	18-19	
GEM: Intertidal/Subtidal Habitat	19-20	
GEM: Alaska Coastal Current Habitat	20	
GEM: Offshore Habitat	21)
Data Management & Information Transfer	21-22	
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Public Information & Administration	23	

SPREASHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION (TEXT SPREADSHEET)--FY 03 F-ASE I

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
Oil Spill: Linge	ering Injury				\$707.5	\$579.3	\$52.7	\$52.7
030190	Construction of a Linkage Map for t Pink Salmon Genome	he F. Allendorf/Univ. Montana	ADFG	Cont'd 8th yr. 8 yr. proje	\$54.5 ect	\$54.5	\$0.0	\$0.0
Pro	<u>oject Abstract</u>	Chief Scientist's Recommen	<u>dation</u>		Executive Dir	ector's Reco	omm <u>endatio</u>	n
This is the final ye experiments cond that use a linkage effects of regions important to the r and survival). In adults were collec cohort produced Likes Creek. In f the returning adu differences in ma (e.g., body, size, report/manuscrip	This is the final year of a long-term purdone a good job overcoming unexperi- challenges. The genome map will be variety of future studies of pink salmon useful for future pink salmon manage Southcentral Alaska. Based on the principal future pink salmon manage principal investigator with funding to or identified data analysis and prepare re- Fund.	oject that has cted technical a benefit to a on, and will be ment in roposal, it e process of to provide the complete the nanuscripts.	Fund rev remainin preparat the gene survival. project w to fisheri interactio the gene to their e into strea adapted	vised proposa og data analys ion. This proje- stic traits of pir In addition, the vill contribute tes managem ons. For exar pool in a way environment? ams to affect are wild fish t	I, which red is and man act is import nk salmon to work beir to answerin ent about ha nple, are ha y that make Are enough productivity o particular	uces the cos uscript/final tant for unden tant affect group g done und g questions atchery/wild atchery fish of wild fish m hatchery fish of wild fish? streams?	st of the report erstanding owth er this important fish changing aladapted sh getting How	
030290	Hydrocarbon Database and Interpretation Service	J. Short, B. Nelson/NOAA	NOAA	Cont'd 12th yr.	\$22.5	\$22.5	\$22.7	\$22.7
Pri This ongoing pro services for all sa analysis in suppo data represent sa 1989 to the prese laboratory Nation restoration data. interpretive servic releases of the h and storage and sample archives.	oject Abstract ject provides data and sample archiving amples collected for hydrocarbon ort of Trustee Council projects. These amples collected since the oil spill in ent and include environmental and al Resource Damage Assessment and Additionally, this project provides ces for hydrocarbon analysis, public ydrocarbon and pristane databases, maintenance of the hydrocarbon	Chief Scientist's Recomment This is a small project, but critical to the remaining oil and its fate. Studies the whether the remaining intertidal substitution Prince William Sound is contaminating require the support of this service pro- amount of oil from the spill subsides, the hydrocarbon sources is a question assumes greater importance. This pro- source identification determinations to chemical analyses that are stored in The technical approach is sound, as demonstrated by more than ten years The approach and products from this appeared in many peer reviewed put Fund.	dation racking at will focus of urface oil in ng the food we oject. As the the identity of n that oject makes oased on the the database. has been s of successe study have olications.	Fund co (00195, project p b of hydro studies.	Executive Dir ntingent on su 01195, 01599 provides the o carbon data fo	ector's Rec ubmittal of c) and manu ngoing anal or other Tru	ommendatic overdue repo iscript (0059 ysis and inte stee Counci	on orts 98). Th erpretation I funded

SPREA SHEET B: EXECUTIVE DIRECTOR'S RECOIL ENDATION (TEXT SPREADSHEET) -- FY 03 LASE I EV 03

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
030476	Effects of Oiled Incubation Substrate on Pink Salmon Reproduction	R. Heintz/NOAA	NOAA	Cont'd 5th yr. 5 yr. project	\$37.1	\$37.1	\$0.0	\$0.0

Project Abstract

Populations are maintained through successful reproduction; this study is designed to determine if exposure to oil impairs pink salmon reproduction. This experiment began in the fall of 1998 when pink salmon eggs were incubated in oil contaminated water. Fish that as it has been fundamental for understanding the survived exposure were marked and released in the spring of 1999. They reached maturity at sea and returned to spawn in the fall of 2000. Return rates confirmed previous observations of reduced marine survival among exposed fish, but evaluations of offspring (F1) survival rates did not indicate any reproductive impact. The F1 were incubated in clean water until spring 2001 when they were marked and released. They will mature and return to the hatchery in the fall of 2002 and their reproductive ability will be evaluated by generating an F2 generation. A diminished ability to produce the F2 generation represents a genetic effect of oil transmitted to unexposed generations. Such an effect was demonstrated for similarly treated pink salmon in 1997, but corroborating data do not exist. This project is designed to retest that experiment; if diminished reproductive ability is corroborated, it would demonstrate a significant and unanticipated effect of oil pollution.

Chief Scientist's Recommendation

This is an important project because it rigorously tests the hypothesis that pink salmon have herritable damage expressed as reduced survival. The Trustee Council should complete this project. damage to pink salmon from the oil spill. The FY 03 work will complete a two-generation experiment started in 1998 with exposure of salmon eggs to oil. Fund.

Executive Director's Recommendation

Fund closeout of this project contingent on submittal of overdue reports (99347, 01476). This project is validating the effects of oil contamination on pink salmon, thus contributing to our understanding of the injury and recovery status of this injured species.

SPREASHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION (TEXT SPREADSHEET) -- FY 03 A-ASE I

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
030585	Lingering Oil: Bioavailability and Effects to Prey and Predators	J. Rice, J. Short/NOAA; J. Bodkin, B. Ballachey/USGS; D. Esler/Simon Fraser Univ.	NOAA & DOI	Cont'd 2nd yr. 2 yr. project	\$121.6	\$121.6	\$0.0	\$0.0

Project Abstract

About 20 acres of contaminated beach were found in 2001 surveys of western Prince William Sound conducted under Project 01543. In these areas, sea otters and harlequin ducks have not recovered, raising concerns that continued oil exposure may be affecting their survival. Biochemical assays and mortality patterns apparently still exposed to lingering oil. This is a are consistent with continuing oil exposures, but prior to this study, linkages between oil persistence and impacts remaining in the intertidal and how it may be at higher trophic levels had not been attempted. In this study, shoreline contamination, exposure and effects were examined simultaneously by choosing a common set of sites at which to assess oil persistence and biological impacts on sea otters and harlequin ducks. Fieldwork was conducted in FY 02, and closeout activities, including data analyses and writing of reports and publications, will be done in FY 03. The National Oceanic and Atmospheric Administration's Auke Bay Lab has been leading the studies of oil bioavailability and impacts to prey species; Department of Interior-U.S. Geological Survey has been directing the studies on sea otters and harlequin ducks.

Chief Scientist's Recommendation This is a very good to excellent proposal that

addresses the potential effects of remaining intertidal oil deposits (mainly subsurface) on the food web, including clams and intertidal fish, sea ducks (harlequin ducks) and sea otters, which are closeout of the two-year project to document oil available to higher trophic levels. The request for funds to analyze oil-exposed bivalves is warranted, as this may establish an exposure pathway to higher trophic levels. The project is related to Project 03620, but the latter project focuses more closely on relating foraging area to exposure. Fund, including funds for additional chemical analyses and the oil remaining in intertidal sediments. analysis of interstitial water samples.

Executive Director's Recommendation

Fund closeout of this project, including funds for additional chemical analyses and analysis of interstitial water samples, contingent on (a) submittal and approval of a revised Detailed Project Description and budget that reflect this additional work and (b) submittal of overdue reports (00195, 00454, 01195, 01599) and manuscript (00598). This project, which integrates studies of sea otters and harlequin ducks with continued assessment of oil persistence, is the product of a workshop convened in 2001 to review results from Project 01543/Evaluation of Oil Remaining in the Intertidal and to identify information gaps. The project's objective is to determine if the signs of continued oil exposure in sea otters and harlequin ducks are linked to

SPREA HEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION (TEXT SPREADSHEET)--FY 03 F-ASE I

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY-03 Recom.	FY 04 Request	FY 04 Recom.
030594	Development of an Alaska Standard Species for Marine Toxicity Testing The Alaska Green Urchin	d R. Perkins/UAF	ADFG	New 1st yr. 1 yr. proje	\$128.2	\$0.0	\$0.0	\$0.0
Ī	Project Abstract	Chief Scientist's Recomm	nendation		Executive Dir	ector's Reco	mmendatio	<u>1</u>
This project wil testing procedu species. None or recommende Agency and oth	I develop a standard marine toxicity ure using cold water and an Alaska of the standard test procedures required ed by the Environmental Protection her environmental regulators use	The core tasks in this proposal had done and extensively published by colleagues at the University of Wa the 1980s. The project also has lin restoration. Do not fund.	ive already been y Dinnel and his ashington during mited links to	Do not fu recomm	und based on endation.	Chief Scien	tist's	: .
cold-water test species to mak species is unsa and this practic of the results.	animals. Use of typical warm-water the decisions about Alaska conditions and atisfactory from a scientific standpoint, the also interferes with public acceptance Decisions requiring toxicity testing include							\bigcirc
crude oil comp dispersants and developing the Tests of urchin sensitive indica	onents and cleanup chemicals, such as d beach cleaners. This project proposes Alaska green urchin as a test species. fertilization and embryo development are ators of toxicity.							

SPREASHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION (TEXT SPREADSHEET)--FY 03 F-ASE I

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
030620	Lingering Oil and Predators: Pathwa Exposure and Population Status	ays of S. Rice, J. Short, M. Lindeberg/NOAA; J. Bodkin, B. Ballachey/USGS-DOI	NOAA & DOI	New 1st yr. 2 yr. proje	\$343.6	\$343.6	\$30.0	\$30.0
Lingering oil and ducks are the m long term impace accumulating wh constraining rec western Prince M contamination of documented dur years later, eleva sea ducks have hydrocarbons. E to date has been 2001 and 2002, document the di of lingering oil al impacted by the identifying speci ducks could be a lingering oil. Thi studies and will t	roject Abstract I continued effects to sea otters and sea ost surprising and best documented ts of the oil spill. Strong evidence is nich implicates lingering oil as a factor overy of the nearshore ecosystem in William Sound. Acute and chronic f sediments and prey species were well ing the years following the spill. Twelve ated biomarker levels in sea otters and indicated continued exposures to vidence implicating a route of exposure a largely circumstantial. However, in extensive sampling was undertaken to stribution, abundance, and bioavailability ong those shorelines most heavily spill. This has paved the way for fic areas where sea otters and sea currently foraging and exposed to is project is an outgrowth of the earlier focus on the direct pathways of lingering nd sea duck populations in two heavily	<u>Chief Scientist's Recommendat</u> This is an important project for understal lingering effects of the oil spill in some o heavily oiled localities from 1989. It is a to excellent proposal that addresses the effects of remaining intertidal oil deposit subsurface) on the food web, including s (harlequins) and sea otters, which have recovered from the effects of the spill ar apparently still exposed to lingering oil. some concern about the experimental d the prey base study (the National Ocear Atmospheric Administration (NOAA) cor particularly being able to relate the locat foraging activities to the contamination-real external contactis also a question. Fun (U.S. Geological Survey) component; de on funding NOAA component pending c with the peer review team.	on nding the f the most very good potential s (mainly sea ducks not d are There is esign for ic and nponent), on of f the forag ing versus d USGS ifer decisio onsultation	Fund US sea otter decision Atmosph lingering Fall 2002 03585/Li and Prec compone principal 01195, 0 This proj integratir e with findi Summer to addre n effects o regard to ducks, b spill and	Executive Dir Executive Dir GS (U.S. Geo s and harlequ on funding Ne heric Administ oil (\$151,300 2 on the result ngering Oil: E dators. If fund ent will be cor- investigators 1599) and ma- ect follows or ng studies of s ings of the ling 2001 (Project ss additional of f remaining in the food web oth of which h are apparent	ector's Reco ological Sur in ducks (\$ OAA (Nation ration) com) pending a ts to date fro ioavailability ded, funding ntingent on s overdue re anuscript (0 n Project 02: sea otters a gering oil su to 1543). T objectives re itertidal oil do oon sea ot nave not reco by still expose	ommendatio vey) compor 192,300); de nal Oceanic conent on he workshop to om Project y and Effects for the NOA submittal of to ports (00198 0598) from p 585, which is nad harlequin rvey conduct he project is selated to the epositsspet ters and har overed from ed to lingeri	n nent on efer and abitat and b be held s to P AA the 5, 00454, prior years s ducks sted s designed potential ecifically in lequin the oil ng oil.

SPREASHEET B: EXECUTIVE DIRECTOR'S RECONSENDATION (TEXT SPREADSHEET)--FY 03 F-ASE 1

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
Oil Spill: Reco	overy Monitoring	· · · · · · · · · · · · · · · · · · ·			\$427.8	\$365.8	\$18.2	\$0.0
030012	Photographic Monitoring of Resident Killer Whales	C. Matkin/North Gulf Oceanic Society	NOAA BAA	Cont'd 11th yr.	\$18.1	\$18.1	\$18.2	
Pr This project will s pod of killer what cooperative prog various foundatio yearly basis sinc crucial in evaluat	roject Abstract support monitoring of the resident AB les and other resident pods as part of a gram with the Alaska SeaLife Center and ons. Monitoring has occurred on a re 1984; this long-term data set was ting the oil spill effects on killer whales.	Chief Scientist's Recommend This project will monitor an important pod. Killer whales are a top trophic-lev species that is dependent on the integ marine ecosystem. Killer whales are a increasingly important species for tour industry that is worth many millions of year. The killer whale population in the Alaska has been increasing and overa population appears to be healthy. How pod declined precipitously at the time and, for a time after the spill, appeare danger of complete disintegration. The grown since about 1994 and pod disin seems less likely. The continuation of monitoring project will provide continu the status of the AB pod. Fund, lower	ation killer whale rel, sentinel rity of the also an ism, an dollars per e Gulf of all the wever, the Al of the spill d to be in e AB pod ha tegration not this ing data abo priority.	Fund FY manusc niche pa beyond reduced sources for conti William B s	Executive Dir (03 only conti ripts funded ir artitioning). A has not yet be from earlier y of funds avail nued monitor Sound and Ke	ector's Reco ngent on co prior years decision on een made. F rears to refle able to the p ing of killer v enai Fjords.	ommendatio mpletion of (mating sys funding in F Funding in F act the additi principal inve vhales in Pri	tems and Y 04 and Y 03 is onal estigator

SPREL SHEET B: EXECUTIVE DIRECTOR'S RECOL ENDATION (TEXT SPREADSHEET) -- FY 03 KASE I

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
030462	Effect of Disease on Pacific Herring Population Recovery in Prince William Sound	G. Marty/Univ. of California, Davis	ADFG	Cont'd 5th yr. 5 yr. project	\$87.0	\$25.0	\$0.0	\$0.0

Project Abstract

In spring 2001, prevalence of Ichthyophonus hoferi (38 percent) in the Pacific herring population of Prince William Sound was more than 50 percent greater than in any year studied (1989-2000). I. hoferi causes severe, disseminated, chronic disease in Pacific herring that is best diagnosed using histopathology. Before 2001, I. hoferi was not associated with unexpected declines in population biomass, but during the last century increases in I. hoferi prevalence in Atlantic herring have been associated with several disease outbreaks. To understand the significance of the 2001 I. hoferi outbreak, this project will analyze samples already collected in fall 2001 and spring 2002 as part of Project 02462.

Chief Scientist's Recommendation

Herring remain one of the key non-recovered species and are of substantial commercial importance, in addition to being a key component of the pelagic ecosystem. This study has contributed much to our understanding of disease expression in the herring fishery, will complete its work on viral herring. In the opinion of the reviewers, most of the value of this project has been obtained through the contributions already made to the literature and to the management of the herring fishery by work on the VHS (viral hemorrhadic septicemia) virus. The reviewers feel there is insufficient justification for substantial investment of further research money in sample processing for determining the presence of a second pathogen (Ichthyophonus hoferi) However, a modest contribution of matching funds to a larger effort would be in order. Fund at level of \$25,000 if matching funds are obtained.

Executive Director's Recommendation

Defer decision on funding this project until November. pending contribution of funds from non-EVOS sources to carry out the project as proposed. This project, which has made an important contribution to management of hemorrhagic septicemia in FY 02 (Project 02462). The proposer has requested funds to conduct new work Icthyophonus hoferi in FY 03. The reviewers consider the organ-by-organ pathobiological study proposed to be of lower priority at this stage of the restoration program, but a modest contribution of \$25,000 to the project may be worthwhile. Deferring the project until November will provide the proposer an opportunity to secure funds from other sources. The project objective is to determine whether disease continues to limit recovery of the Prince William Sound herring population.

030558

Harbor Seal Recovery: Application of New Technologies for Monitoring Health S. Atkinson/UAF

ADFG

3 yr. project

\$286.7

Cont'd

3rd vr.

Executive Director's Recommendation

\$286.7

\$0.0

\$0.0

Fund; previous concerns about the pace of assay development have been addressed and budget questions have been resolved. FY 03 was to be this project's closeout year (data analysis and final report writing only) but additional sample collection--and the corresponding bench fees for housing the research animals at the Alaska SeaLife Center--has also been proposed and is recommended for funding along with closeout activities. This project is employing new technologies at the Alaska SeaLife Center to assess and monitor the health of harbor seals. [Note: The funding amount includes \$167,600 for Alaska SeaLife Center bench fees.]

Project Abstract

This study is a continuation of the study to assess the potential for new technologies to monitor the endocrine and immune systems for the health of harbor seals. During year one, baseline samples were collected from both permanently captive and rehabilitation seals at the Alaska SeaLife Center. Analysis of thyroxine (T4), triiodothyronine (T3), and cortisol (metabolic and gluconeogenic hormones), and measurement of immunoglobulins (IgG, IgM, and IgA) and organochlorine contaminants are currently being assessed. Cell lines to quantify immunoglobulins have been initiated, and baseline hormones have been established. FY 03 will compare the profiles of free-ranging seals and those failing to thrive in their environment in an effort to restore this species.

Chief Scientist's Recommendation

This is an excellent proposal investigating contaminant effects on reproductive biology of harbor seals. Previous concerns about the pace of assay development have been addressed and the project is on track to complete its objectives. Fund.

SPREA_SHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION (TEXT SPREADSHEET) -- FY 03 F-ASE I

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
030574	Assessment of Bivalve Recovery on Treated Mixed-Soft Beaches in Prince William Sound	D. Lees/Littoral Eco.& Environ. Services	NOAA BAA	Cont'd 2nd yr. 2 yr. project	\$36.0	\$36.0	\$0.0	\$0.0

Project Abstract

Studies from 1989 through 1997 suggest that bivalve assemblages on beaches in Prince William Sound with high-pressure hot-water washing remain severely damaged in terms of species composition and function. This project will assess the generality of this apparent injury to these assemblages. A finding that our conclusions are accurate will indicate that a considerable proportion of mixed-soft beaches in treated areas of the sound remains extremely disturbed and that these beaches are functionally impaired in terms of their ability to support foraging by damaged nearshore vertebrate predators such as sea otters and harlequin ducks.

Chief Scientist's Recommendation

This is the second and final year of funding for this intertidal project. The need for this work has long been recognized in the Restoration Plan, but not until last year did an affordable project appear. Fund.

Executive Director's Recommendation

Fund closeout of this project, which will extend sampling initiated under the National Oceanic and Atmospheric Administration's HAZMAT program to document continuing effects of shoreline cleanup on populations of important bivalves, thus allowing the results to be generalized over a larger geographic range.

SPRE SHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION (TEXT SPREADSHEET)--FY 03 F-ASE I

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
Oil Spill: Eco	osystem Recovery & Function	<u> </u>			\$403.0	\$365.5	\$0.0	\$0.0
030423	Patterns and Processes of Populati Change in Selected Nearshore Vertebrate Predators	on J. Bodkin, B. Ballachey/USGS-BRD, D. Esler/Simon Fraser Univ.	DOI	Cont'd 5th yr 5 yr. proje	\$216.6	\$216.6	\$0.0	\$0.0
Sea otters and from the oil sp differences be oiled areas, bo P4501A, almo to oil. This pro exposure and intent of under these species The results als recovery of the work has cons species, and a Proposed activ final year of ha exposure and closeout of all the final report	Project Abstract d harlequin ducks have not fully recovered will, based on population-level demographic tween oiled and unoiled areas. Further, in oth species show elevated cytochrome est certainly reflecting continued exposure oject is exploring links between oil the lack of population recovery, with the rstanding constraints to full recovery of and the nearshore environment generally. so serve to monitor the progress of e species and the system. To date, the sisted of field components for both a captive component for harlequin ducks. vities for FY 03 include (a) the third and arlequin duck field studies quantifying oil survival of females during winter and (b) project components and preparation of t.	Chief Scientist's Recommend This is a high quality project that has r outstanding contributions to the EVOS Vertebrate Predator (NVP) program (f 99025). Sea otters and harlequin duc shown ongoing injury. The experimer harlequins to derive dose-response re especially valuable (although procedu challenging). Fund closeout of sea ot as proposed; fund an additional year of field work/data collection in order to do there is a link between P4501A expos survival of individual female harlequin	latior nade Nearshore Project ks have ntal work with sults is rally ter component of harlequin etermine if ure and ducks.	Fund rev sea otter the revie compone the proje apparent meet pro freet pro (Project otters an includes report we compone	Executive Dir ised proposa component s wers in regar- ent have beer ct's FY 02 pro- that a third y ject objective n of the Nears 99025) work of d harlequin d closeout activ- iting) for both ents.	ector's Reco l, which redu slightly. The d to the harl a addressed eliminary res ear of field s s. This proje shore Vertel on two still-in ucks. The F vities (final c the sea otte	ommendatio uces the cos questions r equin duck through a ro sultsit is no study is nece ect is an imp orate Predat hjured speci Y 03 funding lata analysis er and harle	1 t of the aised by view w ssary to or project es, sea g request and quin duck

SPREA HEET B: EXECUTIVE DIRECTOR'S RECON ENDATION (TEXT SPREADSHEET) -- FY 03 F SE I

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
030587	Understanding the Cellular Processes of Recovery and Its Utility in Oil-Spill Restoration Efforts	C. Downs/EnVirtue Biotechnologies, Inc.	NOAA BAA	New 1st yr. 1 yr. project	\$186.4	\$148.9	\$0.0	\$0.0

Project Abstract

This project will elucidate the cellular and genomic mechanisms that affect the rate of recovery in bivalve species impacted by the oil spill. The project will (a) determine the adverse affects of a long-term oil-spill exposure on specific processes of cellular physiology and genomic integrity that could potentially impede or slow the rates of recovery in populations of Protothaca staminea and (b) determine the link between cellular-physiological condition with PAH-body burden in these two species of bivalves by characterizing these parameters in populations from sites that exhibit different levels of oil contamination. Completion of this work may provide a foundation to address questions critical to the issue of variable rates of recovery in both invertebrate and vertebrate species in oil-impacted areas. It will provide new and powerful tools to improve monitoring methodologies, as well as potentially providing valuable information for restoration efforts.

Chief Scientist's Recommendation

This project will apply a battery of biomarkers to determine the sublethal impact of residual oil to mollusk physiology. Some interesting data is presented in the proposal. However, there is no proof of principle for the effects postulated, the proposal lacks a strong justification from the existing biomarker literature, and it is not entirely clear how experienced the investigators are in this proposal, however, the investigators should be encouraged to address these weaknesses in a revised proposal. Defer pending submittal and review of a revised Detailed Project Description that addresses the peer reviewers' concerns.

Executive Director's Recommendation

Defer decision on funding this project until November pending submittal and review of (a) a revised Detailed Project Description that addresses the Chief Scientist's concerns (proof of principal, reference to existing biomarker literature, and principal investigators' experience) and (b) a revised budget that clarifies (and probably reduces) contractual and travel costs (the amount in the recommended column above is a area. In light of the preliminary data submitted in the placeholder). This project is designed to determine the sublethal impact of residual oil to mollusk physiology and how exposure to residual oil might be slowing recovery of mollusks.

SPRE SHEET B: EXECUTIVE DIRECTOR'S RECOM ENDATION (TEXT SPREADSHEET)--FY 03 A-ASE I

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Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
GEM Cross-Ha	bitat Linkage: Synthesis				\$311.2	\$254.5	\$214.3	\$184.8
G-030600	Synthesis of the Ecological Finding from the EVOS Damage Assessme and Restoration Programs, 1989-2	s R. Spies/EVOS Chief Scientist, ent al 001	et ADNR	Cont'd 2nd yr. 3 yr. projec	\$215.9 t	\$215.9	\$184.8	\$184.8
Pro	pject Abstract	Chief Scientist's Recommend	lation	E	xecutive Dir	ector's Rec	ommendatic	n
This project is syr post-spill study in restoration progra and natural factor of Alaska ecosyst integrated synthe major sections: (the ecosystem, (the responds in distur- how our understa and what future p valuable marine ecosystem of the EV the foundation for	nthesizing the results from 12 years of the EVOS damage assessment and ams in the context of anthropogenic rs causing change in the northern Gulf tem. The result of the work will be an sis book. The book will consist of three (a) the basic structure and function of b) how it changes over time and how it rbances, and (c) the effect of the spill: anding of the ecosystem has matured both will help us better understand this ecosystem. The book will be a major (OS restoration program and help set r GEM.	Proposal will not be reviewed by Chie Two independent reviews have been	f Scientist. conducted.	Fund. This project will integrate what has been from more than a decade's worth of science of the oil spill. Such a synthesis will fulfill at lease purposes: (a) inform the public about the EVC in a scientifically rigorous yet readable volume provide a foundation for GEM. A detailed out synthesis will be completed shortly and will be to the Trustee Council for comment. In additi principal investigator should work closely with Trustee Council Office in designing the multir presentation to ensure that it will be a useful Council staff in communicating the results of restoration program to the public and others.				In learned ollowing t two)S lec and a ine for the supplied on, the the nedia ool for the
G-030607	Geographic Information Systems (Map of Water Quality Monitoring S Across the Guif of Alaska	GIS) M. Gracz/Cook Inlet Keeper ites	NOAA BAA	New 1st yr. 1 yr. projec	\$13.1 :t	\$13.1	\$0.0	\$0.0
Pro	oject Abstract	Chief Scientist's Recommend	<u>dation</u>	Ē	xecutive Dir	ector's Rec	ommendatio	<u>n</u>
This project will s comprehensive G map and databas Alaska. This map be linked to CIIM Management and and STORET, the easily updated ar as well as policy of public. This map as a lasting tool f Gulf of Alaska's r monitoring efforts which information	synthesize existing data to create a Geographic Information Systems (GIS) se of monitoring sites across the Gulf of p will be published in hardcopy and will MS (Cook Inlet Information d Monitoring System, Project 01391) rough which the map and data can be and made available to monitoring entities makers, scientists, and the general o and the accompanying data will serve for the restoration and protection of the resources by coordinating diverse s and establishing a framework into n about current and future monitoring	This proposal will create a database a water quality sites in the Gulf of Alask database will be useful in meeting GE Fund contingent on clarification by the the geographic area to be included (the should include the entire geographic encompassed by the GEM program).	and map of a. Such a EM objectives e proposer of ne database area	Fund con geograph database encompa create a C (including paramete of Alaska CIIMMS (Monitoring informatio	ingent on cl ic area to be should inclu ssed by the GIS map of v physical, ch rs) by identif and incorpo the Cook Inl g System cro n will be use	arification b covered by ide the entir GEM progra water quality nemical, and fying existin orating this in et Informati eated under eful for GEN	y the propos v the project e geographi am). This provision v monitoring v monitoring v monitoring v monitoring v monitoring sites across formation ir on Manager Project 013 v planning.	er of ((the c area oject will sites s the Gulf ito nent and .91). This

programs can be entered.

SPREA SHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION (TEXT SPREADSHEET) -- FY 03 A-ASE I

				•	FY 03			
Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
G-030625	Prince William Sound Isotope Ecolo Synthesis	ogy T. Kline/PWSSC	NOAA BAA	New 1st yr. 1 yr. projec	\$25.5	\$25.5	\$0.0	\$0.0
Project This project will pro present structure of William Sound thro with tentative title: " structure of the pel Sound, Alaska". The will be useful becau change in species of trophic structure du	ect Abstract ovide a 'big picture' synthesis of the f the pelagic ecosystem of Prince ough preparation of a scientific paper 'A stable isotope based trophic agic community of Prince William he documentation of a 'before picture' use the recently documented regional composition is likely to alter pelagic uring GEM.	Chief Scientist's Recomme The proposed synthesis could be a product, and the principal investiga the most knowledgeable individual synthesis. Fund revised proposal, w the cost of the project to a more ap	endation worthwhile tor is certainly to prepare this which reduces propriate level.	Fund revi scope and This proje pelagic ed stable iso and analy previous Ecosysted Sound Fo	Executive Direct sed proposal d budget as d ect will preparation cosystem of tope ratio da vzed by the p EVOS project m Assessme pod Webs: St	ector's Reco l, which redu directed by t re a synthes Prince Willia ta from biot rincipal inve ts (Project S int; Project C ructure and	emmendation uces the pro- he Chief Sc sis manuscrian Sound, u a samples of stigator und 98320/Soun 01393/Prince Change).	n ject's ientist. ipt on the using collected ler d e William
G-030631	Top-Down Process Synthesis	T. Kline/PWSSC	NOAA BAA	New 1st yr. 2 yr. projed	\$56.7 ct	\$0.0	\$29.5	\$0.0
Project This project will syr ontogenetic increas walleye pollock suc processes when >6 analysis of archiver multiple trophic lev larger pollock cann those that are age- that pollock of this cannibalism. Pollo being removed from discovery of a mos SEA project (Sound /320.) The propose will be useful to GE effectively remove sound as has happ	ect Abstract hthesize information that suggests ses of the trophic position of the ch that they contribute to top-down 600mm in length, using stable isotope d samples and data. Pollock feed at rels depending on their size, with hibalizing smaller pollock, especially -0. Preliminary analysis suggested size range have a high potential for ock of this size range are presently m Prince William Sound since the sty undisturbed population during the d Ecosystem Assessment, Project ed documentation of a 'before picture' EM, because fishing pressure may the larger size class pollock from the bened in the Bering Sea.	Chief Scientist's Recommend This proposal from qualified invest present a convincing case that con- can be adequately controlled to res questions it poses. The potential co- restoration objectives is thus likely not fund.	endation igators does not founding factors solve the ontribution to to be limited. Do	E Do not fu recomme analysis t pollock up expresse the projec obtained	Executive Dir nd based on endation. Thi to examine the nder differen d concern ab ct and whethe using the me	ector's Reco Chief Scien s project wo to trophic po t conditions. bout the exp er unambigue thods propo	ommendatic tist's ould use stat osition of wa The reviev erimental de Jous results osed.	n ble isotope illeye vers esign of could be

SHEET B: EXECUTIVE DIRECTOR'S RECOMENDATION (TEXT SPREADSHEET)--FY 03 A-ASE I SPRE EY 03

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
GEM Cross-Habitat Linkage: Community Involvement			<u> </u>		\$519.7	\$519.7	\$340.0	\$0.0
G-030052	Tribal Natural Resource Stewardship and Meaningful Tribal Involvement in GEM	P. Brown- Schwalenberg/CRRC	ADFG	Cont'd 9th yr.	\$180.6	\$180.6	\$192.6	

Project Abstract

Chief Scientist's Recommendation

In FY 03, this project will focus on four objectives: (a) establishing Core Action Plans for the Tribal Natural Resource Plans being developed in FY 02, (b) identifying priority regional and community-specific research and monitoring issues and concerns and fitting them to community-based research and monitoring activities, especially those related to GEM, (c) conducting a "Wisdomkeeper Series" for discussing and community commitment to implementation of the sharing research and monitoring issues with selected biologists, scientists, elders, and traditional knowledge experts, and (d) developing pilot community-based research and monitoring projects for potential implementation in FY 04. Communities involved in the project are Tatitlek, Chenega Bay, Port Graham, Nanwalek, Cordova/Eyak, Seward/Qutekcak, Seldovia, Valdez, Kodiak Island Region/Ouzinkie, and the Alaska Peninsula Region/Chignik Lake.

The Trustee Council has committed to community involvement in both the GEM and ongoing oil spill programs. This proposal cannot be fully evaluated until the Tribal Natural Resource Plans scheduled for completion in FY 02 from this project have been reviewed by the Trustee Council. These need to be reviewed for their content, relationship to GEM, and plans. Defer funding pending receipt of these plans. Involvement/Community Based Monitoring Plan for

Executive Director's Recommendation

Defer decision on funding this project pending a review of FY 02 results (completion of Tribal Natural Resource Plans; tribal participation in technical workshops/training sessions; communication of EVOS results to village If funded, the Detailed Project Description and budged need to be revised to more directly build on the work performed in FY 02 and to avoid duplication with Project 03575, Designing a Community

GEM. The overall goal of this project--community involvement and development of local stewardship capacity--is a priority of the Trustee Council and an essential component of GEM.

SPREA SHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION (TEXT SPREADSHEET)--FY 03 F-ASE I

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
G-030210	Youth Area Watch	R. DeLorenzo/Chugach School District	ADFG	Cont'd 8th yr.	\$98.6	\$98.6	\$85.6	

Chief Scientist's Recommendation

Project Abstract

This project links students in the oil spill impacted area with research and monitoring projects funded by the Trustee Council. The project involves students in the restoration process and provides these individuals the skills to participate in restoration now and in the future. Youth conduct research identified and delegated by principal investigators who have indicated interest in working with students. Youth Area Watch fosters long-term commitment to the goals set out in the restoration plan and is a positive community investment in that process. Participating communities in FY 03 will be Tatitlek, Chenega Bay, Cordova, Nanwalek, Port Graham, Seldovia, Seward, Valdez, and Whittier. This project is a success story for community involvement in EVOS research, through the participation of young people in the public school system. The proposers recognize EVOS projects will be changing with implementation of GEM and are willing to adapt. The proposers also have done an excellent job of obtaining supplemental funding and reducing reliance on EVOS funding. However, the proposal provides insufficient information to judge progress. It could be strengthened with greater attention to the results of prior efforts, such as Youth Area Watch students choosing to pursue higher education in science. In addition, the annual reports are not a useful gauge of program accomplishments and progress, so accountability is lacking. By contrast, the Kodiak Youth Area Watch annual reports (Project /610) provide specific information on accomplishments, problems encountered and solutions. Fund contingent on receipt of a revised annual report (01210) that indicates that satisfactory progress is being made.

Executive Director's Recommendation

Fund contingent on submittal and review of (a) a revised FY 01 annual report (01210) that addresses the Chief Scientist's concerns and (b) a satisfactory annual report for FY 02 (02210). Youth Area Watch involves local youth in restoration projects. In FY 03, youth in Chenega Bay, Cordova, Nanwalek, Port Graham, Seldovia, Seward, Tatitlek, Valdez, and Whittier wil participate.

SPREA SHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION (TEXT SPREADSHEET) -- FY 03 A-ASE I

					FY 03			
Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
G-030561	Evaluating the Feasibility of Develop a Community-Based Forage Fish Sampling Project for GEM	ping D. Roseneau/USFWS	DOI	Cont'd 2nd yr. 2 yr. projec	\$17.0	\$17.0	\$0.0	\$0.0
Proje This project will clos evaluating the feasil community-based fo The work in FY 03 v analyzing informatio a final report.	<u>ct Abstract</u> se out Project 02561, which is bility of developing a brage fish sampling project for GEM. will consist of compiling and on collected during FY 02, and writing	Chief Scientist's Recommend The concept of this projectcommuni sampling of predator fish to monitor the (forage fish)is scientifically sound an economically viable. It addresses GEI of community involvement with potent contribute to several aspects of long-to monitoring. This project will produce a for the Kachemak Bay-lower Cook Inte Prince WilliaM Sound. Fund.	ation by-based leir prey d 1's objective ial to erm useful plan et recion and	Eund clos communit long-term builds on Predator I contribute communit therefore should be is not in ti relevant to strategies designing GEM.	Executive Dir eeout of this ties to explor forage fish i work succes Ecosystem E to understa ty-based sar is an import of a that the particular of orage fish that might b a communit	ector's Reco project, which re involving monitoring s asfully begun Experiment, nding the fer npling progrant part of G he Council's data that m but in the to be develope ty involvement	ommendatio ch is visiting local resider studies. This n under APE Project 9916 asibility of ams in gene EM transitions interest in t ight be gath cechniques a d in regard t ent compone	n spill-area its in s effort X (Alaska 63). It will eral, a on. It this project ered and o ent for
G-030575	Designing a Community Involvement/Community-Based Monitoring Plan for GEM	M. Sigman/Center for Alaskan Coastal Studies, et al	NOAA BAA	New 1st yr. 1 yr. proied	\$109.6	\$109.6	\$0.0	\$0.0
Proje This project will des community involven monitoring plan to a communities in the by (a) a case history community-based m conceptual foundati assessment to iden and indicators as id Resource Commiss Planning Process a processes. Recomm new approaches to and traditional know monitoring projects.	<u>ict Abstract</u> ign and produce a draft GEM nent and community-based address the needs of diverse region. This initiative will be informed y review of working models of nonitoring efforts relevant to the GEM ion, (b) a regional capacity tify potential partnerships, (c) issues entified by Chugach Regional sion's Tribal Natural Resource nd other community planning mendations will include identifying melding Western science and local vledge and pilot community-based	Chief Scientist's Recommend This project promises to produce a car review of other similar programs, und regional capacity assessment, identify indicators from Chugach Regional Re Commission's Tribal Natural Resource identify new approaches to link weste local ecological knowledge. These de address a very important aspect of the program. Despite some problems (lac clarity in portions of the proposal), this proposal. Fund.	lation ise-study ertake a / issues and source e Plans, and rn science ar liverables wil e GEM ck of detail ar s is a good	E Fund, with (developr of possibl satisfacto monitorin d planning; Council's communi it will buik under Pro Knowledg emphasis monitorin tribes' ste Project will includ	Executive Dir h authorizationent of fram le pilot project ory completion g capacity as \$51,800). T interest in a ty involveme d on some o oject /052 (C ge/Tribal Ster sdevelopme g plan as op ewardship ca /052 has bee le non-tribal ova to the list	ector's Rec on of funds ework docu cts; \$57,800 n of Phase ssessment, 'his project a strong and ent/commun f the efforts ommunity ir wardship) b ent of a regi posed to de pacity and (en limited to community st of particin	ommendation for Phase II ment and de contingent l (communit literature rev addresses the meaningful ity monitoring funded in ea hvolvement/ ut with (a) a onwide com evelopment of b) a broader tribes only; groups and ating communication	n velopment on y view, te Trustee role for g in GEM. arlier years Traditional different munity of specific r focus this project add Homer unities

SPREA HEET B: EXECUTIVE DIRECTOR'S RECON ENDATION (TEXT SPREADSHEET)--FY 03 FASE I EV 03

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
G-030610	Kodiak Archipelago Youth Area Watch	T. Schneider/Kodiak Island Borough School District	ADFG	Cont'd 4th yr	\$63.0	\$63.0	\$61.8	

Project Abstract

Chief Scientist's Recommendation

This project will engage students in projects with goals aligned with the general restoration efforts of the Trustee success, including influencing the curriculum of the Council. Students and site coordinators will conduct interviews with local experts and document traditional ecological knowledge, publishing it in a Kodiak School District oral history magazine. Participation of Youth Area Watch adults and students in the annual Academy of Elders/Science Camp will be strongly encouraged. Such participation will serve as another avenue for more tribal members to learn about restoration efforts. scientific monitoring techniques, and occupations related to such work. The value and implications of traditional ecological knowledge will be strongly emphasized throughout the implementation of the project.

This ongoing project has shown solid evidence of Kodiak School District, and has attracted additional funding from other sources. This popular and successful program is achieving its objectives. Fund.

Executive Director's Recommendation

Fund. This project, which involves local youth in restoration projects, addresses the Trustee Council's commitment to community involvement in GEM. In FY 03, students in Akhiok, Old Harbor, Port Lions, Ouzinki, Chiniak, and Kodiak City will participate.

SPREA-SHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION (TEXT SPREADSHEET)-FY 03 Fundse I FY 03

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
G-030636	Management Applications: Commercial Fishing	K. Adams, R. Mullins/Cordova	NOAA BAA	Cont'd 2nd yr. 2 yr. project	\$50.9	\$50.9	\$0.0	\$0.0

Chief Scientist's Recommendation

Project Abstract

This project is intended to build a bridge between the scientific community, which is describing and attempting to predict variation in biological production, and the commercial fishing community, which is attempting to find management applications for this new information. In addition, the project seeks to provide community presence to participate in development of GEM.

The need for a "bridge project" between science and users, related to EVOS, is quite clear. If the project can identify useful applications from EVOS-based science it will be money well spent. One important criterion of success will be the ability to formulate credible and scientifically well supported proposals to the Alaska Board of Fisheries. The project is off to a strong start in FY 02 with two successful meetings with in Cordova. Prospects for serving the needs of spill are very good. Prospects for success are improved with the proposed creation in FY 03 of an advisory science panel, for which commitments

have already been obtained from four persons knowledgeable in the academic and professional side of natural resource management and/or

oceanography. Fund.

Executive Director's Recommendation

Fund FY 03 only; the proposers have obtained the participation of a panel of scientific advisors, as recommended by the Chief Scientist. In FY 02 this project formed a Prince William Sound Fisheries Research Applications and Planning Group to provide a forum for developing fisheries management applications for all interested parties (Cordova District Fisherme, United, Alaska Department of Fish and Game, Prince William Sound Aquaculture Corporation, Valdez well-documented outcomes and setting up an office Fisheries Development Association, commercial fishers, and others). The objectives of this group in FY 03 are to those who depend on resources damaged by the oil (a) identify a fisheries relevant subset of EVOS projects, (b) develop criteria and guidelines for making information gathered by GEM relevant for fisheries management and shore-based communities, and (c) develop a plan showing the cycle of movement from basic science to management application. At the end of FY 03, the success of the project will be evaluated and a decision made on whether to continue the project into future years. As recommended by the Chief Scientist, one measure of success will be the project's ability to formulate credible and scientifically well supported proposals to the Alaska Board of Fisheries. The EVOS program can benefit from the commercial fishing community's perspective on restoration results and interaction with fishers on how to incorporate the results into fisheries management practices. In addition, the project could form a foundation for working with Prince William Sound fishers as GEM develops.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
GEM: Waters	ned Habitat				\$118.1	\$118.1	\$26.6	\$26.6
G-030596	Securing Flow Data for a Lower Ke Peninsula Salmon Stream	nai J. Cooper/Cook Inlet Keeper	ADFG	New 1st yr. 1 yr. proje	\$25.6	\$25.6	\$0.0	\$0.0
Since August 19 Soil and Water (collecting discha important salmo Ninilchik River, A Creek. With the Survey (USGS) River gauge. Ke Conservation Di others depend o achieve a compl watersheds. Th to contract with year, during whit secured.	roject Abstract 198, Cook Inlet Keeper and the Homer Conservation District have been arge and water quality data from four on streams on the lower Kenai Peninsula: Anchor River, Deep Creek, and Stariski e loss of funding, the U.S. Geological no longer can maintain the Ninilchik eeper, Homer Soil and Water strict, Ninilchik Traditional Council and on this gauge for the flow data needed to lete picture of water quality in these is project will provide funds for Keeper USGS to maintain the gauge for one ch time long-term funding will be	Chief Scientist's Recommen This is a very cost-effective proposal funding." Funding in FY 03 will preve year in a time-series of physical data runoff in the Ninilchik Riverthat is et useful in understanding differences in forcing. Fund, lower priority.	idation for "bridge ent loss of a ifreshwater xpected to be n natural	Fund rev funds av 2002-Se proposa cover the for the p the cost covered provide i the Ninil permane Inlet Kee quality o Departm as at hig having a key elen nearsho and the resource	Executive Dir vised proposa ailable for the ptember 2003 I also includes e costs of retr eriod May-Se of operating I by the U.S. Of interim fundin chik River stra- ent, long-term oper relies on f the Ninilchik nent of Enviro h risk from no high need for nent in unders re environme overall health as as salmon, rously impact	ector's Reco l, which clar gauge's FY 3) operation s a small am ieving and p ptember 200 he gauge du cological Se g (FY 03 on eam-flow ga funding sou this gauge i c River, which onpoint sour r data collect standing the nts of the sp and product herring, and red by the oil	ommendatio ifies the ma '03 (Octobe The revise ount of func- processing g 2 and clarif uring this pe urvey. This pe urvey. This pe urvey. This pe urvey. This pe urvey this a urce is soug n monitoring h the Alaska h servation h ce pollution tion. Water watershed iill-impacted tivity of such d sea otters	n tching er auge a ies that riod will be project will enance of nt. Cook g the water a as rated and as quality is a and region h which

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SPRE SHEET B: EXECUTIVE DIRECTOR'S RECOMENDATION (TEXT SPREADSHEET) -- FY 03 KASE I

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
G-030649	Reconstructing Sockeye Populations in the Gulf of Alaska over the Last Several Thousand Years	B. Finney/UAF	ADFG	Cont'd 2nd yr. 3 yr. projee	\$92.5	\$92.5	\$26.6	\$26.6

Project Abstract

This project is reconstructing changes in sockeye salmon abundance over the last 5,000 years using the ¹⁵N record left by salmon carcasses in the sediments of spawning lakes in Prince William Sound, the Kenai Fjords, the Kenai River watershed, and on Kodiak Island. The research question is: What is the normal variability in sockeye salmon populations in the Gulf of Alaska and how does it relate to climatic changes in the Gulf of Alaska region? The results will provide a valuable background for future monitoring studies within GEM and for fisheries managers working to preserve and restore natural salmon runs.

Chief Scientist's Recommendation This outstanding project is revealing a 3,500 year

record of sockeye salmon abundances in the northern Gulf of Alaska. Previous work with other investigators has established the correlation of salmon abundance with PDO (Pacific decadal oscillation) variations on the decadal scale. The importance of this work is that it describes a much longer record of PDO variation than the European historical record compiled during the 20th century. The project is being executed with the highest scientific standards. Fund, including the proposed addition of three other Kenai Peninsula lakes.

Executive Director's Recommendation

Fund, including new objectives related to core collection from Hidden Lake, Skilak Lake, and a control lake on the Kenai Peninsula. This project is conducting a retrospective study of sockeye abundance in certain lakes in the spill region and developing hypotheses about how changes in the atmosphere/ ocean system affect salmon populations.

EM: Intertid	al/Subtidal Habitat			\$93.0	\$93.0	\$0.0	\$0.0
G-030584	Evaluation of Airborne Remote Sensing Tools for GEM Monitoring	E. Brown/UAF, J. Churnside/NOAA ADFG	Cont'd 2nd yr. 2 yr. project	\$39.3	\$39.3	\$0.0	\$0.0
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Project Abstract

This is the year-two completion of a project initiated in FY 02. The main objective is an evaluation of airborne remote sensing tools for GEM ecological interpretation of the data collected. The instrument package consists of (a) a pulsed lidar to map subsurface features to a maximum of 50 m, (b) an infrared radiometer to map Sea Surface Temperature (SST) day, (c) two three-chip digital video systems to map ocean color (chlorophyll), birds, mammals, surface fish schools, and ocean frontal structure, and (d) an infrared digital video to map birds and mammals at night. Shipboard and buoy data will be used for validation and interpretation of remotely sensed data.

Chief Scientist's Recommendation

the GEM program. This is a highly innovative risky than others. However, it deserves support through the proposed development phase, as the pay-off of success would be great. Fund.

Executive Director's Recommendation

Monitoring forage fish abundance is a challenge for Fund closeout of this project, which is exploring airborne remote sensing instrumentation as a monitoring tool for project to do such monitoring, and is therefore more GEM, contingent on receipt of a detailed budget for the NOAA (National Oceanic and Atmospheric Administration) component. This highly innovative project is working on a challenging question, which is how to effectively and efficiently monitor forage fish abundance under the GEM program. If the project is successful, the pay-off will be great.

SPREA SHEET B: EXECUTIVE DIRECTOR'S RECOM ENDATION (TEXT SPREADSHEET) -- FY 03 F SE I

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.
G-030656	Retrospective Analysis of Nearshore Marine Communities Based on Analysis	G. Irvine/USGS, J. Schaaf/NPS, D. Mann/UAF, J. Southon/Univ. Calif.	DOI	Cont'd 2nd yr.	\$53.7	\$53.7	\$0.0	\$0.0
	of Archaeological Material and Isotopes	:		2 yr. project	• •			

Project Abstract

This project will investigate long-term (6,300 year) patterns of productivity and relative species abundances in nearshore, intertidal communities via retrospective analyses. These analyses will focus on excavated midden remains of very rich, well-dated archaeological sites along the Katmai National Park and Preserve coast. Changes in nearshore marine communities will be assessed through examination of relative species abundances, size-frequency analysis, and other indicators of habitat changes. Isotopic analysis of shells needed expertise to the project team. Fund. will provide an assessment of long-term productivity patterns in the nearshore marine environment as related to major periods of climate change.

Chief Scientist's Recommendation

This pilot project has the potential to produce innovative data of great interest and relevance to understanding natural variation in ocean systems and the human use of resources over long time frames. The originality of this work is very high, although there is a risk that the coarse temporal resolution of the method will prevent precise conclusions. The addition of funds for a paleoceanographer is justified in order to add

Executive Director's Recommendation

Fund closeout of this project contingent on submittal of overdue report (99459). A portion of the increase (\$15,900) in funding over the expected amount is due to a delay in the stable isotope analyses scheduled for FY 02; an equivalent amount of funds will be lapsed back to the Trustee Council at the end of FY 02. This project is designed to improve understanding of long-term ch in nearshore marine communities and investigate the relationship between productivity and climate.

GEM: Alaska	Coastal Current Habitat	· · · · · · · · · · · · · · · · · · ·			\$51.6	\$51.6	\$32.1	\$32.1
G-030340	Toward Long-Term Oceanographic Monitoring of the Gulf of Alaska Ecosystem	T. Weingartner/ UAF	ADFG	Cont'd 6th yr.	\$51.6	\$51.6	\$32.1	\$32.1

Project Abstract

Interannual variations in temperature and salinity on the northern Gulf of Alaska shelf reflect environmental changes that affect this marine ecosystem. Quantifying and understanding this variability require long time series such as the 32-year record at hydrographic station GAK1 near Seward. This project continues this time series, quantifies the synoptic, seasonal, and interannual variability, and seeks to understand the reasons for this variability. It will also begin to examine interannual variations in near-surface stratification and the timing of the spring bloom on the inner Gulf of Alaska shelf. The data will be used to predict the baroclinic component of the mass and freshwater transport variability in the Alaska Coastal Current in the northern gulf.

Chief Scientist's Recommendation

This excellent project provides new insights into physical forcing/control of primary production and mass transport. The synthesis efforts are allowing new insights into proxy measures that might be applied to the 35-year historical record to understand long-term ecosystem variability. This is an excellent investment in a long-term data set that will pay future dividends in fish and wildlife management. Fund.

Executive Director's Recommendation

Fund, including proposed upgrade of mooring (addition of another temperature/conductivity recorder with fluorometer and transmissometer) contingent on (a) receipt of a description of the deployment procedure intended to insure against loss of data and (b) submittal of the manuscript promised in FY 02 analyzing the relationship between atmospheric pressure, precipitation, and density structure of the Alaska Coastal Current. This project provides for continued Trustee Council support of hydrographic station GAK1 and the accompanying retrospective analyses of the station's data record. GAK1 provides a long-term data set that allows characterization of the Alaska Coastal Current, which is essential to understanding climatological forcing of productivity and will be important for GEM.

SPREA HEET B: EXECUTIVE DIRECTOR'S RECOMENDATION (TEXT SPREADSHEET)--FY 03 FASE I FY 03 Lead New or Revised FY 03 FY 04 FY 04 Agency Cont'd Request Recom. Proi.No. Project Title Proposer Request Recom. **GEM: Offshore Habitat** \$18.1 \$18.1 \$0.0 \$0.0 G-030614 Monitoring Program for Near-Surface S. Okkonen/UAF ADFG Cont'd \$18.1 \$18.1 \$0.0 \$0.0 Temperature, Salinity, and Fluorescence 2nd vr. in the Northern Pacific Ocean 2 yr. project **Project Abstract** Chief Scientist's Recommendation Executive Director's Recommendation This project will use a thermosalinograph and Fund closeout of this project (data analysis and This is a continuation of an innovative and costpreparation of final report/manuscript). In FY 02, this fluorometer, to be installed on a crude oil tanker, to effective project that provides data to assess the acquire continuous, long-term measurements of the long-term recovery of resources impacted by the oil project installed a thermosalinograph and fluorometer near-surface temperature, salinity, and fluorescence spill against the background of climate-driven on a crude oil tanker traveling between Valdez and 2 and fields along the tanker route between Valdez, Alaska variability. The potential for the proposal to provide Beach. Vessels of opportunity such as this are a data from a key area of Prince William Sound and cost-effective method that may be useful to GEM, and and Long Beach, California. the adjacent ocean relevant to long-term evaluation the data collected by this project on ocean conditions in and interpretation of population trends for birds, fish Alaskan waters will be extremely useful to GEM. and mammals is excellent. Fund, Data Management & Information Transfer \$308.0 \$308.0 ALL Cont'd G-030455 GEM Data System **Trustee Council Office** \$212.9 \$212.9 2nd yr. Project Abstract Chief Scientist's Recommendation Executive Director's Recommendation Fund. This project provides funding for the GEM Data This project supports the data management and Data management will be a critical component of information transfer system for GEM. Data collection, GEM. Systems Manager and related data system costs. Data guality control and documentation, archiving, transfer, collection, guality control and documentation, archiving, delivery, and presentation are critical components of transfer, delivery, and presentation are critical components of GEM. GEM. Project funding will allow the GEM Data Systems Manager to provide the leadership and expertise necessary for this essential part of the GEM program. and hire support staff to make initial aspects of the program operational.

SPREASHEET B: EXECUTIVE DIRECTOR'S RECONSIGNED (TEXT SPREADSHEET) -- FY 03 FLASE I EV 02

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Requèst	FY 03 Recom.	FY 04 Request	FY 04 Recom.
G-030550	Alaska Resources Library and Information Services (ARLIS)	All Trustee Council Agencies	ALL	Cont'd	\$95.1	\$95.1		

Project Abstract

This project represents the Trustee Council's contribution to the Alaska Resources Library and Information Services (ARLIS). ARLIS serves as a central access point for information generated through the Trustee Council restoration process and the GEM program. In addition, ARLIS acts as the public repository for reports and other materials generated from and related to the cleanup, damage assessment and restoration efforts following the oil spill. ARLIS supports the research efforts and information needs of the Restoration Office, principal investigators, natural resources professionals, and the general public.

Chief Scientist's Recommendation

The oil spill collection at ARLIS (Alaska Resources Library and Information Services) is a legacy of the with oil spill information. Defining how ARLIS might library needs will likely be oriented more toward electronic formats and processes and away from paper documents, with an emphasis on web-based services. The funds currently going toward Project 03550 might be more effectively spent in the future on a service or services more tailored to the specific research and data needs of GEM. Fund for FY 03 only.

Executive Director's Recommendation

Fund continuation of one librarian at the Alaska Resources Library and Information Services (ARLIS). spill and an important means of providing the public Trustee Council contributions in FY 04 and beyond may be reduced as the transition to GEM is completed. support GEM needs to be better addressed. GEM's ARLIS provides an important service for documents and other materials produced through the damage assessment and restoration processes. The Council's original funding commitment to ARLIS was through 01 only; how ARLIS might relate to the GEM programm FY 04 and beyond is not clear at this time.

Science Management					\$416.0	\$416.0	
G-030250	Project Management	All Trustee Council Agencies	ALL	Cont'd	\$137.6	\$137.6	
E	Project Abstract	Chief Scientist's Recommendation		Executive Director's Recommendation			
Project management supports those Trustee agencies that administer and/or implement EVOS projects on behalf of the Trustee Council. Tasks performed by project managers include coordinating activities between principal investigators and the Trustee Council Office.		Proposal not reviewed.		Fund. Pr for the w	roject manage ork plan proce	ement helps provide accountability ess.	
reviewing project expenditure activity, assisting in the development of project proposals, and tracking project reports.		· · ·				· · · · · · · · · · · · · · · · · · ·	

SPRE SHEET B: EXECUTIVE DIRECTOR'S RECOMENDATION (TEXT SPREADSHEET)--FY 03 HASE I

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Revised Request	FY 03 Recom.	FY 04 Request	FY 04 Recom.	
G-030630	Scientific Management under GEM	Trustee Council Office	ALL	Cont'd	\$278.4	\$278.4	·		
Project will pro- implementation of t scientific oversight resources. In FY 0 and Technical Advi aspects of the sciel develop the FY 04 provide peer review support for the FY 0 developing a "State input to a status rep being developed by Science Organizati Effects Subcommit	ect Abstract wide scientific oversight of the GEM program, as well as of lingering effects of oil on injured v3, the project will support the Science isory Committee (STAC) and other ntific review and advisory process, Invitation to Submit Proposals, v recommendations and scientific 03 and FY 04 work plans, continue e of the Gulf Report", provide regional port on North Pacific resources now v PICES (North Pacific Marine ion), and support the Lingering Oil the and review process.	<u>Chief Scientist's Recommendation</u> Proposal will not be reviewed by Chief Scientist.		Executive Director's Recommendation Fund interim amount of \$278,400; additional funds may be necessary later in FY 03 for additional GEM planning activities and for some Scientific and Technical Advisory Committee (STAC) and subcommittee meetings that are not yet scheduled. This project is designed to ensure that the GEM program is implemented with a high degree of scientific integrity through establishment of an advisory committee of independent experts (the STAC), whose work will be supported by subcommittees composed of scientists, resource managers, and community members. The project will also support continued independent peer review of project proposals and reports, as well as the dissemination of research results at an annual meeting at which Council-funded scientists will present their findings to their peers and the public.					
Public Informati	on/Administration				\$1,114.3	\$1,114.3			
030100 Project This project provide involvement and ac program, including Trustee Council sta Executive Director, the active participa (PAC), and manag	Public Information and Administration ect Abstract es overall support for public dministration of the restoration GEM. It includes funding for the aff working at the direction of the public involvement efforts including tion of the Public Advisory Committee ement of the EVOS Investment Fund.	on All Trustee Council Agencies <u>Chief Scientist's Recommenc</u> Proposal not reviewed.	ALL <u>fation</u>	Cont'd Fund. T adminis Council	\$1,114.3 Executive Dir his project pro tration and im s programs.	\$1,114.3 ector's Rec vides overa plementatio	ommendatio Il support fo n of the Trus	n r stee	

Summary table

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FY 03 PHASE I EXECUTIVE DIRECTOR'S RECUMMENDATION Summary Table

	LINGERING OIL		
Proj. No.	Continuing	New	
030012	\$18.1		
030190	\$54.5		
030290	\$22.5		
030423	\$216.6		· · ·
030462	\$25.0	(note:	deferred)
030476	\$37.1		
030558	\$286.7		•
030574	\$36.0		
030585	\$121.6		
030587		\$148.9 (note:	deferred)
030594		\$0.0	
030620		\$343.6 (note:	\$151.3 deferred)
	\$818.1	\$492.5	TOTAL Lingering Oil \$1,310.6
			(\$985.4 fund/fund contingent; \$325.2 deferred)

	GEM TRANSITION		
Proj. No.	Continuing	. New	na an ann an Arain a
G-030052	\$180.6		(note: deferred)
G-030210	\$98.6		
G-030250	\$137.6		
G-030340	\$51.6		
G-030455	\$212.9		
G-030550	\$95.1		
G-030561	\$17.0		
G-030575		\$109.6	
G-030584	\$39.3		
G-030596		\$25.6	
G-030600	\$215.9		
G-030607		. \$13.1	
G-030610	\$63.0		
G-030614	\$18.1		
G-030625		\$25.5	
G-030630	\$278.4		· · · · · · · · · · · · · · · · · · ·
G-030631		\$0.0	
G-030636	\$50.9		
G-030649	\$92.5		
G-040656	\$53.7		· ·
	\$1,605.2	\$173.8	TOTAL GEM Transition \$1,779.0 (\$1,598.4 fund/fund contingent; \$180.6 deferred)

PUBLIC INFO	RMATION/ADMIN	NISTRATION	
Proj. No.	Continuing	New	
030100	\$1,114.3		TOTAL Public Info/Admin \$1,114.3
		1 0000 0	
TOTAL	\$3,573.6	\$666.3	GRAND TOTAL \$4,203.9
			(\$3,698.1 fund/fund contingent; \$505.8 deferred)

sandra/workplan/03GEMvsLOIL.xls

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Public Comment

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PUBLIC COMMENT RECEIVED FY 03 PHASE I DRAFT WORK PLAN

<u>PROJECT</u> 030012	NUMBER AND TITLE: Killer whale monitoring	<u>COMMENTER:</u> Susan Payne, Kodiak	· : :	<u>COMMENT:</u> Support	FORM OF COMMENT: Letter attached
030610	Kodiak Youth Area Watch	Robert Foy, FITC, Kodiak		Support	Letter attached
030636	Commercial fishing management applications	Representative John Harris Senator Georgianna Lincoln		Support Support	Letter attached Letter attached

PUBLIC ADVISORY GROUP REVIEW OF THE FY 03 PHASE I WORK PLAN:

The Draft Work Plan was presented to the PAG on June 20, 2002. No motion was made or passed, and no specific suggestions for changes. to the funding recommendations were made.

publicom 7/19/02

Molly McCammon, Executive Director Exxon Valdez Trustee Council 441 West 5th Ave. Suite 500 Anchorage, AK 99501-2340

May 10, 2002

Dear Ms. McCammon,

The Exxon Valdez Trustee Council is in a unique situation to be able to maintain long standing research projects in the affected area of the Exxon oil spill. It has come to my attention that the Exxon Trustee Council is not interested in funding or maintaining the ongoing research of Craig Matkin and colleagues on the killer whale pods of Prince William Sound, the AB pod and AT1 group. I am writing you to please continue your involvement in this long-term study of these killer whale groups to see how long and under what factors these pods recover to their pre-spill population levels.

I have read information from Craig that shows how these groups have not recovered to their pre-spill population levels and continue to exhibit uncommon behavior from before the spill. This may hinge on their dependence on PWS herring, which also seems to be maintaining depressed recruitment since the spill.

We in the public are fortunate that Craig and the North Gulf Oceanic Society were monitoring the PWS killer whales before the spill because we have been able to see the effects on these killer whale communities. We have been fortunate that you have contributed to this research for some time, and I urge you to continue this funding to further enlighten us to the condition of PWS, to remind us of the oil spill effects, and let us know when these stocks are fully recovered to pre-spill levels. Please continue funding this project; what you gain in knowledge of these killer whale groups and thus the health of the PWS ecosystem is worth the price!

Sincerely,

Susan Payne U PO Box 1903 Kodiak, AK 99615

UNIVERSITY OF ALASKA FAINBANKS

118 TRIDENT WAY, KODIAK, ALASKA 99615-7401 (907) 486-1500 FAX (907) 486-1540

EXXON VALO TRUSTEE

To:

Exxon Valdez Oil Spill Trustee Council

From:

Robert J. Foy, Assistant Professor, University of Alaska Fairbanks

118 Trident Way

Fishery Industrial Technology Center

Kodiak, AK 99615

Date: 11 April 02

Subject: Su

Support of Kodiak Archipelago Youth Area Watch program

This memo is to support the proposal by Teri Schneider regarding the continued funding of the Kodiak Archipelago Youth Area Watch (KAYAW). The fisheries projects that I am involved with, including the Gulf Apex Predator-prey study, nearshore fisheries investigations, and oceanographic monitoring in Kodiak, Alaska, are committed to collaborate with the KAYAW program. The nearshore areas being studied in projects at the Fishery Industrial Technology Center (UAF) are directly adjacent to multiple communities in the Kodiak Archipelago. Many of these communities have expressed interest in participating in or being informed about these studies. Coastal communities in Kodiak are extremely tied to the nearshore oceanic environment and as such, have a large stake in the science that is being conducted. Issues such as Steller sea lion prey availability, essential fish habitat and regime shifts are currently being researched and immediately affect the public. The KAYAW presents an excellent source of science dissemination to the students in our area as well as a way to unite the outlying communities. I will be making my research and myself readily available to such a project.

Robert J. F

130634

REPRESENTATIVE JOHN HARRIS

District 35 - Valdez, Cordova, Whittier, Clennallan, Delta Junction, Tatitlek, Kenny Lake, Paxson, Gakona, Chenega Bay

Leuislature

April 9, 2002

Exxon Valdez Oil Spill Trustee Council 441 West 5th Avenue, Suite 500 Anchorage, AK 99501

Dear Trustee Council,

I would like to express my support for the EVOS project, # 02636-BAA, PWS Fisheries Research Application and Planning project conducted by Cordova fishermen, Ken Adams and Ross Mullins. I encourage you to continue funding this project into FY03.

In the past EVOS has funded some excellent scientific ecosystems research projects of Prince William Sound dealing with the relationship of the herring and salmon production in the area. This current project attempts to bring together interested parties to bridge the gap between basic scientific research data and the application and utilization of that data for the benefit of the Prince William Sound fisheries community. Since the fisheries of Prince William Sound is fundamental to the economic well being of our area, this project offers an opportunity to improve management, production and fish return forecasting for the benefit all.

I highly encourage the continuation of this project and projects of this type that support and promote the fisheries resources in Prince William Sound.

Kindest/Regards, Harris

Co-Chair: Community and Regional Affairs Committee; Member: Resources, Labor and Commerce, Oil and Gas, Fisheries and Regulation Review Session: State Capitol, Juneau, Alaska 99801-1182 • Phone: (907) 465-4859 Fax: (907) 465-3799 Interim: P.O. Box 1245, Valdez, Alaska 99686 • Phone (907) 835-2836 Fax: (907) 835-3732

050606

AL SKA STATE LEGISLAT RE Senator Georgianna Lincoln



Standing Committees: Resources Community & Regional Affairs Budget Subcommittees: Natural Resources Corrections Public Safety Commerce & Economic Development

DECET Ŵ MAY 2 8 2002 EXCON VALDEZ OIL SPILL TRUSTEE COUNCIL

State Capitol Juneau, Alaska 99801-1182 (907) 465-3732 Fax (907) 465-2652 1-888-461-3732 Email: Senator_Georgianna_Lincoln@legis.state.ak.us

DISTRICT R

Alatna Alcan Allakaket Aniak Anvik Arctic Village Beaver Bettles **Big Delu** Buch Creek Boundary Canyon Village Central Chalkyitsik Chenega Bay Chicken Chistochina Chitina Chuathbaluk Circle Cold Foot Copper Cente Copperville Cotdova Crooked Creek Delta Junction Dot Lake Dry Creek Eagle Eagle Village Evansville Fort Greely Fort Yukon Gakona Galena Georgetown Glennallen Grayling Gulkana Healy Lake Holy Cross Hughes Huslia Kaltag Kenny Lake Koyukuk Lake Minchumina Lime Village Livengood Lower Kalskag Manley Hot Springs Marshall McCarthy McGrath Medfra Mendeltna Mentasta Minto Nabesna Nenana Nikolai North way Nulato Paxson Pilot Station Rampart Red Devil Ruby Russian Mission Shageluk Slana Sleetmut Stevens Village Stony River Takotna Tanacross Tanana Tatitlek Tazlina Telida Tetlin Tok Tolsona Tonsina Tuluksal Tyonek Upper Kalskag Valdez Venetie Whittier

Wiseman

May 21, 2002

Exxon Valdez Oil Spill Trustees Council 441 W. 5th Ave. Anchorage, AK 99501

Dear Council Members,

Please accept this letter as unconditional support for the Fisheries Management Applications Project #03636-BAA, developed by Cordova fishermen Ken Adams and Ross Mullins.

This project is a proactive step in putting to use the knowledge and expertise provided by Sound Ecosystems Assessment and other ecosystem projects supported by the Exxon Valdez Oil Spill Trustee Council. The project also makes an important move toward including Prince William Sound commercial fisheries within the Gulf Ecosystem Monitoring plan, which should have tremendous value to the residents of the region.

Healthy fisheries are essential to the communities of Prince William Sound and Alaskans. This project offers a positive approach that insures PWS fisheries are sustainable for future generations.

Sincerely,

Senator Georgianna Lincoln
030100 Budget

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	Authorized	Proposed	F	PROPOSED F	FY 2003 TRUS	FEE AGENCIE	S TOTALS	
Budget Category:	FFY 2002	FFY 2003	ADEC	ADF&G	ADNR	USFS	DOI	NOAA
			\$0.0	\$950.2	\$0.0	\$0.0	\$164.1	\$0.0
Personnel	\$650.9	\$605.4						
Travel	\$97.6	\$69.8						
Contractual	\$602.0	\$340.4						
Commodities	\$15.3	\$18.3		ade <u>a transforma a constante</u>				
Equipment	\$3.4	\$0.0		LONG R	ANGE FUNDIN	<u>G REQUIREM</u>	ENTS	
Subtotal	\$1,369.1	\$1,033.9		Estimated				
General Administration	\$130.9	\$80.5		FFY 2004				
Project Total	\$1,500.0	\$1,114.3		TBD				
Full-time Equivalents (FTE)	8.2	7.2						
			Dollar amount	s are shown in	thousands of d	ollars.		
Other Resources		:						
This budget reflects further red Major changes in this budget f * DOI's budget has increased \$139.9 *personnel costs in FY03 are l increased insurance costs *moves the Chief Scientist's co *General Administration formu *deletes liaisons *No PAC field trip (trips every	duction of expen from FY 02: because the bu higher than FY02 ontract from the la is not calculat other year)	ses associate ilding lease is 2 because of a 100 OPs budg ed on entire s	d with adminis for 12 months annual salary n get to the 630 s ubtotal amoun	tration of the T instead of 9 m nerit increases Science Manag t as USGS doe	rustee Council I onths; USGS do (with no reducti gement budget es not get GA or	Program. Des not earn G ion in staff); sta n the lease amo	A on the lease ate raises of 3% ount of \$139.9	amount of
2003	Project Nun Project Title Agency: Mi	nber: 03 0 00 : Public Info ultiple) prmation and	d Administra	tion		FORM MULTI-TRI AGENCY SU	2A USTEE JMMARY
PREPARED: //12/02		<u> </u>	• •					

Page 1 of 20

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	Authorized	Proposed	F	PROPOSED FF	Y 2003 TRUS	TEE AGENCIES	S TOTALS	
Budget Category:	FFY 2002	FFY 2003	ADEC	ADF&G	ADNR	USFS	DOI	NOA
				\$931.5	· · · · · · · · · · · · · · · · · · ·		\$160.8	
ersonnel	\$555.6	\$602.4						
ravel	\$52.8	\$52.6						
Contractual	\$332.0	\$340.4						
ommodities	\$15.3	\$18.3				2		
quipment	\$3.4	\$0.0	1	LONG RA	NGE FUNDIN	G REQUIREME	INTS	
Subtotal	\$959.0	\$1,013.7		Estimated				
eneral Administration	\$98.7	\$78.6		FFY 2004				
Project Total	\$1,050.7	\$1,092.3	ŕ	TBD				
-			an a	n vign in get en et in ge yn swyr y				
ull-time Equivalents (FTE)	7.2	7.2						
	·		Dollar amount	s are shown in	thousands of d	Iollars.	AND CRY WAY NES ALMAN	gipting, and all an an and an all and all a
other Resources								
General Administration formu	ıla is not calculat	ed on entire s	ubtotal amount	t as USGS doe	s not get GA or	n the lease amo	unt of \$139.9	
			:	· .	* .			
2003	Project Nur Project Title Office Agency: Mu	nber: 03100 e: Public Inf ultiple) ormation an	d Administra	ition - Truste	e Council	SUMMA	- ARY

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	Authorized	Proposed		
Budget Category:	FFY 2002	FFY 2003		
Personnel	\$538.2	\$583.2		
Fravel	\$52.8	\$52.6		
Contractual	\$219.5	\$200.5		
Commodities	\$15.3	\$18.3		
Equipment	\$3.4	\$0.0	LONG RANGE FUNDING REQUIREMEN	TS
Subtotal	\$829.1	\$854.6	Estimated	
General Administration	\$96.1	\$76.9	FFY 2004	
Project Total	\$925.2	\$931.5	TBD	
Full-time Equivalents (FTE)	7.0	7.0		
			Dollar amounts are shown in thousands of dollars.	
Other Resources				
The Administrative Assistant I	I (P. Banks) pos	iition (\$54.0) is	s funded through General Administration funds.	

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Page 3 of 20

Personnel Costs:				GS/Range/	Months	Monthly		Proposed
Name		Position Description	:	Step	Budgeted	Costs	Overtime	FFY 2003
McCammon		Executive Director			12.0	12.4		148.8
Mundy		Science Director			12.0	10.7		128.4
Schubert		Program Director	1		12.0	9.4		112.8
Hennigh		Administrative Manager			12.0	6.7		80.4
Banks		Administrative Assistant II *			12.0	4.5		0.0
Womac		Administrative Assistant II			12.0	5.2		62.4
Hall		Administrative Clerk			12.0	4.2		50.4
Overtime					·		0.0	0.0
* Note: This position	on supported v	with GA funds (\$54.0).	Subtotal		84.0	53.1	0.0	
						Per	sonnel Total	\$583.2
Travel Costs:				Ticket	Round	Total	Daily Hotel	Proposed
Description	· · · · · · · · · · · · · · · · · · ·			Price	Trips	Days	& Per Diem	FFY 2003
In-State Travel								
Anchorage to	Juneau (admi	inistrative travel)		0.4	10	19	0.3	9.7
Anchorage to	spill area com	nmunity (3 staff/1 transcriber for	TC mtg)	0.2	4	8	0.3	3.2
Workshop Tra	avel							5.0
Community in	volvement/pul	blic meetings		0.3	10	20	0.3	9.0
Car rental (da	illy rate of \$45.	.00)		.	l	14		0.6
Out-of-State Trave	el No no no no	2		4 7	_	0		
Anchorage - V	Washington D.			1.7	3	8	0.3	7.5
National confe	erences/meeti	ngs	:		. 6	10	0.3	13.2
Investment tra	aining travel	E 00)		0.5	4	12	0.3	3.0 0.5
Car Rental (o	any rate of \$4:	5.00)		i		12	Travel Total	0.5
	ן F	Project Number: 03100						ORM 3B
	F	Project Title: Public Information	ation and	Administratio	on - Trustee	Council		ersonnel
2003		Office						
		aency: AK Dent of Fish	and Gam	<u>م</u>				
1	/~	yency. An Depuid Fish	anu Galli	Ģ			i l	

			<u> </u>
Contractual Costs:			Proposed
Description	· · · · · · · · · · · · · · · · · · ·		FFY 2003
2002 Audit Engagement			55 O
Phone telesenferencing and fev			55.0
Prione, teleconterencing and lax			30.0
Postage (metered mail 6.0, bulk mail 5.0)			11.0
			3.5
Parking (7 spaces * \$50 * 12 mon = \$4,200)	· .		4.2
Annual Restoration Status Report			10.0
Newsletter (2 issues: printing at \$1,400 each)			2.8
Annual Invitation			4.0
Final Work Plan			1.2
Draft Work Plan			1.5
Desktop Publishing Services Contracts	÷ · · · · · · · · · · · · · · · · · · ·		30.0
Equipment Maintenance Agreements (copiers, fax machines, posta	age meter in Anchorage)		11.8
Public Notice (TC meetings 1.5, PAG 1.0, other meetings 0.5)			3.0
ADA Compliance (special access to meetings)			1.0
Transcription Services			50
Staff training			5.0
CORE Membership	÷		1.5
Other printing and publications			4.0
Meeting space rental (out of huilding)			1.0
T1 Line /DIS-WAN Access (ATU connect charges/dail-up 0.9 WAN	l/e-mail 4 2)		10.0
Investment Training/Morking Group Costs			10.0 5 0
			5.0
When a non-trustee organization is used, the form 4A is required.	C	ontractual Total	\$200.5
Draiget Number: 02100			



Commodities Control Description	osts:	Proposed FFY 2003
Office Supplies Local Area Netwo Software Upgrad	ork Software and Upgrades es	11.0 2.3 3.0
Fax Machine		2.0
	Commo	dities Total \$19.3
2003	Project Number: 03100 Project Title: Public Information and Administration - Trustee Council Office Agency: AK. Dept. of Fish and Game	FORM 3B Contractual & Commodities DETAIL

New Equipment Purchases:	· · · · · · · · · · · · · · · · · · ·	Number	Unit	Proposed
Description		of Units	Price	FEY 2003
	· · · · · · · · · · · · · · · · · · ·			0.0
Those purchases associated	with replacement equipment should be indicated by placement of an R.	New Equ	ipment Total	\$0.0
Existing Equipment Usage:			Number	Inventory
Description			of Units	Agency
2003	Project Number: 03100 Project Title: Public Information and Administration - Truste Office Agency: AK. Dept. of Fish and Game	e Council	F	FORM 3B Equipment DETAIL

	Authorized	Proposed		an aite an				
Budget Category:	FFY 2002	FFY 2003						
Personnel	\$17.4	\$19.2						
Travel	\$0.0	\$0.0					Training and	이 있는 것 같은 것을 가슴을 통했다. 이 가장 소리는 가슴을 통해
Contractual	\$112.5	\$139.9						
Commodities	\$0.0	\$0.0		n n La la contenta	i di si seri di secondo di second Secondo di secondo di se			
Equipment	\$0.0	\$0.0	-	LONG R/	ANGE FUNE	DING REQUI	REMENTS	
Subtotal	\$129.9	\$159.1	· · · ·	Estimated			:	
General Administration	\$2.6	\$1.73	1	FFY 2004			<u>.</u>	
Project Total	\$132.5	\$160.8				···		
						regist	$C_{i}^{(1)} = C_{i}^{(2)} C_{i}^{(2)} = C_{i}^{(2)} C_{i}^{(2)} = C_{i}^{(2)} C_{i}^{(2)} = C_{i}^{(2)} C_{i}^{(2)} = C_{i}^{($	
Full-time Equivalents (FTE)	0.2	0.2						
			Dollar amou	nts are shown i	n thousands	of dollars.		
Other Resources								

No GA will be paid to USGS (sponsor for the building leased space) per agreement with USGS. Increased contractual is due to lease for FY 02 was for 9 months and in FY 03 it is for 12 months.

2003

Project Number: 03100 Project Title: Public Information and Administration - Trustee Council Office Agency: Dept. of the Interior FORM 3A TRUSTEE AGENCY SUMMARY

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Personnel Costs	5:		:	GS/Range/	Months	Monthly		Proposed
Name		Position Description	:	Step	Budgeted	Costs	Overtime	FFY 2003
Nessiage	· · ·	Federal Budget Officer			2.0	9.6	· · · ·	19.2
			:					
			:					
		<u> </u>	Subtotal		2.0	0.6		
			Subtotal		2.0	9.0	sonnel Total	\$19.2
Travel Costs:		<u></u>		Ticket	Round	Total	Daily	Proposed
Description				Price	Trips	Days	Per Diem	FFY 2003
				.'				
		-						
					•		Travel Total	\$0.0
2003		Project Number: 0310 Project Title: Public In Office	00 formation and	l Administra	tion - Truste	e Council		FORM 3B Personnel & Travel
		Agency: Dept. of the	Interior					DETAIL

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Contractual Costs:		······			Proposed
Description		· · · · · · · · · · · · · · · · · · ·			FFY 2003
Building Lease Space (USGS s 12 months at \$10,696/mo, plus Service charge of \$.18 * square	ponsored) - 8% GSA fee (\$856/monthly) & \$.18 feet can increase so allowed some o	* sq ft for service ch extra in case service	arge (\$92/monthly) charge is increased		139.9
When a non-trustee organizatio	n is used, the form 4A is required.			Contractual Total	\$139.9
Commodities Costs:		· · ·			Proposed
	· · · · · · · · · · · · · · · · · · ·			Commodities Total	\$0.0
2003	Project Number: 03100 Project Title: Public Information Office Agency: Dept. of the Interior	on and Administra	ation - Trustee Co	uncil F Co	ORM 3B ontractual & mmodities DETAIL

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New Equipment Purchases:			Number	Unit	Proposed
Description			of Units	Price	FFY 2003
Those purchases associated wi	th replacement equipment should be i	ndicated by placement of an R.	New Equ	ipment Total	\$0.0
Existing Equipment Usage:			······	Number	Inventory
Description				of Units	Agency
	· · · ·				
		· · · · · · · · · · · · · · · · · · ·			1
· · · ·					
2003	Project Number: 03100 Project Title: Public Informatio Office Agency: Dept. of the Interior	n and Administration - Trust	ee Council	E	FORM 3B Equipment DETAIL

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	Authorized	Proposed	F	PROPOSED F	FY 2003 TRU	STEE AGENCIES	TOTALS	
Budget Category:	FFY 2002	FFY 2003	ADEC	ADF&G	ADNR	USFS	DOI	NOAA
· · · · · · · · · · · · · · · · · · ·				\$18.7			\$3.3	
Personnel	\$3.0	\$3.0						
Travel	\$27.8	\$17.2	la de la deservación					
Contractual	\$0.0	\$0.0						
Commodities	\$0.0	\$0.0	é, kar ni s					
Equipment	\$0.0	\$0.0	-	LONG R	ANGE FUNDI	NG REQUIREME	NTS	
Subtotal	\$30.8	\$20.2		Estimated				
General Administration	\$0.5	\$1.8		FFY 2004				
Project Total	\$31.3	\$22.0	······	TBD	·			
-		<u> </u>						
Full-time Equivalents (FTE)	0.1	0.0					n an tha an t	
			Dollar amouni	s are shown i	n thousands of	dollars.		
Other Resources		·····			l		· ·	
2003 Ag	oject Number oject Title: Pu mmittee ency: Multiple	: 03100 blic Informa e	ation and Ad	ministration	- Public Ad	visory	SUMMA	ARY

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Budget Category:	Authorized FFY 2002	Proposed FFY 2003							
Personnel	<u> </u>	\$0.0							
Travel	\$27.8	\$17.2							
Contractual	\$0.0	\$0.0							
Commodities	\$0.0	\$0.0							
Equipment	\$0.0	\$0.0		LONG RA			REMENTS		
Subtotal	\$27.8	\$17.2	· · · · ·	Estimated	<u></u>			· · · · · · · · · · · · · · · · · · ·	
General Administration	\$0.0	\$1.55		FFY 2003					
Project Total	\$27.8	\$18.7		TBD		-			
	+ <u></u>	<i>Q</i> (0.7	Handler been children of the second second						9797 <u>1</u>
Full-time Equivalents (ETE)	0.0	0.0							
		0.0	Dollar amou	nts are shown i	thousands (of dollars			
				nto are onown i					
Other Resources Comments: Budget based on 4 meetings of	the Public Advi	sory Committ	ee (two meet	tings in person a	and two by tel	econference	e). PAC pho	one costs, print	ing
Other Resources Comments: Budget based on 4 meetings of and copying are a shared expe	the Public Advinse in the Opera	sory Committ ations compo) ee (two meet nent.	lings in person a	and two by te	econference	e). PAC pho	one costs, print	ing
Other Resources Comments: Budget based on 4 meetings of and copying are a shared expe	the Public Advi	sory Committ ations compo) ee (two meet nent.	tings in person a	and two by tel	econference	e). PAC pho	one costs, print	ing

		$\hat{\mathcal{I}}_{i}$				
Personnel Costs:		GS/Range/	Months	Monthly		Proposed
Name	Position Description	Step	Budgeted	Costs	Overtime	FFY 2003
						0.0
÷						
	Subtoto		0.0	0.0		
	Subiola		0.0	0.01	0.0 sonnel Total	0.02
Travel Coster		Ticket	Round	Totall	Doily	Broposod
Description		Price	Trips	Davs	Per Diem	FFY 2003
Member travel from variou Regular meetings (1 Other meetings/revie Note: In person meet meeting for travel and meeting, add \$1,000 cost approximately \$	us locations one day meeting/1 two day meeting) ws (e.g., Restoration Workshop) ing cost is approximately \$6,000 per d per diem expenses for 20 members. For a 2 da in per diem costs. Teleconference meetings 600 per meeting.	y y				14.2 3.0
· · · · · · · · · · · · · · · · · · ·					Travel Total	\$17.2
2003	Project Number: 03100 Project Title: Public Information ar Committee Agency: AK Dept. of Fish and Ga	nd Administrat	ion - Public	Advisory	F	FORM 3B Personnel & Travel DETAIL

Page 14 of 20

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Contractual Costs:		· · · · · · · · · · · · · · · · · · ·		······	Proposed
Description		·			FFY 2003
		:			
	· .				
			-		
		r			
		· .			
When a non-trustee organ	ization is used, the form 4A is a	required.		Contractual	Total \$0.0
Commodities Costs:			······		Proposed
Description		· · · · · · · · · · · · · · · · · · ·		<u></u>	FFY 2003
			·		
		:			
					ľ
		·	·		
<u> </u>		· · ·	·	Commodities	Total \$0.0
	Project Number: 03	100			FORM 3B
2002	Project Title: Public	Information and Admi	nistration - Public	Advisory	Contractual &
2003	Committee		:	,	Commodities
	Agency: AK Dept. o	of Fish and Game			DETAIL

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New Equipment Purchases:		Number	Unit	Proposed
Description		of Units	Price	FFY 2003
Those purchases associated	with replacement equipment should be indicated by placement of an R.	New Equi	ipment Total	\$0.0
Existing Equipment Usage:			Number	Inventory
Description				Agency
2003	Project Number: 03100 Project Title: Public Information and Administration - Public Committee Agency: AK Dept. of Fish and Game	Advisory	F	ORM 3B quipment DETAIL

	•		Ç	$\tilde{\mathbf{C}}$	•			
	Authorized	Proposed						
Budget Category:	FFY 2002	FFY 2003						
Personnel	\$3.0	\$3.0						
Travel	\$0.0	\$0.0						
Contractual	\$0.0	\$0.0						
Commodities	\$0.0	\$0.0						
Equipment	\$0.0	\$0.0		LONG RA	ANGE FUNDI	NG REQUIRE	MENTS	
Subtotal	\$3.0	\$3.0	4	Estimated	:			
General Administration	\$0.5	\$0.3		FFY 2003				
Project Total	\$3.5	\$3.3		TBD				
				anninger of the second s				
Full-time Equivalents (FTE)	0.1	0.0						
	·······		Dollar amount	s are shown ii	n thousands c	f dollars.		
Other Resources	:				-			
Comments:								
			•					
						-		
·								
								:
			·					
			:					
	Project Num	her: 03100	י ו				Г	
	Droject Title	· Dublia lafa	rmation and	l Adminiatra	tion Dubli	o Advisory		FORM 3A
2003			mation and	Administra	auon - Publi	C Advisory		TRUSTEE
	Committee							AGENCY
	Agency: De	ept. of the Ir	nterior					SUMMARY
· · · · · · · · · · · · · · · · · · ·								

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Personnel Costs:	· · · · · · · · · · · · · · · · · · ·	GS/Range/	Months	Monthly		Proposed
Name	Position Description	Step	Budgeted	Costs	Overtime	FFY 2003
Mutter	Regional Environmental Assistant		0.5	6.0		3.0
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			0.5	6.0	0.0 sonnel Total	<u>\$30</u>
Travel Costs:		Ticket	Round	Total	Daily	Proposed
Description		Price	Trips	Davs	Per Diem	FTOPOSEC
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					Travel Total	\$0.0
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2003		u Auministrat		HUVISOLY	ļ	Personnel
	Agency: Dept of the Interior					DETAIL
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Contractual Costs:		Proposed
Description		FFY 2003
When a non-trustee or	ganization is used, the form 4A is required. Contractual Total	\$0.0
Commodities Costs:		Proposed
Description		FFY 2003
<u>.</u>	Commodities Total	. 0.0
	Project Number: 03100	ORM 3B
2002	Project Title: Public Information and Administration - Public Advisory	ntractual &
2003	Committee	mmodities
	Agency: Dept. of the Interior	DETAIL
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New Equipment Purchases:				Number	Unit	Proposed
Description		-		of Units	Price	FFY 2003
		:				
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Those purchases associated with	h replacement equipment should be	indicated by placem	ent of an R.	New Equi	pment Total	\$0.0
Existing Equipment Usage:				·····	Number	Inventory
Description	· · · · · · · · · · · · · · · · · · ·				of Units	Agency
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	Agency: Dept. of the Interior	· ·			L	

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Exxon Valdez Oil Spill Trustee Council

441 W. 5" Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

MEMORANDUM

- TO: Trustee Council
- FROM: Molly McCammon Executive Director

RE: Amendment to Project 02126 / Habitat Protection and Acquisition Support

DATE: July 25, 2002

The Alaska Department of Natural Resources has requested additional funds in the amount of \$17,600 (plus \$1,200 GA) to conduct habitat protection efforts in FY 02. The Trustee Council approved \$76,500 (plus \$10,400 GA) for ADNR in August 2002 for this purpose. These supplemental funds would pay for work that was unanticipated at the time the original Project 02126 budget was approved.

A memo prepared by ADNR that lists the additional FY 02 work is attached. All of the parcels on the list are parcels for which the Trustee Council has authorized purchase negotiations to proceed.

Recommended Motion:

Move that the Trustee Council approve \$18,800 for the Alaska Department of Natural Resources under Project 02126 for the unanticipated contractual expenses outlined on page 3 of the July 12, 2002 memo from Carol Fries to Molly McCammon. These funds will lapse September 30, 2002.

nds in the n FY 02. The



MEMORANDUM Department of Natural Resources

TO: Molly McCammon
 Executive Director
 Exxon Valdez Oil Spill Trustee Council

State of Alaska

Office of the Commissioner

DATE: July 12, 2002

TELEPHONE NO: 269-8431

SUBJECT: EVOS Habitat Protection Funding FY 02

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Your memo of May 20 requested a detailed memo specifying which parcels and which activities DNR is working on in order to address a request for additional funding for habitat protection efforts. The following summary information should provide sufficient detail for a review of the activities in which DNR has been engaged. Please note that all activities are conducted in close coordination with and at the request of the Department of Law.

DNR has been working on the following habitat protection activities during fiscal year 2002.

AJV final closing of last remaining acreage transferred from BLM to AJV. Contractual title services Land Field Services: \$4,937 – unexpected expense. Review of title work, closing documents by DNR title staff.

AJV Subsurface

Contractual title services Land Field Services \$7,918 - \$1,918 in excess of title estimate. Review of title work, closing documents by DNR title staff still needs to be completed.

English Bay Phase II Closing Completed. This took longer than expected due to unanticipated encumbrances.

Old Harbor Hydro Release from Conservation Easement

Completed. Very time consuming.

AKI Site Exclusions, Final Closing Completed. This took much longer than expected due to unanticipated encumbrances.

Tatitlek Exchange Completed 7/23/02

FROM: Carol Fries Natural Resource Manager

USFWS Small Parcels

I-lave been reviewed and processed as requested.

Eyak final closing – Power Creek

This closing started with a flurry of activity then stalled and is still hanging. DNR contracted for title work for this closing, an unanticipated expense, and DNR will still need to pay for closing.

Koniag Easement along the Karluk

Review of title, legal descriptions, closing documents by DNR title staff. This has come before DNR six times since early in the year for 30-day extensions. The legals are still insufficient. Title defense has concerns about navigability issues that are currently unresolved to their satisfaction. This has required an inordinate amount of staff time.

Old Harbor/Sitkalidik Exchange

Travel associated with public hearings held in Kodiak. Staff compiled reviewed and summarized public comment submitted in writing and at the hearing. Preparation and review of documents associated with the exchange took place as expected. However, modification of the appraisal and review to address previously unidentified problems and equalization of value was an unexpected complication and expense.

Old Harbor Native Allotments in Kiliuda Bay

These parcels were being pursued by The Conservation Fund under the grant agreement. DNR has begun the hazmat assessment on priority parcels in Kiliuda Bay in order to address the Chokwak acquisition. Chokwak, Ericksen, Inga have been identified as parcels on which grantees have consulted with the Trustee Council. The initial hazmat request was for Chokwak, however, additional parcels were done in order to maximize resources both in terms of staff time and dollars. Travel to this area is difficult, limited due to weather, and it makes no sense to go back multiple times. We do not have staff resources to make multiple trips. \$5,000 encumbered, best estimate of cost for travel, research and staff time.

Note: DNR and Law have taken care of Chokwak due to changes within The Conservation Fund. There were no anticipated expenditures detailed for these parcels. They were to have been part of the grant and not the subject of the financial discussions in July of 2001. Unexpected expense – Kiliuda Bay Hazmat \$5,000

Swartz

This parcel was previously identified as a parcel to be pursued by the Council. The Conservation Fund secured the Icicle Seafoods parcels previously, but was unable to secure Swartz. This parcel recently came on the market and the Conservation Fund agreed to pursue it if DNR could contract for the preliminary commitment for title insurance. There was a desire to move quickly

7/23/02

on this parcel and as you know, The Conservation Fund has more flexibility to purchase options or acquire in a timely manner.

Unexpected expense - Preliminary commitment for title insurance - \$250

Staff time will be required to review these documents, conduct a hazmat survey and review the appraisal. No estimate of expenses was included for this parcel in the FY02 estimate.

Nuka Island

DNR has requested that TNC pursue two Nuka Island parcels currently available from the University of Alaska. The University is interested in selling. Title work, hazmat and appraisal review will need to be completed.

Northern Afognak

Department of Law has been working with groups pursuing additional acquisitions on Northern Afognak which would complete protection of the northern tier of the island. An RSA has been executed for support services to be provided by Sheal Anderson to the Department of Law negotiators at their request.

Unexpected expense - RSA to Law \$5,500

Note: Should the timber and land appraisals be completed in August as expected, additional expenses should be expected for appraisal review, DNR staff time etc. These expenses are not detailed here due to an uncertain completion date and no clear cost estimate at this point.

Total Expended or Obligated to Date: \$75,500 Balance remaining: \$1,000

Unanticipated contractual expenses: \$17,605

AJV closing	\$4,937
AJV Subsurface title	\$1,918
Kiliuda Bay Hazmat	\$5,000
Northern Afognak consulting services	\$5,500
Swartze preliminary commitment for title insurance	\$250

Unanticipated work by DNR staff: English Bay Old Harbor Hydro AKI Final Closing Konaig Easement Chokwak Parcel Old Harbor Appraisal adjustment

In conclusion, additional funds in the amount of \$17,605, an amount equivalent to the majority of the unanticipated contractual expenses, should provide sufficient funds to continue work that is 7/23/02 3

anticipated between now and September 30. DNR will need to purchase title insurance for Elliot, Icicle Seafoods, and the Valdez Duck Flats, and hopefully close these parcels by the end of the fiscal year. We also anticipate completing the Old Harbor Exchange and the AJV subsurface in the very near future. The Koniag Conservation Easement will continue to be an issue. The Eyak final closing is expected to resurface in the near future. Please note that there is always the possibility that unanticipated expenses may arise particularly in relation to the additional AJV lands. We are being very conservative in our request for additional funds in order to avoid creating an unnecessary lapse of funds.

I did not make this request prior to this point in time in an effort to avoid creating a situation where funds might possibly lapse. However, at this point it is clear that there are insufficient funds remaining to continue the work associated with ongoing habitat protection efforts.

Should you have any additional questions or concerns, please do not hesitate to contact me at your earliest convenience. It would be beneficial if this matter could be addressed at the August 6 Trustee Council meeting. Thank you.

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Marty Rutherford Alex Swiderski Craig Tillery

7/23/02

cc:

Northern Afognak

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Exxon Valdez Oil Spill Trustee Council

441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

MEMORANDUM

TO: Trustee Council

FROM: Molly McCammon Executive Director

RE: Protection of Lands in Perenosa Bay, Northern Afognak Island

DATE: July 29, 2002

On December 22, 2001 the Trustee Council adopted a resolution stating, "the Trustee Council strongly supports and encourages the efforts underway by the Kodiak Brown Bear Trust, American Lands Conservancy, Rocky Mountain Elk Foundation and others to seek funds for protection of the coastal habitat in Perenosa Bay." (Resolution 02-02) These groups have now requested that the Council facilitate this protection effort, which has since been expanded to include protection of additional coastal habitat on northern Afognak Island, by providing funds for the Alaska Department of Natural Resources to:

•review the land and timber appraisals (which are currently underway with other funds),

review title, and

•conduct a hazardous materials survey and site inspection.

ADNR estimates this work, which is to be conducted this fall, to cost roughly \$25,000.

Consideration of this additional funding for ADNR will be an action item at the August 6, 2002 Trustee Council meeting. A firm cost estimate will be provided at that time.

Attachments:

Resolution 02-02 Estimate of support costs

MEMORANDUM

Department of Natural Resources

TO:Molly McCammonExecutive DirectorExxon Valdez Oil Spill Trustee Council

State of Alaska Office of the Commissioner

DATE: July 29, 2002

TELEPHONE NO: 269-8431

FROM: Carol Fries Natural Resource Manager SUBJECT: EVOS Habitat Protection Funding AJV Lands

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The Department of Natural Resources supports the acquisition of additional AJV lands on the northern shore of Afognak Island. Completion of this acquisition would provide for a consistent management scheme on the northern tier of Afognak Island. Public access and recreational use of this area will be ensured and users will enjoy consistency in terms of permitting, regulations, and opportunities for recreational hunting, fishing, camping, and subsistence use.

Should the Council choose to support the acquisition of remaining AJV lands located on Northern Afognak Island, DNR will need to pursue the following activities in support of this acquisition. Support costs associated with these activities are estimated below. Please note that these costs are only estimated based on previous experience at this point in time.

Appraisal Review

A review of the timber component of the appraisal will be required.
Estimated cost: Contractual \$5,000
A review of the land component of the appraisal and the final appraisal will be required.
Estimated cost: Personal Services or Contractual \$5,000

Title Review

A comprehensive review of title will need to be conducted prior to closing. In the past the majority of this work has been provided via contract acceptable to both the US and the State. Further in house review is required in order to verify legals and confirm title prior to closing. Estimated cost: Estimated cost: Contractual: \$10,000 Personal Services: \$6,000

Hazmat Survey and Site Inspection

A level one hazmat survey with site inspection will be required prior to closing. Estimated cost: Travel: \$1,800 Personal Services: \$5,500

7/29/02

Total estimated expenses: \$24,300

Given the uncertainties associated with the delivery of the completed appraisal and the anticipated timetable for negotiations, DNR expects that funding could be allocated between the FY02 and FY03 fiscal years as follows:

· FY02 - \$5,000 FY03 - \$19,300

Should you have any additional questions or concerns, please do not hesitate to contact me at your earliest convenience. It would be beneficial if this matter could be addressed at the August 6 Trustee Council meeting. Thank you.

cc: Marty Rutherford Alex Swiderski Craig Tillery

RESOLUTION 02-02 OF THE EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL CONCERNING PROTECTION OF LANDS IN PERENOSA BAY

WHEREAS the Trustee Council has invested nearly \$156 million to acquire and protect habitat on and near northern Afognak Island that is critical for several species injured by the oil spill, consisting of 41,549 acres along Seal Bay and Tonki Cape acquired from the Seal Bay Timber Company in 1993, 26,665 acres acquired on Shuyak Island from the Kodiak Island Borough in 1996, and 41,750 acres acquired on northern Afognak Island from the Afognak Joint Venture (AJV) in 1998;

WHEREAS the Kodiak Brown Bear Trust, American Lands Conservancy, and Rocky Mountain Elk Foundation are proposing to seek private foundation dollars to leverage public funds to further the habitation protection and restoration efforts begun by the Trustee Council on northern Afognak Island;

WHEREAS the first phase of the effort is focused on 18,000 acres of coastal habitat in Perenosa Bay currently held by AJV;

WHEREAS the AJV lands lie within and near the lands purchased by the Trustee Council that are now within Afognak Island State Park and Shuyak Island State Park, and include timber rights on 2,000 acres of land east of Pauls and Laura Lakes on which the Trustee Council acquired surface title, and their protection would help preserve the integrity of the Trustee Council's investment in the area;

WHEREAS the Trustee Council sought to acquire these additional lands in order to provide contiguity in protection, land management strategies, and ownership but had insufficient funds available to purchase them;

WHEREAS protecting contiguous tracts of land provides further protection of wildlife movement corridors, consistency in land management strategies, and facilitates public recreational use in concert with protection of injured species and supporting habitats;

WHEREAS the AJV lands, as well as the timber reservation near Pauls and Laura Lakes, are among the lands most highly ranked for restoration value and biological significance by the Trustee Council's habitat protection process and support critical habitat for several species injured by the *Exxon Valdez* oil spill including pink salmon, Dolly Varden, Pacific herring, bald eagles, black oystercatchers, harbor seals, harlequin ducks, marbled murrelets, pigeon guillemots, river otters, and sea otters;

Resolution 02-02

WHEREAS the Sitka spruce within the timber reservation represents some of the most valuable habitat for wildlife, particularly marbled murrelets and bald eagles, as well as providing stable riparian zones for pink and sockeye salmon and Dolly Varden;

WHEREAS this area has many documented anadromous streams which support populations of pink salmon, coho salmon, sockeye salmon, rainbow trout and steelhead which have significant importance to commercial fishing, subsistence fishing, sportfishing, guiding, as well as bears, eagles, and marine mammals;

WHEREAS Pacific herring spawn in Perenosa Bay and feed in nearshore waters;

WHEREAS six species of birds injured by the *Exxon Valdez* oil spill – marbled murrelet, pigeon guillemot, black oystercatcher, harlequin duck, bald eagle, and common murre -- use northern Afognak and the protected offshore waters for all or parts of their lifecycles;

WHEREAS the adjacent marine waters are highly productive and are inhabited by northern sea lions, northern fur seals, harbor porpoises, and several species of whales, with the nearshore waters of Perenosa Bay offering feeding, pupping, and calving habitat for many species of marine mammals including harbor seals and sea otters;

WHEREAS in addition to injured species, elk, deer and brown bear utilize the habitats proposed for protection and the resources they support;

WHEREAS the AJV lands in this general area contain significant archaeological and cultural resources, with some sites listed as Important by the State Historic Preservation Office;

WHEREAS protection of this area will further the Trustee Council's restoration objectives by maintaining water quality and riparian habitat for anadromous fish, river otters, and harlequin ducks; maintaining nesting opportunities for bald eagles, marbled murrelets and pigeon guillemots; minimizing disturbance to nearshore and intertidal habitat used by a variety of species; and maintaining opportunities for recreational use by Alaskans and tourists alike;

WHEREAS the Kodiak Brown Bear Trust, American Lands Conservancy, and Rocky Mountain Elk Foundation bring together knowledge of Alaska, successful experience in completing large and complex land acquisitions, private foundation support, and a significant national constituency;

THEREFORE BE IT RESOLVED that the Trustee Council strongly supports and encourages the efforts underway by the Kodiak Brown Bear Trust, American Lands Conservancy, Rocky Mountain Elk Foundation and others to seek funds for protection of the coastal habitat in Perenosa Bay.

12/12/01

Resolution 02-02

Approved by the Council at its meeting of December 11, 2001 held in Anchorage, Alaska, as affirmed by our signatures affixed below:

DAVE GIBBONS

Alaska Region USDA Forest Service

DRUE PEARCE Senior Adviser to the Secretary for Alaskan Affairs U.S. Department of the Interior

FRANK RUE Commissioner Alaska Department of Fish and Game

Assistant Attorney General State of Alaska

JAMES BALSIGER Director, Alaska Region National Marine Fisheries Service

MICHELE BROWN Commissioner Alaska Department of Environmental Conservation

HABITAT GRANT EXTENSION r

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Exxon Valdez Oil Spill Trustee Council

441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

MEMORANDUM

- TO: Trustee Council
- FROM: Motily McCammon Executive Director
- RE: Extension of Habitat Grant

DATE: July 29, 2002

By resolution January 4, 2001 (Resolution 01-07), the Trustee Council authorized a grant of \$1 million (less some Trustee agency costs) to The Conservation Fund and The Nature Conservancy for a habitat protection effort in the spill-area ecosystem on behalf of the Trustee Council. The resolution specifies that the

"... grant shall terminate September 30, 2002 unless the Trustee Council or The Conservation Fund and The Nature Conservancy, with proper notice, earlier terminates the grant or unless, by mutual consent, the Trustee Council and The Conservation Fund and The Nature Conservancy agree to extend the grant."

The grants (two identical grants, one to The Conservation Fund and one to The Nature Conservancy) are being administered by the U.S. Fish and Wildlife Service (USFWS). There was a delay in executing the grant agreements, and they were not finalized until October 9, 2001. This delay reduced by several months the originally anticipated period of performance of the grant. To date, although the grant recipients are pursuing purchase of several parcels through the grant, only one parcel¹ has made it to the "offer to purchase" stage and a minimal amount of grant funds have been spent (on USFWS GA expenses and grant recipient administrative expenses).

To allow more time for the grant to be implemented, I recommend a one-year extension of the grant term. Both The Conservation Fund and The Nature Conservancy have indicated their interest in a one-year extension, and the USFWS Grant Administrative Officer has indicated that such an extension can be readily executed. The proposed extension would be a no-cost extension, with no changes to the terms of the grant and no increase in the amount of administrative funds specified in the grant agreement for either USFWS or the grant recipients.

¹ On 7/9/02, the Trustee Council approved an offer of \$160,000 for the Chokwak parcel (KAP 1087).
As you will recall, when this grant was authorized, the Trustee Council discussed the possibility of awarding additional funds to The Conservation Fund and The Nature Conservancy if the initial grant of \$1 million proved successful. We referred to the initial grant as a "pilot", and included in the grant agreement a requirement that the recipients submit an activities report to the Council at the termination of the grant that would be the basis for evaluating the success of the pilot. Please be advised that the proposed extension of the grant's term would necessitate an extension of the due date for this report, and would delay a decision on whether or not to allocate additional funds to The Conservation Fund and The Nature Conservancy.

Also be advised that this extension will require a corresponding revision to the schedule for funding recipients' indirect costs from "disbursed quarterly over the life of the grant agreement" to "upon receipt of a request for reimbursement submitted no more frequently than every 30 days".

Recommended Action: See attached Resolution 02-08.

RESOLUTION 02-08 OF THE EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL REGARDING A GRANT FOR HABITAT PROTECTION

Pursuant to paragraph 15 of Resolution 01-07, the Trustee Council hereby approves (a) an extension of the termination date of the USFWS grants to The Conservation Fund (FWS Grant Number 701811G113) and The Nature Conservancy (FWS Grant Number 701811G112) from September 30, 2002 to September 30, 2003, (b) an extension of the due date from December 31, 2002 to December 31, 2003 for the grant recipients' report to the Council describing their activities and accomplishments under the grant, and (c) a corresponding revision to the schedule for funding recipients' indirect costs from "disbursed quarterly over the life of the grant agreement" to "upon receipt of a request for reimbursement submitted no more frequently than every 30 days, when allowable and allocable indirect costs have been incurred by the grant recipient".

Approved by the Council at its meeting of August 6, 2002 held in Anchorage, Alaska, as affirmed by our signatures affixed below:

DAVE GIBBONS Forest Supervisor Forest Service Alaska Region U.S. Department of Agriculture

DRUE PEARCE Senior Adviser to the Secretary for Alaskan Affairs U.S. Department of the Interior

FRANK RUE Commissioner Alaska Department of Fish and Game CRAIG TILLERY Assistant Attorney General State of Alaska

JAMES BALSIGER Administrator, Alaska Region National Marine Fisheries Service

MICHELE BROWN Commissioner Alaska Department of Environmental Conservation

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