

RESTORATION PLANNING WORK GROUP
DECEMBER 17, 1992
8:30 a.m.

Attendees

- Veronica Gilbert
- Chris Swenson
- Carol Gorbics
- Mark Fraker
- Karen Klinge
- John Strand
- Bob Loeffler
- Sandy Rabinowitch
- Ray Thompson

Agenda

- Injury
 - Summary Table (Carol, Sandy & John)
 - Bob Spies Draft
- Cost (Veronica)
- Endowment (Bob)
- Options Assessment (Karen)
- Geographic Distribution (Carol & Bob)
 - EVOS Area
 - Geographic Distribution for each option
 - Base Maps
- Recreation/Key Informant Interviews (Veronica & Bob)
 - Rewrite Options
 - How to put into Alternatives
- Other Services (key elements and alternatives)
 - Subsistence (John, Sandy, Veronica)
 - Fishing (Chris)
 - Archaeology (Sandy)
 - Wilderness/Intrinsic Values (Sandy)
 - Recreation (Sandy)
- Special Designations (Chris)
- Ecosystem Information (Chris)
- Monitoring (John)
- Public Meetings (Veronica)

The following items were distributed:

- December 7, memo from Bob Loeffler to Mark Brodersen
- November 18, memo from Bob Loeffler to Mark Brodersen
- December 15, memo from John Strand and Bob Loeffler to RPWG

Bob stated RPWG needs to put together the flushed-out alternatives. If we have the products, we need to put them on the table to determine correct format and the deadline. There will be a discussion regarding where we are on each of the above agenda

items.

A PAG meeting is scheduled on January 6th and 7th. RPWG needs to discuss what will be given out then and also at the next Trustee Council Meeting. Bob spoke with Ken regarding what the EIS team needs and when. Ken will discuss this with RPWG. Bob asked how much work needs to be done before Christmas. Ken stated the EIS contractors do not want the alternatives in pieces but at the point where it is not going to change too much. Bob stated there will be some PI review also.

Ken stated the contractors want the alternatives in a form that basically will not change. It is not worth starting to work on anything less. Six weeks is necessary for analysis of the flushed out alternatives. Ken stated the RT is unwilling to tell the Trustees this process could be done any faster because of the internal review needed. Veronica proposed setting a date to submit the entire package to the RT and then let them decide when to submit the package to the EIS team. Bob suggested going through the entire agenda before determining the date for submission of the package to the RT. Veronica also suggested considering where RPWG stands on subjecting this plan to public meetings in the spring. If this issue is not pushed, the RT will not either.

Updates were given on the following agenda items:

Summary Table - Carol has received comments from Spies, Fraker, Strand, and Gilbert. Consensus was reached, and Carol will provide copies of the table later today after inputting the comments. Some substantial changes were made which RPWG will need to agree on. The subgroup portion is complete. Veronica suggested giving the conclusions on what was affected at a population level. The intertidal and subtidal columns were eliminated, and the information added to the comments section. Exposure data were also taken out of the table. The discussion is included in the comments section. The levels of injury were listed for various species. Karen asked how Spies felt about the population level injury list. Carol stated he was fine with the list and wanted to eliminate species where there was too much unknown. John stated that after talking with Phil Mundy, some of the data for fish needs to be reexamined. Veronica stated that the list will be changed throughout the process but there must be some protocol for making changes. All agencies have to buy into these changes if there is evidence to the contrary. Bob asked who should coordinate the review. Carol stated that each RT member should be responsible for this. Bob suggested sending it to the RT and stating RPWG will coordinate the review. Veronica stated one other approach would be to submit the table, as RPWG and Spies have agreed on, to the RT and suggest that they coordinate the review with the PI's. Karen suggested reviewing the table and making comments later this afternoon. Before Christmas, the table (first of the key elements) will be given to the RT to coordinate review. Sandy suggested letting the

RT know that we want them to consolidate the comments. Veronica stated RPWG should suggest that the RT submit the table to the PAG and the Trustees. Sandy stated it is important the RT know why we are giving them a key element and what is expected. Mark asked when the PI's fit into this process. Bob stated that PI review will occur through the RT coordination. Sandy suggested having RPWG's subgroup available at the PAG meeting to answer any questions regarding the table.

Bob stated it was discussed having a subset of the injury table in the alternatives for those species which the alternatives deal with. Carol stated that she does not necessarily agree with this because it will be a style thing and repeats information too many times.

Chris asked if the injured services will be submitted also. Bob stated he is still waiting for this information. John stated he and Chris have input for subsistence and sport fishing. RPWG members are to forward the information to Sandy by tomorrow for consolidation. Sandy will provide a copy to members tomorrow. A meeting is scheduled for discussion on Monday at 1:30.

Bob Spies Draft - This item will be postponed until Bob Loeffler returns from vacation.

Cost - Veronica gave a brief status report on the cost summary. A hard copy will be prepared after the break. Comments were received from Bob on the methodology, which lengthened the spreadsheet. The concept of incorporating an endowment was added for those projects which are ongoing or have a projected life of longer than 10 years. There are two major changes:

- 1) a separate column for unit. The PR suggested units as a useful way of doing cost estimates.
- 2) a label for each option indicating whether the duration is limited, until recovery, or ongoing.

Under duration there is a new column called type for identifying the duration. Veronica asked that RPWG review the type of duration for accuracy. Under total cost, it is without endowment and with a ten-year maximum. Endowment is addressed under a separate column. Veronica requested that RPWG note with an asterisk those options which need to be computed as an endowment. There are two ways of using the cost estimates in the process:

- 1) the decision process as part of the cost effectiveness
- 2) cost allocations - could cluster the options by larger groups (use in rough cost allocations)

In order to get a cost figure for the total allocation, there needs to be some estimate of the number of units. On some projects it may be difficult to come up with the number; therefore, you come up

with a range. Chris stated that pie charts might not need to be option specific.

Veronica stated that the final column in the cost estimates chart is a placeholder column. A package was also prepared stating how the cost estimates will be used in the Restoration Plan. After RPWG's review, the package will be ready for PR review. Veronica will give a date later in the day for when comments are due to her. RPWG's first comments will be due before Christmas regarding units to the extent they are useful, and concurrence on the type of duration (ongoing, limited, or until recovery). This package will not go to the PAG until after the agencies are comfortable with the cost estimates.

Endowment - Bob stated there are four kinds of endowments:

- 1) no endowment
- 2) maintenance endowment - ongoing costs which don't go away (monitoring)
- 3) research and monitoring endowment (Sturgelewski)
- 4) full endowment - which runs restoration projects by leveled expenditures

Bob prepared and distributed two memos regarding endowment; one is a summary and the other is the full routine. Comments and suggestions on the concepts and the financial calculations are requested by the 11th. Bob feels this should be presented to the TC on the 19th. Sandy stated he is uncomfortable with integrating this with the alternatives to the TC on the 19th. RPWG will read the memos and come to a decision regarding what to present to the TC. Veronica suggested in-house work using the legal team on endowments. Bob stated he has shown the information to Alex and he felt there was no problem. Veronica suggested presenting this to the RT first to avoid a public discussion of procedures. Bob will give the information to the RT and also ensure that it also gets to the attorneys.

Bob suggested having one or more of the above endowments in some options. Ray suggested making the match with alternatives at the appropriate time.

Options Assessment - Karen stated there are some gaps on resources, including river otters, rockfish, pinks and killer whales, which will require additional information. There has been the whole range of success for getting numbers. Phil Mundy has a more drastic assessment than previously assumed. Doing one thing for a species is of such small benefit that you would have to do a package to achieve any benefit. Karen stated on almost all the species there were at least two interviews. Some data will need to be reexamined for interpretation of what will be done for a species. Bob is taking the hand-written notes and working on tables for a database which reflect the interviews. If the

philosophy is the same, the value will be changed to encompass both experts' ideas of what is going on. Karen has worked with Ken Reckhow on the progress of the interviews. She has questions on how to use the volume of information and all its variability to make the decisions for the alternatives. A column of synthesized effectiveness will also be included to provide a standardized response compatible with the R-base data. Karen proposed that Ken Reckhow come up the week of January 4th to review the rough draft of the database to reconcile any differences. He can spend one day with Karen and one day with the group extracting the information to make the decisions around the alternatives. Because of his database perspective, Ken could comment on tying in cost to the ecosystem database. Carol suggested having Ken here for three days. Karen stated that we need to structure his time so that we aren't side-tracked on ways to make this process better because there isn't enough time. John stated that two days should be adequate. An all day RPWG meeting will be scheduled with Ken on January 5. Karen should be able to make a qualitative cut of the effectiveness rating prior to this time. Karen requested that a cost and endowment package be sent down to Ken next week to guide what we will be discussing. Ray will send the packages on Tuesday. Some PI's had problems with providing numbers because of the great uncertainty involved. For this reason, Karen does not want the database out of RPWG hands. Karen will provide a draft of the database for RPWG's review on the 4th. Bob stated there maybe some advantage to RPWG seeing it earlier. Karen stated that a sample of four or five species can be provided for review sooner. Bob stated if there are questions, the RPWG member who sat in on the interviews can be contacted.

Veronica asked if there are any other major changes. Karen stated that some of the options for recovery of fish will change and also a few new options came up. Mark stated that a killer whale option involving a change in gear sounds interesting. Karen stated the option regarding sea otters and legal harvest is important because the sale of sea otter pelts (if made by Natives) was just legalized. Mark stated that the key informant interviews were a very worthwhile exercise.

Karen stated that three days with Ken might be better because of the unfamiliarity with the database. John will contact Spies regarding Ken Reckhow's assistance. Karen stated that Spies will then fax Ken a travel authorization form. John will also mention that Ken has not been paid for the peer review in October.

Bob suggested using two columns for declining and non-declining species.

Geographic distribution - The base or working maps cover the EVOS area and where options will apply. Bob gave an overview of the maps, which show land status with oiled shorelines. The maps are very close to publication scale. The categories are state,

federal, private, Native selected, and municipal. The boundaries of the legislative designation and the immediate human use areas of severely affected communities are depicted. Also picked up were oiled watersheds drawn to the water line, injured services and the geographic extent of Kenai River stock. Bob stated it is important for some options to draw a tight boundary. Carol stated that parts of the boundary are arbitrary. Bob stated this is because of private land picked up and immediate human use areas. Sandy stated the maps contain incorrect federal boundaries. RPWG will need to decide whether to use the approximate watershed boundary. Veronica stated because the boundary serves to guide funding decisions, it doesn't matter. RPWG agreed to use watershed boundaries. The RT will review the maps containing the EVOS boundaries before Christmas. Sandy will meet with Jess regarding revisions to federal boundaries.

Carol stated the next goal is to assign geographic areas for each resource or option. A diagram of how this process could be accomplished was outlined for enhancement and direct restoration. The best and most likely regions for direct restoration are highlighted based on the comments Karen received. Carol stated we must guard against being too broad. Carol asked for comments by the 4th so that Karen can reconcile the database.

Meeting recessed for lunch at 12:00.

Recreation - Veronica stated that 97 surveys were sent out with about a 50% return. The survey text has been input, and Bob and Veronica will do some special runs from the data. The information represents remaining injury that could be addressed with restoration funds. The surveys were pretty explicit with concrete recommendations. How the recreation experience has changed will be examined by user group. About four responses have been received from Native groups. The objective is to develop a statement of how recreation was injured. The Nature Conservancy report will also be reviewed for additional information, since there were no NRDA studies that could be accessed. The survey information will be used in:

- modifying existing options
- an injury summary for Chapter 2 (now 3)
- the injury table

Veronica stated one approach would be to take the new ideas and force them into existing options. This will be a rehab on our approach.

The following status updates were discussed:

Subsistence - John stated he has information that can be put into the summary table for various services. John will work on an injury summary text for the chapter. Chris will talk with Rita

Miragalia on Monday regarding new options on subsistence, and John will attend via teleconference.

Archaeology - Sandy stated it has not been written yet; however, he has three key background documents and will get information into the summary chart by Monday.

Wilderness/Intrinsic Values - Sandy stated this can't be done until archaeology is done but will follow on its heels.

Fisheries - Chris stated that the option rewrites are pending review of Karen's interview information. Karen stated the information will be reconciled by the end of the first week in January. Chris stated the summary of injury for Chapter 2 has been done.

January 15th is the deadline for options and effectiveness (database). Bob stated that Spies will prepare a schedule and forward it to him. John stated that possibly some of RPWG may need to assist Spies.

Karen asked if we will give the RT our latest versions of the options or Steven Levy's. Bob stated there will probably be a substantial rewrite of the options with the cost information.

The deadline for new options and recombinations (with draft ratings) is noon on January 11, (except for Chris - 4:30). Veronica stated we may have to just meet our deadline and say the text will follow. John stated that Karen may need assistance for new options which need to be written. Mark can come up with a background for killer whales. Karen stated the biggest recombination is the fisheries options.

Special Designations - Chris stated comments have been received on the table, and it is nearly in final format. Suggestions on how to proceed are solicited regarding how far RPWG wants to take it and if we have enough time to do it. It will require coordination with HPWG and private landowners. Carol stated this might be better done after March. Bob stated if an agency wants to take the lead, it would be great. Chris stated it needs to be done the same time as the final plan. It is a massive coordination effort which involves a marriage of science and public opinion. The question is do we want to take this on or ask the RT for another work group or contractor. Carol suggested The Nature Conservancy. Chris stated Option 40 will contain a general process and criteria of what fits into special designation. Chris stated he would like to do it between the draft and final but is not sure if we have the time. RPWG agreed to go to the RT for additional resources to do specific recommendations on designations. Bob stated that we have not done the footwork to recommend designations by March. Chris stated that if someone else does it, they need to start now. Ray stated that our document might provide the impetus for an agency to move ahead

pretty quickly. Carol stated there needs to be some specificity on whether the RT supports this. Bob stated RPWG should recommend this be done by someone else. Chris stated we need to have a general picture of where we want to end up with Option 40. Bob stated we will have the following in March: Chris' menu of designations and what they do, general process for how to figure out what a designation will be, and species ratings. Chris stated he wants a long-term picture for after March. Bob stated it depends on the public's comments. John stated that recommending special designations might be a job for a new working group and should be taken to the RT for their input. Bob stated if someone has a proposal, they should bring it to RPWG. If RPWG wants to endorse it, they can. Bob stated we can lay the groundwork for the footwork, and if an agency wants to do the footwork, they can.

Ecosystem Information - Chris diagramed an ecosystem chart for species, habitat, and services by option. This information will be useful in doing option write ups and the potential effects in Chapter 2 or 3. Chris stated this chart looks at interaction of species. Phil Mundy will be sent a copy of the chart for comment. A copy will also be provided to RPWG members by early January for use in write ups. Bob stated it needs to be in the database and functional by January 11. Chris stated there shouldn't be that many changes to do.

Monitoring - John stated that Parametrix is on board with a contract signed with NOAA. An interagency agreement was forwarded to DEC and is being evaluated. John hopes to hear back from DEC by tomorrow. He will meet with Parametrix on the 8th of January to give them some guidance and asked for RPWG's collective vision of what guidance is needed. John will get Parametrix to give as much information as is appropriate in filling out a conceptual plan. He will push them as fast as he can to fulfill the requirements of the contract to be sure there is something for the March deadline. The flushed out, conceptual plan will be done in May as scheduled. John stated there is some idea of what to monitor by the options which fall out. Veronica suggested John take the alternatives to the meeting with Parametrix when discussing monitoring. John stated he needs a deadline for what will be sent out in March. Bob stated early February. John doesn't see a problem in writing the elements of a conceptual plan.

Public Meetings - Karen stated that Kathy Frost suggested that the options involving Tatitlek and Chenega could be discussed during meetings this winter when Jon Lewis and Jody go there.

Veronica asked RPWG's position on whether we should still have public meetings in April to present the plan alternatives, and feels this will be the only opportunity. Carol stated meaningful public participation is important but is not RPWG's responsibility, and it should only be raised if the RT asks us. Carol stated the DEIS team will hold public meetings. Bob stated he is very strong

on holding public meetings. Veronica stated that the "alternatives information package" in the schedule was misleading and should have indicated public meetings. If we don't do public meetings in April, we will be forced to do them in the fall. Veronica stated she wants to know RPWG's position on the public meetings. Ray stated he feels strongly we should hold public meetings but his concern is whether they will be sanctioned. Chris stated he feels we will have to do them but is concerned about whether we will be able to get our work done. There is consensus from RPWG that public meetings should be held in April.

Meeting adjourned at 4:45.

DRAFT

December 18, 1992

RPWG ASSIGNMENTS AND DEADLINES

SUMMARY TABLE:

- Carol will provide copies of table 12/17 after inputting comments
- submit the table (first of the key elements), as RPWG and Spies have agreed on, to the RT before Christmas and suggest they coordinate the review with the PI's
- request that the RT submit the table to the PAG and the Trustees
- inform the RT why we are giving them a key element and what is expected
- RPWG subgroup will be available at the PAG meeting to answer any questions regarding the table
- RPWG will forward the injured services information to Sandy by 12/18 for consolidation
- Sandy will provide a copy to members 12/18. A meeting is schedule for discussion on Monday at 1:30

BOB SPIES DRAFT:

- Bob will get back with Spies

COST:

- RPWG will review the type of duration for accuracy and note with an asterisk those options which need to be computed as an endowment
- After RPWG review, the package will be ready for PR review
- RPWG's first comments will be due before Christmas regarding units to the extent they are useful and concurrence on the type of duration (ongoing, limited or until recovery)
- Package will not go to the PAG until after the agencies are comfortable with the cost estimates

ENDOWMENT:

- RPWG will review two memos prepared by Bob regarding endowment
- Comments and suggestions on the concepts and the financial calculations are requested by the 11th
- RPWG will decide what to present to the TC on the

- 19th; possibly presented to the RT first to avoid a public discussion of procedures
- Bob will distribute the information to the RT and also ensure that it gets to the attorneys

OPTIONS ASSESSMENT:

- Some data reexamined for interpretation of what will be done for a species
- Bob will use the hand-written notes in working on tables for a database which reflects the interviews; if the philosophy is the same, the value will be changed to encompass both experts' ideas of what is going on
- Karen will discuss with Ken Reckhow questions on how to use the volume of information and all its variability to make the decisions for the alternatives with Ken Reckhow. A column of synthesized effectiveness will also be included to provide a standardized response compatible with the R-base data
- Ken Reckhow will be here the week of January 4th to review the rough draft of the database to reconcile any differences. He can spend one day with Karen and one day with the group extracting the information to make the decisions around the alternatives. Because of his database perspective, Ken could comment on tying in the cost to the ecosystem database. RPWG needs to structure Ken's time so that we aren't side-tracked on ways to make this process better because there isn't enough time
- Karen should be able to make a qualitative cut of the effectiveness ratings prior to January 4
- Ray will send on Tuesday a cost and endowment package to Ken to guide what we will be talking about
- Due to the fact that some PI's had problems with providing numbers because of the great uncertainty involved, the database will be kept within RPWG
- Karen will provide a draft of the database for RPWG review on the 4th. If there are questions, the RPWG member who sat in on the interviews can be contacted
- John will contact Spies on December 18, regarding the need for Ken Reckhow's assistance. Spies will then fax Ken a travel authorization form.

GEOGRAPHIC DISTRIBUTION:

- RPWG agreed to use water shed boundaries
- RT will review the maps containing the EVOS boundaries before Christmas
- Sandy will meet with Jess regarding revisions to

incorrect federal boundaries
-the next goal is to assign geographic areas for each resource or option. Carol requested comments by the 4th so that Karen can reconcile the database

RECREATION:

-Bob and Veronica will do some special runs from the data on 12/18
-objective is to develop a statement of how recreation was injured. The Nature Conservancy report will also be reviewed for additional information since there were no NRDA studies that could be accessed

SUBSISTENCE:

-John has information that can be put into the summary table for various services and will work on an injury summary for the chapter. John and Chris will talk with Rita Miraglia regarding new subsistence options on 12/21

ARCHAEOLOGY:

-Sandy has not written it yet; however, he has three key background documents and will get information into the summary chart by Monday

WILDERNESS/INTRINSIC VALUES:

-this can't be done until archaeology is done but will follow on its heels

FISHERIES:

-Chris' option rewrites are pending review of Karen's interview information. Karen will have the information reconciled by the end of the first week in January

SPECIAL DESIGNATIONS:

-Chris has received comments on the table and it is nearly in final format; suggestions are solicited regarding how far RPWG wants to take it and if we have enough time to do it; it will require coordination with HPWG and private landowners. RPWG agreed to go

- to the RT for additional resources to do specific recommendations on designations
- Chris' menu of designations and what they do, the general process for how to figure out what a designation will be, and the species ratings will be complete in March

ECOSYSTEM INFORMATION:

- Chris prepared an ecosystem chart for species, habitat and services by option which will be useful in doing option write ups and will be provided to RPWG in early January; the chart looks at interaction of species
- Phil Mundy will be sent a copy of the chart for comment
- it needs to be in the database and functional by January 11

MONITORING:

- John forwarded an interagency agreement to DEC, which is being evaluated, and hopes to hear back from DEC by 12/18; he will meet with Parametrix on January 8, to give them some guidance
- John will get Parametrix to give as much information as is appropriate in filling out a conceptual plan and will push them as fast as he can to fulfill the requirements of the contract to be sure there is something for the March deadline
- the flushed out, conceptual plan will be done in May as scheduled
- John will take a copy of the alternatives to the meeting with Parametrix
- the deadline for what will be sent out in March is early February

PUBLIC MEETINGS:

- Kathy Frost suggested that the options involving Tatitlek and Chenega could be discussed during meetings this winter when Jon Lewis and Jody go there
- RPWG's position on whether public meetings should be held in April to present the plan alternatives was discussed; there is consensus from RPWG that public meetings should be held in April

DEADLINES:

- January 15th is the deadline for options and effectiveness (database). Spies will prepare a schedule and forward it to Bob; possibly some of RPWG may need to assist Spies
- the deadline for new options and recombinations (with draft ratings) is noon on January 11, (except for Chris 4:30). We may have to just meet our deadline and say the text will follow. Karen may need assistance for new options which need to be written. Mark will prepare a background for killer whales

Restoration Planning Working Group

EXXON VALDEZ OIL SPILL RESTORATION OFFICE

645 "G" Street

Anchorage, Alaska 99501

TO: RPWG

DATE: December 15, 1992

FROM: John Strand and Bob Loeffler

TELE: 278-8012

FAX: 276-7178

SUBJECT: RPWG Meeting; Thursday (12/17); 8:30 A.M.

Christmas is fast approaching as are the deadlines for the tasks we said we'd finish by then. In addition, there are target dates:

- we need to give the EIS contractor the fleshed-out alternatives as soon as possible;
- the next PAG meeting is January 6 & 7; and
- the next Trustee Council meeting is January 19.

We have scheduled a meeting for Thursday @ 8:30 A.M. to review tasks we have finished, and to discuss status and schedule for other tasks. For the tasks you are doing, please come with drafts if you finished them; if not, please come prepared to discuss when you will have the information ready to fit into the alternatives, and how it will fit. Also, if you expect to need someone else's time (other RPWG members, reviewers, Barbara, Ward, Jess...), please come with those needs. This way we can alert others they are needed and avoid unforeseen schedule conflicts and delays. (Many of these tasks we went over last Wednesday.) We should be able to finish the meeting in one day.

By the end of the meeting, we will want to modify the alternatives where needed, send some information to the EIS contractor, forecast when they will receive the rest, and decide we will give the RT, PAG, and Trustees.

Injury

- Summary Table (Carol & John)

- Bob Spies Draft¹

Cost (Veronica)

Endowment (Bob)

Options Assessment (Karen)

Geographic Distribution (Carol & Bob)

- EVOS Area

- Geographic Distribution for each option

- Base maps

Recreation/Key Inform. Interviews (Veronica & Bob)

- Rewrite Options

- How to put into Alternatives

Other Services (key elements and alternatives)

- Subsistence (John, Sandy, Veronica)

- Fishing (Chris)

- Archaeology (Sandy)

- Wilderness/Intrinsic Values (Sandy)

Special Designations (Chris)

Ecosystem Information (Chris)

Monitoring (John)

¹ Not necessary for fleshed-out alternatives, but a part of the Key Elements write-up that we will soon be needing.

MEMORANDUM

State of Alaska

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
EXXON VALDEZ OIL SPILL RESTORATION OFFICE

TO: Mark Brodersen

DATE: December 7, 1992

FROM: Bob Loeffler

TELE: 278-8012

FAX: 276-7178

SUBJECT: Endowment Proposals

This memo summarizes endowment proposals that I recommend for use in the draft plan alternatives. The financial analysis that supports this summary is contained in the endowment draft. These recommendations are intended for use in some of the alternatives. Not all alternatives need to include an endowment, and some may include more than one.

There are a variety of legal terms that describe a particular type of endowment such as a trust or permanent fund. In this memo, the term endowment is used to describe any funding mechanism that uses payments from one or more years to fund restoration projects beyond the 16-year planning horizon used in the draft plan, and uses interest from a fund as at least a partial funding source.

No Endowment. Some alternatives should assume no endowment. In this case, all restoration funds are spent during the restoration plan's 16-year planning horizon (i.e., before September 30, 2008).

Maintenance Endowment. Some options may continue forever, or at least beyond the 16-year planning horizon. For example, an archaeology stewardship program may continue for generations. Similarly, if visitor centers are constructed, the annual operation and maintenance will not end after 16 years. The same is true of land management costs for land acquired by this process, and for monitoring.

Amount of Money. This proposal assumes that principal is set aside to generate income sufficient to cover the annual costs of those options that continue beyond 16 years. For each million 1993 dollars of perpetual, annual earnings required for operation and maintenance, approximately \$35.7 million must be deposited as principal to the endowment.¹ The actual amount of money needed will change with each alternative. The amount required will be determined in the alternative in which this endowment proposal is included. For example, if a maintenance endowment is part of Alternative #6 (it need not be), then more funds may be required than if it is part of Alternative #3.

¹ Because of inflation, this relationship changes in depending on when the deposit is made. The \$35.7 million figure assumes 50% is deposited in the 1994 federal fiscal year and the remaining amount is split between the 1995 and 1996 fiscal years. At high levels of deposits, this relationship changes somewhat because the deposits must be spread to late years of the settlement.

The table below shows the relationship between the endowment earnings and principal. Endowment spending is shown in constant, 1993 dollars. (Financial assumptions are given in the endowment draft.)

Maintenance Endowment
Principal Required
Annual Operation and Maintenance Costs of Restoration

Principal (Millions)	Endowment Spending (Millions of \$1993)
\$50	\$1.40
\$100	\$2.80
\$150	\$4.20
\$200	\$5.37

Other Assumptions. This proposal assumes that the Trustees are the governing board, and that the endowment has a perpetual life. Finally, it assumes that as the initial spending for an option is allocated, the Trustees will also allocate to the endowment enough principal to assure funding of the on-going operation and maintenance costs.

Research and Monitoring Endowment. One proposal is to establish the *Exxon Valdez* Marine Sciences Endowment dedicated to long-term baseline marine research. The need for monitoring the status of spill-affected ecosystems will go on for a long time, perhaps forever. According to one proposal, "Given the infant status of restoration ecology, continual assessment of our efforts to restore Prince William sound and other areas is essential. Even if the cumulative wisdom gained by establishing a research endowment consists of no more than learning how nature heals itself, that knowledge will be unprecedented and priceless."²

Many groups are conducting important scientific research in Alaskan marine environments. Public and private universities, non-profit scientific groups, state and federal agencies, and individuals are all conducting research. Some of this research is funded from settlement monies, other from outside sources. A research endowment provides an opportunity to coordinate the long-term research into marine oil-spill affected environment. It provides a constant funding source and a single coordinating location to ensure that the range of basic research questions are addressed.

This endowment could be applied separately or in combination with the maintenance endowment described above.

Amount of Money. I am unsure how much money this endowment would require. I assume it would be somewhere in the neighborhood of \$75 - \$150 million. We have assumed that once established, the endowment should produce a steady flow of spending; that is, the same (in real terms) year after year.

Governing Board & Endowment Life. Spending decisions could be made either by a distinct governing board or by the Trustees. The decision depends, in part, on how much of the

² Proposed Restoration Option; *Exxon Valdez Marine Sciences Endowment*; State Senator Arliss Sturgulewski; August 24, 1992; page 3.

endowment purpose is constrained by the endowment charter. This proposal assume a perpetual life to the endowment.

FULL ENDOWMENT WITH LARGE-PROJECT WITHDRAWALS. This proposal assumes that the entire settlement is transferred to an endowment, but that large one-time projects such as land purchases are made from the principal of the endowment, and the remainder of the annual work projects are funded from annual earnings. In this way, the endowment would fund the full range of restoration decisions facing the trustees today. This endowment is a savings plan trading off today's spending to fund future restoration.

Governing Board & Endowment Life. In this proposal, the Trustees are the governing board. I also assume a perpetual life.

Pattern of Spending. Once established, an endowment should produce a steady flow of spending; that is, the same (in real terms) year after year. A constant level of spending, however, is more than the amount justified by real interest income in the early years, and the annual expenditures would not be fully funded by interest (after inflation-proofing) until the last deposit is made on September 30, 2001. The maximum amount of levelized spending that the endowment could sustain is \$13.4 million per year in constant 1993 dollars.

Large-project Spending. Spending for large projects such as land purchases or other significant one-time expenses could be made either by taking it out of the annual earnings for more than one year, or by taking it from principal, thereby reducing the annual earnings for future years.

Amount of Money. There is a trade-off between the amount of money spent on large projects and the endowment earnings. The more money taken from the principal for these projects, the smaller the endowment balance, and the less the amount that will be available for spending each year from the endowment. This relationship is shown in the table below. The table shows that if all funds are put into the endowment, and none are spend for large projects that reduce the endowment principal, the Trustees could sustain \$13.42 million (in 1993 dollars) forever. If, say, \$100 million were set-aside for near-term large-project spending and not put into the endowment, then the endowment would produce \$10.72 million (constant 1993 dollars) for perpetual annual spending. If \$200 million were withheld from the endowment, the endowment would produce \$8.77 million (1993 dollars).

Endowment vs Non-Endowment Spending

Non-endowment		Spending Available	Endowment	
of Funds	Percent	from Endowment	Millions	of Funds
	Millions	(Millions of 1993 \$)		Percent
0%	\$0	\$13.42	\$610	100%
8%	\$50	\$12.07	\$560	92%
12%	\$75	\$11.39	\$535	88%
16%	\$100	\$10.72	\$510	84%
20%	\$125	\$10.04	\$485	80%
25%	\$150	\$9.36	\$460	75%
29%	\$175	\$9.35	\$435	71%
33%	\$200	\$8.77	\$410	67%
41%	\$250	\$7.61	\$360	59%
49%	\$300	\$6.44	\$310	51%
57%	\$350	\$5.28	\$260	43%
66%	\$400	\$4.57	\$210	34%
74%	\$450	\$3.47	\$160	26%
82%	\$500	\$2.36	\$110	18%
100%	\$610	\$0.00	\$0	0%

MEMORANDUM

State of Alaska

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
EXXON VALDEZ OIL SPILL RESTORATION OFFICE

TO: Mark Brodersen

DATE: November 18, 1992

FROM: Bob Loeffler

TELE: 278-8012

FAX: 276-7178

SUBJECT: An Endowment Draft is attached.

1. The Calculations. It is difficult to pick endowment levels and not be arbitrary. So I calculated tables so you can see the effect of depositing differing amounts of money.
2. Cleanup. The calculations are not 100% consistent. I need to do a little cleanup work. (For example, the initial balance numbers are a little off from what you gave the PAG). It won't change the results too much, so I decided I'd go ahead and give it to you now.
3. If the calculations seem close-to-right, I think it should be reviewed by a few economists with reputations to make sure I haven't screwed up.
4. Once this is cleaned up so it can be sent to other people, I can write a summary, etc.

Endowments: A Method of Funding Restoration

INTRODUCTION

The Trustees have the opportunity to save a portion of today's restoration funds for tomorrow's needs by establishing an endowment. This paper does not describe all possible endowments. Rather, it distills proposals into a few endowment approaches for public review as part of the draft restoration plan alternatives. In developing these proposals, this paper discusses the following issues: How to structure the governing board? How long a life should an endowment have? How to manage the funds? What should the purpose be? And how much of the funds should be put into an endowment.

There are a variety of legal terms that describe a particular type of endowment such as trust or permanent fund. In this paper the term endowment is used to describe any funding mechanism that uses payments from one or more years to fund restoration projects in future years, and uses interest from an accumulated fund as at least a partial funding source.

WHY AN ENDOWMENT? There are three basic reasons why the Trustees should consider an endowment for a portion of the payments from the *Exxon Valdez* civil settlement.

1. **Saving for the future.** If we are to use settlement funds after Exxon's last deposit in 2001, the Trustees must save some of Exxon's deposits for future use. Through an endowment, the trustees can maintain a funding source for guarding the resources of the spill-affected area, forever. An endowment provides an opportunity to change part of a large, one-time settlement into a resource for the future.

The *Exxon Valdez* oil spill created damages that may not recover for generations. The extent of some of the oil-spill damage or recovery may not be completely known for a long time. Some of the resources and services we now believe are recovering on their own may not, in fact, recover completely. For some restoration activities, we may not know whether today's activities are successful for many years. Additional research may disclose additional damages. For these and other reasons, we can expect that restoration needs will continue past 2001, the year in which Exxon makes the last scheduled deposit under the civil settlement.

An endowment provides an opportunity to complete restoration strategies at a different rate than that which would occur using current funds. Endowment is a broad term that covers a broad range of strategies. For example, endowments could be used to match the near-term accumulation of funds with the long-term need for restoration. It could be used to fund a base to support permanent research, to fund long-term habitat acquisition needs, or even to accelerate purchase of habitat.

2. **Disciplining the present.** Governments have a difficult time not spending available funds. But immediately spending the funds may not be the best use of the money. An endowment can be a savings plan to ensure that funds are not spent before the long-term needs become apparent. It provides some assurance that only the best restoration projects are funded.

3. **Earmarking part of the funds for a single, long-term use.** Some restoration needs are best conducted with a long-term source of funding. Examples might be long-term recovery monitoring, or a long-term research program. In these cases, an endowment may provide a method of achieving a stable funding source for a long-term program.

Another example of a single-purpose endowment might be to provide for the operation and maintenance of a visitor's center. Funding construction without funding continued operation and maintenance might provide a burden on future generations rather than a benefit.

WHY NOT AN ENDOWMENT? There are also disadvantages to an endowment.

1. **An endowment takes away from today's use of the money.** An endowment pre-supposes that future use of the funds is as important as today's needs. It will decrease the amount we can apply to today's pressing needs.
2. **A structured savings plan decreases flexibility.** The most flexible way to use the money is on a case-by-case basis as the needs arise. An endowment structures the amount we can spend today. It limits our options to respond to the wishes of today.

GOVERNING AN ENDOWMENT

There are two basic choices for establishing the governing board of any endowment: 1) the trustee council acts as the foundation board, or 2) the trustees create a board distinct from the council. Each has some advantages.

TRUSTEE COUNCIL AS THE FOUNDATION BOARD. *Exxon Valdez* settlement monies are public funds. They are administered by the Trustees for the citizens of the United States and of the State of Alaska. If some or all of the settlement funds are placed into an endowment, the Trustees could still make the annual spending decisions.

Political theory and the laws of Alaska (AS 37.14.420) suggest that spending decisions concerning public money be made by representatives of the people and be subject to the sanction of popular vote. That is, spending decisions are usually made if not by elected representatives such as the legislature, then at least by the designee of an elected representative. In that way, if decisions are not consistent with public preference, the decisions makers can be voted from their position. As the appointed representatives of elected officials, the Trustee Council fulfills this function.

A FOUNDATION BOARD DISTINCT FROM THE TRUSTEE COUNCIL. A trust or endowment may be governed by an autonomous board. If correctly structured, an autonomous board could insulate the spending decisions from political pressures, and it could allow for a board with greater technical expertise. An autonomous board is most useful for an endowment with a specific purpose where specific technical expertise is most useful and where the range of choice is constrained. For example, a proposal for a research endowment suggested that the board be composed of the principal north Pacific marine research agencies, the University of Alaska, the University of Washington, the Alaska Department of Fish and Game, and National Oceanic and Atmospheric Administration (Alaska Region), plus representatives of marine research institutes, resource users, or community representatives.

Legal Constraints. Because of the requirement in state and federal law that spending decisions be made by representatives of the people, using a foundation board distinct from the Trustee Council will require modifications to state and federal law. [*Alex: I think this needs further discussion concerning the legal constraints of a governing board. Also do we need somewhere to discuss change to Federal law so that the interest go back to an endowment fund, and not to the US treasury?*]

HYBRID: DISTINCT BOARD WITH FUNDING DECISIONS SUBJECT TO TRUSTEE COUNCIL APPROVAL. To be consistent with state and federal law governing the delegation of spending decisions to non-government bodies, and to be consistent with the civil settlement memorandum of agreement that requires the trustees unanimously approve "...decisions relating to restoration activities or other use of natural resource damage recoveries...including...allocation of funds,"¹ a foundation board could be set up that makes decisions subject to trustee council approval.

RECOMMENDATION. If an endowment is chosen with a general purpose, the governing board should be Trustees. The reasons are 1) because the a general choices about the use of public funds should be made by elected representatives of the people (or their appointees), and 2) to be consistent with state and federal law.

If an endowment is chosen with a restricted purpose; for example, to accomplish monitoring, scientific research, or to operate a facility such as a visitor's center, then the governing board should be different than the trustees. The reason is to allow the governing board to bring greater expertise in the specific purpose of that endowment to bear on the spending decisions. In this case, the decisions that usually concern elected representatives are made when the endowment is set up, and more technical choices are made in year-to-year decisions.

ENDOWMENT LIFE

From Senator Sturgulewski's proposal for a Marine Research Foundation, "An endowment can begin with a perpetual (or unspecified) existence or as a limited duration sinking fund that will spend itself out of existence by a time certain. An unlimited period of existence is preferable, at least until the duration of tangible effects of the spill has been defined."²

RECOMMENDATION. If we knew when injured resources and damaged services will be fully recovered, it would be possible to specify a date at which an endowment should spend itself out of existence. That is not now possible. Thus, only a perpetual endowment need be considered. If future generations decide that the spill area is fully recovered or to liquidate endowment assets, they would remain able to do that.

ENDOWMENT MANAGEMENT

¹ *Memorandum of Agreement and Consent Decree*, p. 10.

² Proposed Restoration Option; *Exxon Valdez Marine Sciences Endowment*; State Senator Arliss Sturgulewski; August 24, 1992; page 4.

Currently, settlement funds are deposited with the U.S. District Court Registry Investment System (CRIS) until the Trustees draw upon them. "CRIS regulations limiting investments to short-term U.S. Treasury securities make it impossible to earn returns adequate to fund a meaningful program. The principal (the corpus) of an endowment should be withdrawn from CRIS and managed by an investment firm, or perhaps by trustees of the Permanent Fund Corporation.

RECOMMENDATION. As yet we have no recommendation. This question is relatively technical and it can be answered after the choice is made whether or not to set up an endowment.

EXAMPLE ENDOWMENTS

Three examples are presented to illustrate some of the endowment concepts currently used in Alaska.

THE ALASKA PERMANENT FUND. Alaska's most famous endowment is the permanent fund. By law, at least 25% of all "mineral lease, rentals, royalties..." is deposited in the fund. Investment decisions of the fund are managed by a six-person board of trustees. Four of the six board members are public members with recognized competence and wide experience in finance, investment, or other business management-related fields. They are appointed by the governor for staggered four-year terms. The other members are the Commissioner of Revenue, and one cabinet member of the governor's choice.³ Spending decisions -- except for the permanent fund dividend which uses a formula established by law -- can only be made by legislative appropriation. The appointed representatives have no discretionary authority to spend the fund; they can only invest it.

THE ALASKA SCIENCE AND TECHNOLOGY FOUNDATION. The Foundation was set up by statute in 1988. It is governed by a board of nine directors, "appointed by the governor for staggered four year terms. Four of the directors must be recognized scientists or engineers (two from outside of Alaska); four members are to represent the general public; and one member must be employed by a state agency other than the University of Alaska."⁴ The legislative plan is to use state surpluses from different legislative years to create an endowment of \$100 million. "The Foundation's funds are held and managed by the Alaska Permanent Fund Corporation. All or a portion of the net income is available for appropriation each year." Spending decisions are made by the Foundation's board of directors.

THE KODIAK BROWN BEAR RESEARCH AND HABITAT MAINTENANCE TRUST "was established in 1981 to ensure that construction and operation of the Terror Lake Hydroelectric Project would not jeopardize the continued existence of Kodiak brown bears... and to mitigate

³ An Alaskan's Guide to the Permanent Fund. Edition No. 5; September 30, 1992, Page 18.

⁴ From Establishing the Fund for Alaska: The Procedural, Program, and Legal Options. Charles H.W. Foster et al. September 1989. A Feasibility Report Prepared For the World Wildlife Fund (U.S.), The Conservation Foundation.

impacts of the project on bear habitats in and adjacent to the Kodiak National Wildlife Refuge.⁵ The trust was established in a joint Settlement Agreement between the Kodiak Electric Association (which originally sponsored the hydroelectric project), the State of Alaska, Department of Interior, Sierra Club, National Audubon Society, and National Wildlife Federation.

Management and spending decisions are made by four trustees: one designated by the Alaska Energy Authority (a state agency), one by the Governor, one by the Alaska Regional Director of the US Fish and Wildlife Service, and one by agreement of at least two of the environmental organizations which established the trustees.

FINANCIAL CALCULATIONS

Spreadsheet #1 shows the basic financial calculations. It makes the unrealistic assumption of no spending after what is already scheduled, but it is a useful display to explain basic calculations and assumptions.

Fiscal Year. The table is based on the federal fiscal year (October 1 through September 30th), rather than calendar year, or state fiscal year. Federal fiscal year 1994 begins on October 1, 1993 and continues through September 30th 1994. Because Exxon makes deposits at the change of the federal fiscal year, and the yearly work plans are based on the federal fiscal year, using the federal fiscal year simplifies the analysis.

Beginning Balance. The spreadsheet assumes that as of October 1, 1993, the balance available to the Trustees will be \$40.25 million. The tables below the estimates used to calculate that amount.

Table 1. Current Funds Projected to October 1, 1993

<u>Description</u>	<u>Subtractions</u>	<u>Additions</u>	<u>Balance</u>
Balance as of May 1992			\$26.2
Exxon Payment (12/1/92)		\$150.0	
Reimbursement to Exxon (12/1/92)	\$45.0 (Estimated)		
1993 Work Plan (12/1/92)	\$37.8 (Estimated)		
Reimbursements to governments	\$54.5 (Estimated)		
Projected Balance as of January 1, 1993			\$38.9
Projected Interest through July 1, 1993		\$1.4	
Projected Balance as of July 1, 1993			\$40.3
Projected Interest through October 1, 1993		\$0.7	
Projected Balance as of October 1, 1993			\$41.0

Payments from Exxon. \$100 million is due on September 30, 1993. Future payments will be \$70 million every October 1st through 2001.

⁵ Kodiak Brown Bear Research and Habitat Maintenance Trust Agreement, page 2.

Spreadsheet #1. No Spending, Basic Calculations and Assumptions

Endowment Spreadsheet (All figures in Million \$)

FISCAL YEAR		Payments from Exxon	Reimburse- ments to Gvts	Deposits Amount	Interest			Balance Amount	Spending Nominal Dollars	Spending 1993 Dollars
					Total	Inflation	Real			
1993	(Beginning Oct. 1 1992)	For FY 1993 figures, see Initial Balance Analysis						\$40.25		
1994	(Beginning Oct. 1 1993)	\$100.0	\$30.0	\$70.0	\$2.81	\$1.36	\$1.45	\$113.06	\$0.00	\$0.00
1995	(Beginning Oct. 1 1994)	\$70.0	\$30.0	\$40.0	\$8.21	\$4.14	\$4.07	\$161.27	\$0.00	\$0.00
1996	(Beginning Oct. 1 1995)	\$70.0	\$30.0	\$40.0	\$11.82	\$6.02	\$5.81	\$213.09	\$0.00	\$0.00
1997	(Beginning Oct. 1 1996)	\$70.0		\$70.0	\$16.05	\$8.38	\$7.67	\$299.14	\$0.00	\$0.00
1998	(Beginning Oct. 1 1997)	\$70.0		\$70.0	\$22.89	\$12.57	\$10.32	\$392.03	\$0.00	\$0.00
1999	(Beginning Oct. 1 1998)	\$70.0		\$70.0	\$28.50	\$16.74	\$11.76	\$490.53	\$0.00	\$0.00
2000	(Beginning Oct. 1 1999)	\$70.0		\$70.0	\$35.66	\$20.95	\$14.72	\$596.19	\$0.00	\$0.00
2001	(Beginning Oct. 1 2000)	\$70.0		\$70.0	\$43.61	\$25.73	\$17.89	\$709.80	\$0.00	\$0.00
2002	(Beginning Oct. 1 2001)	\$70.0		\$70.0	\$52.35	\$31.05	\$21.29	\$832.15	\$0.00	\$0.00
2003	(Beginning Oct. 1 2002)				\$61.50	\$36.53	\$24.96	\$893.65	\$0.00	\$0.00

Reimbursements to Governments. Under the terms of the settlement, the state and federal governments may reimburse themselves up to \$67.0 million for the federal government and \$75.0 million to the State of Alaska for cleanup, damage assessment and restoration, and litigation expenses incurred prior to January 1, 1991. They two governments may also reimburse themselves for cleanup costs after that time, damage assessment and restoration costs between March 1, 1991 and March 1, 1992, and for State of Alaska litigation costs after March 12, 1992.

The total amount of money to be reimbursed to the state and federal government is not final. We estimate that approximately \$90 million will remain after October 1, 1993. We assume they will take in equal increments over the following three years, but other payment schedules are also possible.

Deposits. Deposits are Payments from Exxon less Reimbursements to the state and federal governments.

Interest. The total interest is the amount that would be earned on the balance of the previous year. Thus, the spreadsheet projects that during fiscal year 1994 (from October 1, 1993 through September 30, 1994) an endowment would earn \$2.81 million on an initial balance of \$40.25 million. The total interest composed of two sub-parts: interest due to inflation, and "real" interest.

Inflation. Changes in an endowment balance due to inflation create the illusion of growth, but the growth is not "real". That is, if a particular restoration option costs \$1.00 million today, then after a year of 5% inflation, that same study will probably cost the trustees \$1.05 million. That extra \$50,000 does not buy anything more, it is just the amount of money needed to keep pace with the general level of price increases. Thus, the growth in the endowment balance needed to keep pace with inflation is not "real" growth. To forecast the "real" changes in the endowment balance, we must use a forecast of inflation.

The Alaska Department of Revenue forecasts inflation as part of its twice-annual revenue forecast. The most recent forecast is the Spring 1992 Revenue Forecast. Their inflation forecast is reprinted below.

Because the state forecasts inflation according to the *state* fiscal year, July 1 to June 30th, it is necessary to adapt the forecast to the federal fiscal year. The table below displays that adaptation assuming a constant annual inflation rate (i.e., the federal fiscal year forecast assumes nine months one year's rate, and three months at the next year's rate).

Table 2. Inflation Rate Forecast
Alaska Department of Revenue, Spring 1992 Revenue Forecast

<u>Fiscal Year</u>	AK Department of Revenue Inflation Rate by State FY			(Adapted from AK DOR) Inflation Rate by Federal FY		
	Low	Mid	High	Low	Mid	High
	1992	2.40%	3.16%	4.03%	2.48%	3.23%
1993	2.71%	3.45%	4.44%	2.79%	3.52%	4.54%
1994	3.02%	3.73%	4.85%	3.02%	3.73%	4.85%
1995	3.02%	3.73%	4.85%	3.08%	3.80%	4.92%
1996	3.26%	4.00%	5.14%	3.32%	4.07%	5.21%
1997	3.50%	4.27%	5.43%	3.50%	4.27%	5.43%
1998	3.50%	4.27%	5.43%	3.50%	4.27%	5.43%
1999	3.50%	4.27%	5.43%	3.50%	4.29%	5.43%
2000	3.50%	4.33%	5.43%	3.51%	4.35%	5.49%
2001	3.55%	4.39%	5.67%	3.56%	4.39%	5.73%
2002	3.60%	4.39%	5.90%	3.60%	4.39%	5.90%
2003	3.60%	4.39%	5.90%	3.60%	4.39%	5.90%
2004	3.60%	4.39%	5.90%	3.60%	4.39%	5.90%
2005 & beyond:	3.60%	4.39%	5.90%	3.60%	4.39%	5.90%

Spreadsheet #1 uses the Alaska Department of Revenue mid-range forecast as the most-likely forecast of inflation.

Real Rate of Return. The real rate of return (or real interest) is the rate above of interest earned above and beyond inflation. The Alaska Permanent Fund Corporation forecasts real rate of return for the permanent fund. They use a goal of 3% per year as their target rate of increase, but forecast real return at 3.6% for state fiscal years 1994 through 1997 and 3% per year thereafter.⁶

Table 3 summarizes the interest rate assumptions used for the spreadsheets.

⁶ An Alaskan's Guide to the Permanent Fund, Edition No. 5, September 30, 1992; Page 9. And Jim Kelly, Research & Liaison Officer, Alaska Permanent Fund Corporation, Personal Communication, November 1992; And Alaska Permanent Fund Corporation, February 1992 Financial Statements, pages 4 and 5.

Table 3. Interest Rate Analysis

Assumptions

Real Rate of Return

- Use the same rate assumed by the Alaska Permanent Fund Corporation
- 3.6%/yr for FY 94-97; 3%/yr thereafter (State FY ends June 30th; Adjustment for Federal FY)

Inflation Rate

- Taken from the Alaska Department of Revenue Long-range Fiscal Model
- Spring 1992 Mid-range Forecast Assumptions

Interest Rate

- Annual Interest Rate = (Inflation Rate) + (Real Rate of Return)

Inflation Adjustment

- 1993 Dollars = (Nominal dollars) * (interest rate adjustment)

Fiscal Year	Rate by Calendar Year			Rate by (US) Fiscal Year			Inflation Adjustment
	Real	Inflation	Interest	Real	Inflation	Interest	
1992	3.60%	3.16%	6.76%	3.60%			
1993	3.60%	3.45%	7.05%	3.60%	3.38%	6.98%	1.0000
1994	3.60%	3.73%	7.33%	3.60%	3.66%	7.26%	0.9647
1995	3.60%	3.73%	7.33%	3.60%	3.73%	7.33%	0.9300
1996	3.60%	4.00%	7.60%	3.60%	3.93%	7.53%	0.8948
1997	3.30%	4.27%	7.57%	3.45%	4.20%	7.50%	0.8587
1998	3.00%	4.27%	7.27%	3.00%	4.27%	7.27%	0.8236
1999	3.00%	4.27%	7.27%	3.00%	4.27%	7.27%	0.7898
2000	3.00%	4.33%	7.33%	3.00%	4.32%	7.32%	0.7572
2001	3.00%	4.39%	7.39%	3.00%	4.38%	7.38%	0.7254
2002	3.00%	4.39%	7.39%	3.00%	4.39%	7.39%	0.6949
2003	3.00%	4.39%	7.39%	3.00%	4.39%	7.39%	0.6657
2004	3.00%	4.39%	7.39%	3.00%	4.39%	7.39%	0.6377
2005	3.00%	4.39%	7.39%	3.00%	4.39%	7.39%	0.6109

Balance. The endowment balance is the previous year's balance plus that year's deposits, that year's total interest, and minus that year's spending. The column labeled "Balance, Nominal Dollars" shows the amount that the endowment is forecast to actually hold in the bank. *[Aside to Mark & Alex, I didn't put this in the spreadsheets, yet.]* The column labeled "Balance, 1993 dollars" shows the value of that amount at the October 1, 1993 price levels using the inflation forecast explained above. The column shows that in the unrealistic case that all funds are put into an endowment and the Trustees do not spend any further money for restoration until Fiscal Year 2003, the endowment will hold almost \$893.65 million. And that balance will be worth approximately \$594.9 million in 1993 dollars.

ENDOWMENT PROPOSALS FOR PUBLIC REVIEW

This section combines concepts and financial assumptions to describe endowment proposals for public review.

GENERAL-PURPOSE ENDOWMENT. A general-purpose endowment would be structured to fund the full range of restoration decisions facing the trustees today. In this case, the endowment is a savings plan trading off today's spending to fund future restoration.

Governing Board & Endowment Life. In this proposal, the Trustees are the governing board, because the range of choices facing the board are wide enough that the board should be subject to the political process. We also assume a perpetual life.

Pattern of Spending. We have assumed that once established, the endowment should produce a steady flow of spending; that is, the same (in real terms) year after year. If more spending is desired in the first few years, some money should be kept out of the endowment for near-term spending. A constant level of spending, however, is more than the amount justified by real interest income in the early years, and the annual expenditures would not be fully funded by interest (after inflation-proofing) until the last deposit is made on September 30, 2001.

Amount of Money. There is a trade-off between the amount of money put into an endowment (and consequently the annual amount that the endowment produces for spending), and the amount not put into the endowment and available for near-term spending.

The more money is set apart from the endowment for near-term use, the smaller the endowment balance, and the less the amount that will be available for spending each year from the endowment.

This relationship is shown in Table 4. The table shows that if all funds are put into the endowment, the Trustees could sustain \$13.42 million (in 1993 dollars) forever. If, say, \$100 million were set-aside for near-term spending and not put into the endowment, then the endowment would produce \$10.72 million (constant 1993 dollars) for perpetual annual spending. If \$200 million were withheld from the endowment, the endowment would produce \$8.77 million (1993 dollars).

Table 4. Endowment vs Non-Endowment Spending

Non-endowment		Spending Available	Endowment	
of Funds	Percent	from Endowment	Millions	Percent
	Millions	(Millions of 1993 \$)		of Funds
0%	\$0	\$13.42	\$610	100%
8%	\$50	\$12.07	\$560	92%
12%	\$75	\$11.39	\$535	88%
16%	\$100	\$10.72	\$510	84%
20%	\$125	\$10.04	\$485	80%
25%	\$150	\$9.36	\$460	75%
29%	\$175	\$9.35	\$435	71%
33%	\$200	\$8.77	\$410	67%
41%	\$250	\$7.61	\$360	59%
49%	\$300	\$6.44	\$310	51%
57%	\$350	\$5.28	\$260	43%
66%	\$400	\$4.57	\$210	34%
74%	\$450	\$3.47	\$160	26%
82%	\$500	\$2.36	\$110	18%
100%	\$610	\$0.00	\$0	0%

Possible Endowment Proposals. For purposes of discussion, Spreadsheets #2, Spreadsheets #3 and #4 show three different endowment sizes. In Spreadsheet #2, we assume that all funds not already scheduled are put into the endowment. That endowment annually produces \$13.42 million per year in \$1993 dollars. The other two proposals assume that \$100 million and \$250 million is set aside for near-term projects. The annual endowment spending differs somewhat depending on the pattern of endowment deposits. The spreadsheets assume a pattern of withdrawals for near-term spending, but a different pattern would produce slightly different results.

[Aside for Mark & Alex: In order to decide what proposals to keep for public review, we should work with the lands/habitat group to decide spending levels (to keep out of the endowment) that are related to near-term habitat purchase needs.]

Spreadsheet #2. Maximum Endowment, Constant Annual Spending

Endowment Spreadsheet (All figures in Million \$)

FISCAL YEAR			Payments from Exxon	Reimburse- ments to Gvts	Deposits Amount	Interest Prior to Oct 1 of Year			Balance	Spending Nominal Dollars	Spending 1993 Dollars	Amount not put in Endowment Total = \$0.00
						Total	Inflation	Real	Amount			
1993	(Beginning Oct. 1 1992)		For FY 1993 figures, see Initial Balance Analysis									
1994	(Beginning Oct. 1 1993)		\$100.0	\$30.0	\$70.0	\$2.81	\$1.36	\$1.45	\$99.63	\$13.42	\$13.42	\$0.00
1995	(Beginning Oct. 1 1994)		\$70.0	\$30.0	\$40.0	\$7.23	\$3.65	\$3.59	\$132.95	\$13.92	\$13.42	\$0.00
1996	(Beginning Oct. 1 1995)		\$70.0	\$30.0	\$40.0	\$9.75	\$4.96	\$4.79	\$168.26	\$14.43	\$13.42	\$0.00
1997	(Beginning Oct. 1 1996)		\$70.0		\$70.0	\$12.67	\$6.62	\$6.06	\$235.94	\$15.00	\$13.42	\$0.00
1998	(Beginning Oct. 1 1997)		\$70.0		\$70.0	\$18.05	\$9.92	\$8.14	\$308.36	\$15.63	\$13.42	\$0.00
1999	(Beginning Oct. 1 1998)		\$70.0		\$70.0	\$22.42	\$13.17	\$9.25	\$384.48	\$16.30	\$13.42	\$0.00
2000	(Beginning Oct. 1 1999)		\$70.0		\$70.0	\$27.95	\$16.42	\$11.53	\$465.43	\$17.00	\$13.42	\$0.00
2001	(Beginning Oct. 1 2000)		\$70.0		\$70.0	\$34.05	\$20.08	\$13.96	\$551.75	\$17.73	\$13.42	\$0.00
2002	(Beginning Oct. 1 2001)		\$70.0		\$70.0	\$40.69	\$24.14	\$16.55	\$643.93	\$18.50	\$13.42	\$0.00
2003	(Beginning Oct. 1 2002)					\$47.59	\$28.27	\$19.32	\$672.20	\$19.32	\$13.42	\$0.00
2004	(Beginning Oct. 1 2003)					\$49.68	\$29.51	\$20.17	\$701.71	\$20.17	\$13.42	\$0.00
2005	(Beginning Oct. 1 2004)					\$51.86	\$30.81	\$21.05	\$732.52	\$21.05	\$13.42	\$0.00
2006	(Beginning Oct. 1 2005)					\$54.13	\$32.16	\$21.98	\$764.68	\$21.98	\$13.42	\$0.00

Spreadsheet #3. \$100 million for near-term spending; Remainder in Endowment
(constant annual endowment spending)

Endowment Spreadsheet (All figures in Million \$)

FISCAL YEAR		Payments from Exxon	Reimburse- ments to Gvts	Deposits Amount	Interest Prior to Oct 1 of Year			Balance	Spending Nominal Dollars	Spending 1993 Dollars	Amount not put in Endowment Total = \$100.00
					Total	Inflation	Real	Amount			
1993	(Beginning Oct. 1 1992)				Initial Balance Analysis			\$40.25	(see Initial Balance Analysis)		
1994	(Beginning Oct. 1 1993)	\$100.0	\$30.0	\$70.0	\$2.81	\$1.36	\$1.45	\$52.34	\$10.72	\$10.72	\$50.00
1995	(Beginning Oct. 1 1994)	\$70.0	\$30.0	\$40.0	\$3.80	\$1.92	\$1.88	\$60.04	\$11.11	\$10.72	\$25.00
1996	(Beginning Oct. 1 1995)	\$70.0	\$30.0	\$40.0	\$4.40	\$2.24	\$2.16	\$67.92	\$11.52	\$10.72	\$25.00
1997	(Beginning Oct. 1 1996)	\$70.0		\$70.0	\$5.12	\$2.67	\$2.44	\$131.06	\$11.97	\$10.72	
1998	(Beginning Oct. 1 1997)	\$70.0		\$70.0	\$10.03	\$5.51	\$4.52	\$198.61	\$12.48	\$10.72	
1999	(Beginning Oct. 1 1998)	\$70.0		\$70.0	\$14.44	\$8.48	\$5.96	\$270.04	\$13.01	\$10.72	
2000	(Beginning Oct. 1 1999)	\$70.0		\$70.0	\$19.63	\$11.53	\$8.10	\$346.10	\$13.57	\$10.72	
2001	(Beginning Oct. 1 2000)	\$70.0		\$70.0	\$25.32	\$14.93	\$10.38	\$427.27	\$14.15	\$10.72	
2002	(Beginning Oct. 1 2001)	\$70.0		\$70.0	\$31.51	\$18.69	\$12.82	\$514.01	\$14.77	\$10.72	
2003	(Beginning Oct. 1 2002)				\$37.99	\$22.56	\$15.42	\$536.57	\$15.42	\$10.72	
2004	(Beginning Oct. 1 2003)				\$39.65	\$23.56	\$16.10	\$560.13	\$16.10	\$10.72	
2005	(Beginning Oct. 1 2004)				\$41.39	\$24.59	\$16.80	\$584.72	\$16.80	\$10.72	
2006	(Beginning Oct. 1 2005)				\$43.21	\$25.67	\$17.54	\$610.39	\$17.54	\$10.72	

Spreadsheet #4. \$200 million for near-term spending; Remainder in Endowment
(constant annual endowment spending)

Endowment Spreadsheet (All figures in Million \$)

FISCAL YEAR	Payments from Exxon	Reimburse- ments to Gvts	Deposits Amount	Interest			Balance Amount	Spending Nominal Dollars	Spending 1993 Dollars	Amount not put in Endowment Total = \$200.00	
				Total	Inflation	Real					
1993	(Beginning Oct. 1 1992)			Initial Balance Analysis			\$40.25	(see Initial Balance Analysis)			
1994	(Beginning Oct. 1 1993)	\$100.0	\$30.0	\$70.0	\$2.81	\$1.36	\$1.45	\$64.29	\$8.77	\$8.77	\$40.00
1995	(Beginning Oct. 1 1994)	\$70.0	\$30.0	\$40.0	\$4.67	\$2.35	\$2.31	\$79.86	\$9.09	\$8.77	\$20.00
1996	(Beginning Oct. 1 1995)	\$70.0	\$30.0	\$40.0	\$5.85	\$2.98	\$2.88	\$96.29	\$9.43	\$8.77	\$20.00
1997	(Beginning Oct. 1 1996)	\$70.0		\$70.0	\$7.25	\$3.79	\$3.47	\$133.74	\$9.80	\$8.77	\$30.00
1998	(Beginning Oct. 1 1997)	\$70.0		\$70.0	\$10.23	\$5.62	\$4.61	\$173.76	\$10.21	\$8.77	\$30.00
1999	(Beginning Oct. 1 1998)	\$70.0		\$70.0	\$12.63	\$7.42	\$5.21	\$215.75	\$10.65	\$8.77	\$30.00
2000	(Beginning Oct. 1 1999)	\$70.0		\$70.0	\$15.68	\$9.21	\$6.47	\$260.33	\$11.10	\$8.77	\$30.00
2001	(Beginning Oct. 1 2000)	\$70.0		\$70.0	\$19.04	\$11.23	\$7.81	\$337.79	\$11.58	\$8.77	
2002	(Beginning Oct. 1 2001)	\$70.0		\$70.0	\$24.91	\$14.78	\$10.13	\$420.61	\$12.09	\$8.77	
2003	(Beginning Oct. 1 2002)				\$31.08	\$18.46	\$12.62	\$439.07	\$12.62	\$8.77	
2004	(Beginning Oct. 1 2003)				\$32.45	\$19.28	\$13.17	\$458.35	\$13.17	\$8.77	
2005	(Beginning Oct. 1 2004)				\$33.87	\$20.12	\$13.75	\$478.47	\$13.75	\$8.77	
2006	(Beginning Oct. 1 2005)				\$35.36	\$21.00	\$14.35	\$499.48	\$14.35	\$8.77	

RESTRICTED-PURPOSE ENDOWMENTS. A number of proposals for single-purpose endowments have been received. The few paragraphs below outline the different proposals, and then outline the assumptions concerning governing board, schedule of spending, and amount of money required.

[Aside for Mark and Alex. A few of these I think should be eliminated, but I am including them for your review in case I'm wrong.]

- **Research and Monitoring Endowment.** One proposal is to establish the *Exxon Valdez Marine Sciences Endowment* dedicated to long-term baseline marine research. The need for monitoring the status of spill-affected ecosystems will go on for a long time, perhaps forever. According to one proposal, "Given the infant status of restoration ecology, continual assessment of our efforts to restore Prince William sound and other areas is essential. Even if the cumulative wisdom gained by establishing a research endowment consists of no more than learning how nature heals itself, that knowledge will be unprecedented and priceless."⁷

Many groups are conducting important scientific research in Alaskan marine environments. Public and private universities, non-profit scientific groups, state and federal agencies, and individuals are all conducting research. Some of this research is funded from settlement monies, other from outside sources. A research endowment provides an opportunity to coordinate the long-term research into marine oil-spill affected environment. It provides a constant funding source and a single coordinating location to ensure that the range of basic research questions are addressed.

[Aside for Mark & Alex, this one (above) I assume we should keep.]

- **Habitat Acquisition Endowment.** One of the most important and controversial issues surrounding the use of settlement funds is the purchase of private land (or interest in private land) for habitat protection and public use. Negotiating land purchases through difficult state and federal acquisition laws and regulations may be a multi-year project for any one purchase. Earmarking significant funds for the purchase of interest in land will have the effect of insuring that land purchase monies are not eaten up through funding of pressing annual restoration needs. In addition, some landowners may see advantages in purchases paid for by an annual payment stretching over years rather than by a single lump-sum.

This concept could be used either to accelerate or delay purchases. For example, because all of the settlement funds will not be available until 2001, and because of the spending needs of today, there is not a great amount of money available for land purchase. If, however, we use today's funds as a down payment, and allocate the annual interest payments from an endowment to a purchase, then a Lands Endowment could be used to accelerate land purchases. If an endowment means that rather than spend funds today, we have only the interest on those funds to spend on land purchase, then an endowment would have the effect of delaying land purchases.

A habitat acquisition endowment may not have a perpetual life. This type of endowment may

⁷ Proposed Restoration Option; *Exxon Valdez Marine Sciences Endowment*; State Senator Arliss Sturgulewski; August 24, 1992; page 3.

sunset as purchases use up the funds set-aside.

[The one above, is probably not worth it. The two below I think should be eliminated.]

- **Fisheries Endowment.** Proposals have been received to establish an endowment to fund the long-term research needs of the commercial and sport-fishing industry in Prince William Sound or of the spill-affected area. These proposals typically cite the continuing needs of research into the interaction between hatcheries and wild-stock fishery, and the need to differentiate the fishing pressure to preserve and protect the wild stocks will still maintaining a high level of commercial and sport fishing.
- **Recreation Endowment.** Outdoor recreation in Prince William Sound the other parts of the oil spill area was severely affected by the oil spill, but in outlying area as well. This broad impact is due to displacement from the worst affected areas, and new use patterns that have developed in marginally affected and unaffected areas stemming from cleanup activities themselves.

The needs of recreation management will undoubtedly continue to grow in the oil-affected areas as Prince William Sound and other areas continue to grown in national recognition. At the same time, state and federal funding for recreation management is declining. Establishing a small endowment specific to the recreation needs of the oil spill area would help ensure that restoration activities result in a high level of quality recreation in part or all of the spill area.

Governing Board & Endowment Life. These proposals could have either a distinct governing board or have spending decisions made by the Trustees. It depends on how much their purposes is constrained by their charter. These proposals assume a perpetual life to their endowment.

Pattern of Spending. We have assumed that once established, the endowment should produce a steady flow of spending; that is, the same (in real terms) year after year.

Amount of Money. *[Mark & Alex, I am unsure how to decide how much money needs to be in these proposals. Spreadsheet #6 shows the relationship between the total amount of principal needed and the annual output of the endowment.]*

Spreadsheet #6. Summary, Single-purpose Endowments

Summary, Single-purpose Endowments

Fiscal Year	\$50.0		\$100.0		\$150.0		\$200.0	
	Deposits (Nominal)	Spending (1993 \$)	Deposits (Nominal)	Spending (1993 \$)	Deposits (Nominal)	Spending (1993 \$)	Deposits (Nominal)	Spending (1993 \$)
1993								
1994	\$25.0	\$0.00	\$50.0	\$0.00	\$75.0	\$0.00	\$75.0	\$0.00
1995	\$12.5	\$0.87	\$25.0	\$1.74	\$37.5	\$2.60	\$25.0	\$2.60
1996	\$12.5	\$1.29	\$25.0	\$2.57	\$37.5	\$3.86	\$25.0	\$3.44
1997	\$0.0	\$1.69	\$0.0	\$3.37	\$0.0	\$5.06	\$25.0	\$4.24
1998	\$0.0	\$1.61	\$0.0	\$3.22	\$0.0	\$4.84	\$25.0	\$4.79
1999	\$0.0	\$1.40	\$0.0	\$2.80	\$0.0	\$4.20	\$25.0	\$4.78
2000	\$0.0	\$1.40	\$0.0	\$2.80	\$0.0	\$4.20	\$0.0	\$5.37
2001	\$0.0	\$1.40	\$0.0	\$2.80	\$0.0	\$4.20	\$0.0	\$5.37
2002	\$0.0	\$1.40	\$0.0	\$2.80	\$0.0	\$4.20	\$0.0	\$5.37
2003	\$0.0	\$1.40	\$0.0	\$2.80	\$0.0	\$4.20	\$0.0	\$5.37
2004	\$0.0	\$1.40	\$0.0	\$2.80	\$0.0	\$4.20	\$0.0	\$5.37
2005	\$0.0	\$1.40	\$0.0	\$2.80	\$0.0	\$4.20	\$0.0	\$5.37
2006	\$0.0	\$1.40	\$0.0	\$2.80	\$0.0	\$4.20	\$0.0	\$5.37

FACILITY AND SINGLE-PURPOSE ENDOWMENTS. A number of single-purpose endowments are also possible, such as endowing a marine sciences center, or single or multiple visitor-centers. For example, if a facility was built from today's restoration funds, operation and maintenance might be funded from a targeted endowment. This type of endowment is similar to many university endowment in which a donor endows a professor position.

The difference between the single-purpose and restricted-purpose endowments, is that the purposes of the former are tightly circumscribed so that the remaining decisions involve only a low level of public policy questions. The restricted-purpose endowments are less tightly circumscribed and require some level of policy decisions involving significant public issues.

Operation of a single-purpose endowment (for example, an endowment for the construction, operation, and maintenance of a visitor's or research center) involves few public policy issues.

[Mark and Alex: The way to figure out what level of endowment of this sort to offer the public is to see how much money a facility like this needs. The table needed to display the financial information is the same as Spreadsheet #6.]