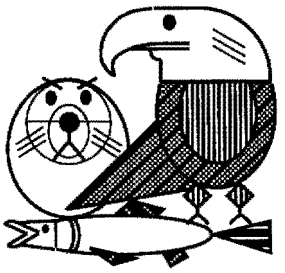
13.08.01 November 1994

13.08.01 - Reading File

November 1994

Exxon Valdez Oil Spill Trustee Council
Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



MEMORANDUM

TO: Kim Sundberg
Leif Selkregg

FROM: Molly McCammon, Director of Operations

DATE: November 30, 1994

SUBJ: IMS Research Infrastructure Project

I would like to once again thank each of you (as well as Nancy Swanton) for the outstanding work and support you have provided in bringing forward the IMS research infrastructure improvements project. As you know better than anyone, this has been an enormously challenging and difficult exercise.

With the action taken by the Trustee Council on November 2, 1994, we are now in a position to move forward with this project (a copy of the signed resolution is attached). As you know, the Trustee Council authorization for the project was qualified by several very specific conditions. In particular, four of these conditions will require that written documentation be prepared for the purpose of formal review and approval by the Executive Director prior to release of civil settlement funds. These approvals include:

- **approval by the Executive Director of detailed construction and operating budgets and plans** that reflect a realistic cash flow and cost estimates for the successful construction and operation of the research facility;

- **approval by the Executive Director of an agreement between the State of Alaska and the City of Seward** providing that the facility will be owned by the City and that the City will provide for the operation and maintenance of the facility for the practical life of the facility;

- **approval by the Executive Director of a showing by the City of Seward that future mitigation measures will be given due consideration** and implemented to the extent practicable; and

- **approval by the Executive Director of a detailed governing and management structure for the facility** that clearly identifies the role of the University of Alaska in providing the scientific leadership at the facility and that ensures the facility is managed so that research activities appropriately serve the Trustee Council's restoration mission.

As during the development of the project description, I will be looking to you both to provide the primary support in working with the various affected parties to develop the necessary documentation that will be required to support an Executive Director's findings regarding each of these specific matters.

I would like to discuss this effort with you further to identify what steps need to be taken, by whom, and when. I would appreciate it if you would please contact me or Eric Myers (278-8012) to arrange an appropriate meeting time.

cc: James R. Ayers
Nancy Swanton

enclosure

RESOLUTION
of the
Exxon Valdez Oil Spill Trustee Council

Research Infrastructure Improvements
affiliated with the
School of Fisheries and Ocean Sciences
Institute of Marine Science
in Seward, Alaska

WHEREAS, on January 31, 1994 the Trustee Council directed the Executive Director to prepare a formal recommendation concerning the proposed research infrastructure improvements affiliated with the Institute of Marine Science in Seward (hereafter, "the facility") and specifically indicated that the Executive Director should:

- take needed steps to secure compliance under the National Environmental Policy Act (NEPA);
- consult with appropriate entities, including the University of Alaska, the City of Seward, the Seward Association for the Advancement of Marine Science and Trustee Agencies to review the assumptions relating to the proposed improvements and capital and operating budgets;
- develop an integrated funding approach which assures that the use of trust funds is appropriate and legally permissible under the terms of the Memorandum of Agreement and Consent Decree; and
- prepare a recommendation of the appropriate level of funding for consideration by the Trustee Council that would be legally permissible under terms of the Memorandum of Agreement and Consent Decree; and

WHEREAS, since that time, the Trustee Council has been provided with detailed briefings and informational updates that address the issues identified in its January 31, 1994 directive to the Executive Director; and

WHEREAS, a detailed *Project Description and Supplemental Materials* document dated September 26, 1994 has been prepared (hereafter *Project Description*), the proposed project has been subjected to a full Environmental

Impact Statement (EIS) review under NEPA, and on behalf of the Trustee Council, the Department of the Interior has adopted a Record of Decision (ROD) for the EIS which has been concurred in by the federal trustee department and each of the State Trustees; and

WHEREAS, the *Executive Director's Recommendation and Findings Regarding Infrastructure Improvements Affiliated with the Institute of Marine Science in Seward, Alaska* has been prepared; and

WHEREAS, the Executive Director has reviewed the *Project Description* and, together with the Chief Scientist, finds that:

- the proposed facility improvements would provide needed research infrastructure for conducting long-term marine mammal, seabird, and fishery genetics research pertaining to species identified as injured by the oil spill in order to effectively restore those injured resources and that the facility has been designed to allow for adaptation to future restoration research needs;

- the capabilities of other coastal research facilities in Alaska have been assessed and that there are no existing facilities in Alaska to adequately address the identified and anticipated restoration research needs;

- the proposed research facility will make an important contribution to implementation of the ecosystem approach to restoration and that the facility would play a vital role in making it possible to understand the ecosystem relationships that may influence or control the recovery of injured resources;

- investment of settlement funds in the proposed research infrastructure would provide a needed facility for the Trustee Council restoration mission in a cost-efficient manner reflecting a reasonable balance between costs and benefits; and

WHEREAS, the Trustee Council's Public Advisory Group (PAG) has reviewed the *Project Description* and formally expressed its support for the facility at its October 13, 1994 meeting; and

WHEREAS, the Executive Director finds that a realistic construction plan for the proposed facility has been developed that will provide for the successful completion of the needed research facility within the budget identified (a copy of the capital budget from the *Project Description* is provided as an attachment);

THEREFORE BE IT RESOLVED, that the Trustee Council hereby concurs with and adopts the findings of the Executive Director and authorizes funding for

the project in an amount up to $24,956,000 to support development of the research components of the facility subject to the following provisions:

1. approval by the Executive Director of a detailed construction budget and a detailed operating plan that reflects a realistic cash flow for the successful construction and operation of the research facility;

2. approval by the Executive Director of an agreement to be entered into by the State of Alaska (Alaska Department of Fish and Game) and the City of Seward providing that the facility will be owned by the City and that the City will provide for the operation and maintenance of the facility for the practical life of the facility;

3. approval by the Executive Director of a showing by the City of Seward that future mitigation measures identified for the construction and operation of the facility will be given due consideration and implemented to the extent practicable;

4. approval by the Executive Director of a detailed governing and management structure for the facility that clearly identifies the role of the University of Alaska in providing the scientific leadership at the facility and ensures the facility is managed so that research activities appropriately serve the Trustee Council's restoration mission; and

5. annual financial reports and project status reports will be submitted to the Trustee Council by the City of Seward and the Executive Director will carefully monitor the construction of the facility and provide regular updates to the Trustee Council regarding the project's progress.

AND BE IT FURTHER RESOLVED, that it is the intent of the Trustee Council that funds for the project be transferred from the civil settlement to the Alaska Department of Fish and Game which shall, in turn, transfer capital funds to the City of Seward in a manner that is appropriate and timely to supplement the project funding previously appropriated by the Alaska State Legislature. Subject to the provisions identified above, the Alaska Department of Law and the Assistant Attorney General for the Environment and Natural Resources Division of the U.S. Department of Justice are hereby requested to petition the United States District Court for the District of Alaska for withdrawals in an amount of $12,500,000 on September 15, 1995 and an additional withdrawal of $12,456,000 on September 15, 1996 in accordance with the funding approvals contained herein.

AND BE IT FURTHER RESOLVED, that in authorizing funding for this project, the Trustee Council adopts the following policy: Consistent with this facility's unique capabilities for marine mammal, seabird and fishery genetics research, it is the policy of the Trustee Council to concentrate its EVOS-

funded laboratory research projects and resources at the IMS facility to the maximum extent practicable. Approval of individual laboratory research projects, including the facilities at which they will be located, will be based on the resources required for that project and its cost-effectiveness, including the cost-savings available to the Trustee Council at the IMS facility as a result of this capital investment.

Phil Janik, Regional Forester
Alaska Region
USDA - Forest Service

for Bruce Botelho, Attorney General
State of Alaska

George T. Frampton, Jr., Assistant Secretary
for Fish and Wildlife and Parks
U.S. Department of the Interior

John A. Sandor, Commissioner
Alaska Department of
Environmental Conservation

Steve Pennoyer, Director
Alaska Region
National Marine Fisheries Service

Carl L. Rosier, Commissioner
Alaska Department of Fish & Game

adopted November 2, 1994

Capital Budget

	CONSTR. COST	DESIGN 15%	PA/PM 10%	CONT. 10%	EIS/PLAN 2%	TOTAL
RESEARCH COMPONENT						
1. MAIN BUILDING	$9,815,000	$1,472,000	$981,000	$981,000	$196,000	$13,445,000
2. HABITAT	$8,204,000	$1,230,000	$820,000	$820,000	$164,000	$11,238,000
3. LIFE SUPPORT	$4,108,000	$616,000	$411,000	$411,000	$82,000	$5,628,000
4. SITE DEVELOPMENT	$2,319,000	$348,000	$232,000	$232,000	$47,000	$3,178,000
5. FF & EQUIPMENT	$2,560,000	$384,000	$256,000	$256,000	$51,000	$3,507,000
Subtotal	$27,006,000	$4,050,000	$2,700,000	$2,700,000	$540,000	$36,996,000
EDUCATION COMPONENT						
1. MAIN BUILDING	$5,713,000	$857,000	$571,000	$571,000	$114,000	$7,826,000
2. HABITAT	$1,017,000	$153,000	$102,000	$102,000	$20,000	$1,394,000
3. LIFE SUPPORT	$175,000	$26,000	$18,000	$18,000	$4,000	$241,000
4. SITE DEVELOPMENT	$420,000	$63,000	$42,000	$42,000	$8,000	$575,000
5. FF & EQUIPMENT	$309,000	$47,000	$31,000	$31,000	$6,000	$424,000
Subtotal	$7,634,000	$1,146,000	$764,000	$764,000	$152,000	$10,460,000
TOTAL PROJECT						
1. MAIN BUILDING	$15,528,000	$2,329,000	$1,553,000	$1,553,000	$310,000	$21,273,000
2. HABITAT	$9,221,000	$1,383,000	$922,000	$922,000	$184,000	$12,632,000
3. LIFE SUPPORT	$4,283,000	$643,000	$428,000	$428,000	$86,000	$5,868,000
4. SITE DEVELOPMENT	$2,739,000	$411,000	$274,000	$274,000	$55,000	$3,753,000
5. FF & EQUIPMENT	$2,869,000	$430,000	$287,000	$287,000	$57,000	$3,930,000
Total	$34,640,000	$5,196,000	$3,464,000	$3,464,000	$692,000	$47,456,000

Exxon Valdez Oil Spill Trustee Council

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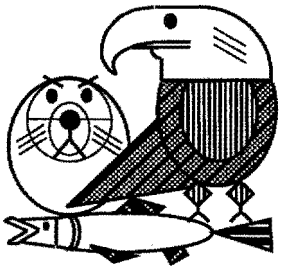

MEMORANDUM

To: Restoration Work Force

From: Molly McCammon
Director of Operations

Date: November 30, 1994

Subj: November 30 RWF Meeting

The weekly RWF meeting will be today, November 30, at 9:00 a.m. The Juneau location will be the NOAA conference room. The Anchorage location will be the Simpson Building 4th floor conference room. Items to be discussed will include:

- Preparation for the December 2 Trustee Council meeting in Juneau
- Update on miscellaneous issues

Attachment

mm/raw

Exxon Valdez Oil Spill Trustee Council

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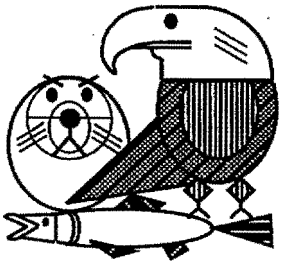

FAX COVER SHEET

To: Restoration Work Force

From: Molly McCammon Date: 11-30-94

Comments: Total Pages: 2

Pls forward to the individual in your ofc listed below. Thank You.

RESTORATION WORK FORCE MEMBERS INCLUDE:

Bartels, Leslie
Berg, Catherine
Brodersen, Mark
Bruce, David
Fries, Carol
Gibbons, Dave
Gilbert, Veronica
Loeffler, Bob
McCammon, Molly
Montague, Jerome
Morris, Byron
Myers, Eric
Rabinowitch, Sandy
Spies, Bob
Sullivan, Joe
Thompson, Ray
Wright, Bruce

Document Sent By: Rebecca

9/9/94

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*** MULTI TRANSACTION REPORT ***
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TX/RX NO. 4261

INCOMPLETE TX/RX

TRANSACTION OK	[09] 19075867589	J.AYERS
	[10] 19075867555	D.GIBBONS
	[11] 19074655375	M.BRODERSEN
	[12] 19074654759	J.MONTAGUE
	[13] 19077896608	MORRIS-WRIGHT
	[14] 2572510	S.RABINOWITCH
	[15] 5624871	C.FRIES
	[17] 2713992	R.THOMPSON
	[18] 5223148	J.SULLIVAN
	[19] 7863636	L.BARTELS
	[20] 7863350	C.BERG
	[35] 15103737834	B.SPIES
	[38] 2715827	G.BELT

ERROR

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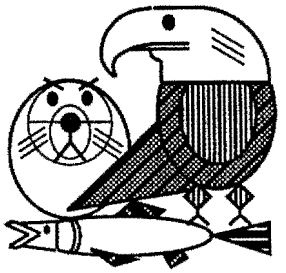

MEMORANDUM

TO: Agency Liaisons

CC: James Ayers, Executive Director

FROM: Molly McCammon
Director of Operations

DATE: November 29, 1994

SUBJ: **1995 Science Workshop**

This memo is to alert you that the 1995 Science Workshop is confirmed to take place January 17 – 20, 1995, at the Anchorage Sheraton Hotel. Attached is a flyer with information about the workshop. Please circulate the flyer to Principal Investigators and other interested staff so they know the dates and location of the workshop. Please also remind PI's that their attendance is required. The planning committee is still working out the details of the workshop and the program. Please ask your PIs to be prepared for the possibility that they might be asked to make a very short (5 - 10 minutes) presentation about recent results.

The planning committee will be distributing more information in the near future. Any participants who wish to make hotel reservations should be sure to mention the EVOS Trustee Council Science Workshop in order to receive the conference discount rate for their lodging.

The next meeting of the Science Workshop Planning Committee will be next Tuesday, December 6, at 1:30 PM. The Anchorage location will be the fourth floor conference room, 645 G Street. Please call Rebecca Williams at 278-8012 if you plan on participating by teleconference.

MEMORANDUM

Exxon Valdez Oil Spill Trustee Council
Restoration Office
645 G St, Anchorage, Alaska 99501

To: Agency Liaisons

Andy Gunther	510-373-7834
Judy Bittner	762-2628
Jim Bodkin	786-3636
Kathy Frost	452-6410
Dave Irons	786-3641
Joe Sullivan	522-3148
Bruce Wright	789-6608
Alex Wertheimer	789-6608

Date: November 23, 1994

From: Molly McCammon

Subj: **Science Workshop Planning Meeting**

Please plan on participating in a meeting at 9:00 AM on Tuesday, November 29 to continue planning the January Science Workshop. Andy Gunther has revised the agenda for the workshop based on our earlier discussions; a copy is attached.

The Anchorage meeting site is the 4th floor conference room of the Simpson Building. Please contact Rebecca Williams at 278-8012 if you plan to participate via teleconference.

Exxon Valdez Oil Spill Trustee Council

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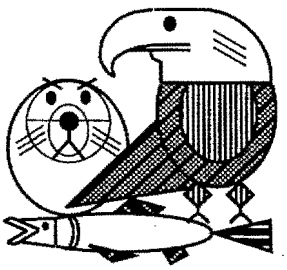

MEMORANDUM

TO: Robert G. Poe, Jr.
Director, Division of Information &
Administrative Services
Alaska Department of Environmental Conservation

FROM: Molly McCammon
Director of Operations

DATE: November 23, 1994

SUBJ: **Public Meeting Expenditures**

The Executive Director of the *Exxon Valdez* Trustee Council has requested that refreshments be provided for an upcoming three-day science workshop, beginning January 17, 1995. There are activities planned to take place during lunch time, and our intent is to encourage attendees to stay at the meetings and participate. These meetings are long and arduous and refreshments benefit the process. This memo is a request for prior approval to purchase the requested items, as per AAM 35.150.

cc: David Bruce

Robert G. Poe, Jr. _____ Date_____
Approved

Exxon Valdez Oil Spill Trustee Council
Restoration Office
645 "G" Street, Anchorage, AK 99501
Phone: (907) 278-8012 Fax: (907) 276-7178

MEMORANDUM

TO: Paul Eade, Regional Management & Budget Officer
National Marine Fisheries Services

FROM: James R. Ayers
Executive Director

DATE: November 22, 1994

RE: Juneau Federal Building Space Requirements

As we discussed, the EVOS Trustee Council has determined that our office space (located at Room 859A) needs to be reconstructed.

I have attached a drawing (not to scale) of our space requirements and reconstruction needs. The changes are:

- Expand my office to align with the existing wall enclosing FHWA's office; and add a window.

- Add walls around Traci Cramer's area; and also add a window.

- Add an extra workstation. We would only need another partition added for this space.

If you have any questions, please do not hesitate to call me.

mir

Reception Area

Extra Workstation

Postage Meter

Copier

Mary's Desk

Fax Machine

Mary's Computer

Tracy's Area

Add window

Laserjet Printer

Add window

Move Jim's office out

THWA's Space

Exxon Valdez Oil Spill Trustee Council

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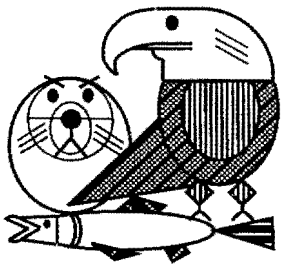

November 29, 1994

Donna J. Platt
P.O. Box 1604
Cordova, AK 99574

Dear Ms. Platt:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

The PAG is an advisory body to the Trustee Council and, as such, its members serve at the discretion of the Trustee Council. The Trustee Council will soon be taking up the membership of the PAG for the 1994-1996 term. We appreciate your interest and your patience as we work through this process.

If you have any questions about the appointment process or about restoration activities in general, you may reach me at (907)278-8012.

Sincerely,

Molly McCammon
Director of Operations

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178

November 29, 1994

Karin Holser
HC33, Box 3177K
Wasilla, AK 99654

Dear Ms. Holser:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

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Sincerely,

Molly McCammon
Director of Operations

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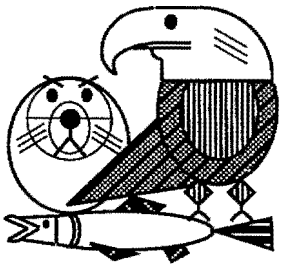

November 29, 1994

Ruth D. Wood
P.O. Box 100466
Anchorage, AK 99510

Dear Ms. Wood:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

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Sincerely,

Molly McCammon
Director of Operations

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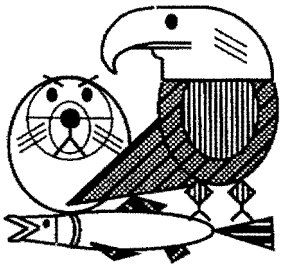

November 29, 1994

Lew M. Williams, Jr.
755 Grant Street
Ketchikan, AK 99901

Dear Mr. Williams:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

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Sincerely,

Molly McCammon
Director of Operations

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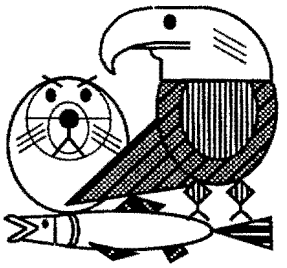

November 29, 1994

Charles K. Weaverling
Box 895
Cordova, AK 99574

Dear Mr. Weaverling:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

The PAG is an advisory body to the Trustee Council and, as such, its members serve at the discretion of the Trustee Council. The Trustee Council will soon be taking up the membership of the PAG for the 1994-1996 term. We appreciate your interest and your patience as we work through this process.

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Sincerely,

Molly McCammon
Director of Operations

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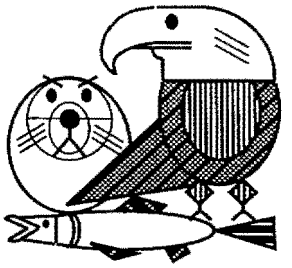

November 29, 1994

Vern McCorkle
8817 Arlene Street
Anchorage, AK 99502

Dear Mr. McCorkle:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

The PAG is an advisory body to the Trustee Council and, as such, its members serve at the discretion of the Trustee Council. The Trustee Council will soon be taking up the membership of the PAG for the 1994-1996 term. We appreciate your interest and your patience as we work through this process.

If you have any questions about the appointment process or about restoration activities in general, you may reach me at (907)278-8012.

Sincerely,

Molly McCammon
Director of Operations

Exxon Valdez Oil Spill Trustee Council

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Phone: (907) 278-8012 Fax: (907) 276-7178

November 29, 1994

Dennis J. McCarthy
5614 Doughboy Loop
Fort Dix, NJ 08640

Dear Mr. McCarthy:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

The PAG is an advisory body to the Trustee Council and, as such, its members serve at the discretion of the Trustee Council. The Trustee Council will soon be taking up the membership of the PAG for the 1994-1996 term. We appreciate your interest and your patience as we work through this process.

If you have any questions about the appointment process or about restoration activities in general, you may reach me at (907)278-8012.

Sincerely,

Molly McCammon
Director of Operations

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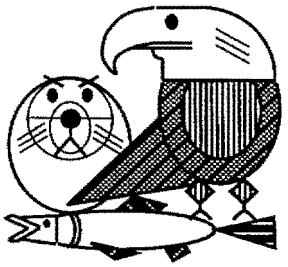

November 29, 1994

Mary L. McBurney
1919 Spenard Road
Anchorage, AK 99503

Dear Ms. McBurney:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

The PAG is an advisory body to the Trustee Council and, as such, its members serve at the discretion of the Trustee Council. The Trustee Council will soon be taking up the membership of the PAG for the 1994-1996 term. We appreciate your interest and your patience as we work through this process.

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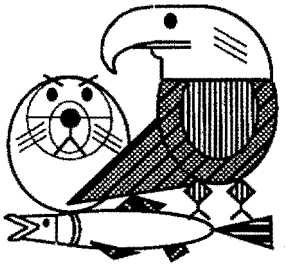
Sincerely,

Molly McCammon
Director of Operations

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



November 29, 1994

Brenda L. Schwantes
Kodiak Area Native Association
402 Center Avenue
Kodiak, AK 99615

Dear Ms. Schwantes:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

The PAG is an advisory body to the Trustee Council and, as such, its members serve at the discretion of the Trustee Council. The Trustee Council will soon be taking up the membership of the PAG for the 1994-1996 term. We appreciate your interest and your patience as we work through this process.

If you have any questions about the appointment process or about restoration activities in general, you may reach me at (907)278-8012.

Sincerely,

Molly McCammon
Director of Operations

Exxon Valdez Oil Spill Trustee Council

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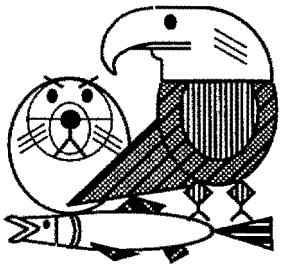

November 29, 1994

Rupert Andrews
9416 Long Run Drive
Juneau, AK 99801

Dear Mr. Andrews:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

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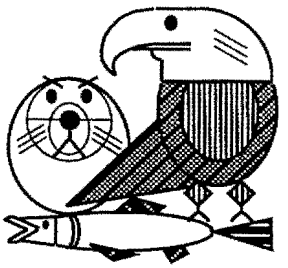

November 29, 1994

John S. French, Ph.D.
Fishery Industrial Technology Center
900 Trident Way
Kodiak, AK 99615

Dear Mr. French:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

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Molly McCammon
Director of Operations

Exxon Valdez Oil Spill Trustee Council

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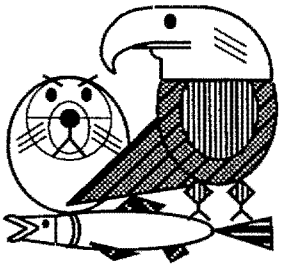

November 29, 1994

James A. Diehl
Box 868
Girdwood, AK 99587

Dear Mr. Diehl:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

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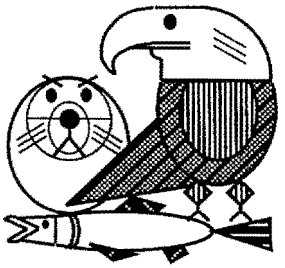

November 29, 1994

Christopher Beck
1847 Sunrise Drive
Anchorage, AK 99508

Dear Mr. Beck:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

The PAG is an advisory body to the Trustee Council and, as such, its members serve at the discretion of the Trustee Council. The Trustee Council will soon be taking up the membership of the PAG for the 1994-1996 term. We appreciate your interest and your patience as we work through this process.

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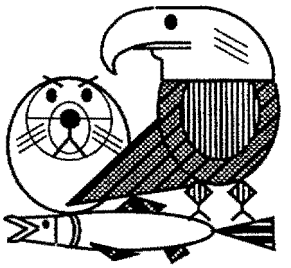

November 29, 1994

Charles W. Totemoff, President & CEO
Chenega Corporation
3333 Denali Street, Suite 220-H
Anchorage, AK 99503

Dear Mr. Totemoff:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

The PAG is an advisory body to the Trustee Council and, as such, its members serve at the discretion of the Trustee Council. The Trustee Council will soon be taking up the membership of the PAG for the 1994-1996 term. We appreciate your interest and your patience as we work through this process.

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Director of Operations

Exxon Valdez Oil Spill Trustee Council

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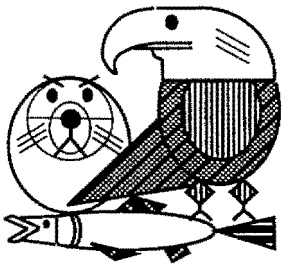

November 29, 1994

Donna M. Fischer, Council Member
City of Valdez
P.O. Box 395
Valdez, AK 99686

Dear Ms. Fischer:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

The PAG is an advisory body to the Trustee Council and, as such, its members serve at the discretion of the Trustee Council. The Trustee Council will soon be taking up the membership of the PAG for the 1994-1996 term. We appreciate your interest and your patience as we work through this process.

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Sincerely,

Molly McCammon
Director of Operations

Exxon Valdez Oil Spill Trustee Council

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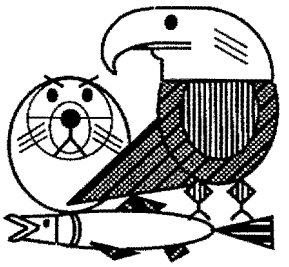

November 29, 1994

Dave Cobb, Council Member
City of Valdez
P.O. Box 307
Valdez, AK 99686

Dear Mr. Cobb:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

The PAG is an advisory body to the Trustee Council and, as such, its members serve at the discretion of the Trustee Council. The Trustee Council will soon be taking up the membership of the PAG for the 1994-1996 term. We appreciate your interest and your patience as we work through this process.

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Sincerely,

Molly McCammon
Director of Operations

Exxon Valdez Oil Spill Trustee Council

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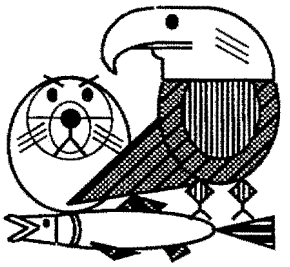

November 29, 1994

Pamela Brodie
Alaska Rainforest Coordinator
Sierra Club
241 East 5th Avenue, Suite 205
Anchorage, AK 99501

Dear Ms. Brodie:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

The PAG is an advisory body to the Trustee Council and, as such, its members serve at the discretion of the Trustee Council. The Trustee Council will soon be taking up the membership of the PAG for the 1994-1996 term. We appreciate your interest and your patience as we work through this process.

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Sincerely,

Molly McCammon
Director of Operations

Exxon Valdez Oil Spill Trustee Council

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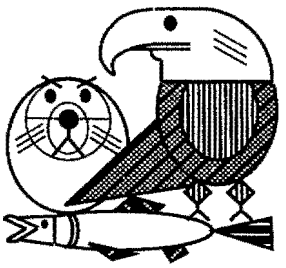

November 29, 1994

James G. King
1700 Branta Road
Juneau, AK 99801

Dear Mr. King:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

The PAG is an advisory body to the Trustee Council and, as such, its members serve at the discretion of the Trustee Council. The Trustee Council will soon be taking up the membership of the PAG for the 1994-1996 term. We appreciate your interest and your patience as we work through this process.

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Sincerely,

Molly McCammon
Director of Operations

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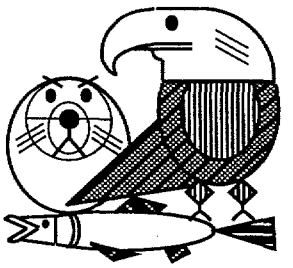

November 29, 1994

Chip Dennerlein, Regional Director
National Parks and Conservation Association
329 F Street, Suite 208
Anchorage, AK 99501

Dear Mr. Dennerlein:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

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Sincerely,

Molly McCammon
Director of Operations

Exxon Valdez Oil Spill Trustee Council

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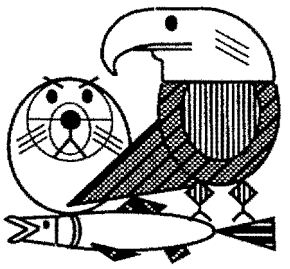

November 29, 1994

Thea M. Thomas
P.O. Box 1566
Cordova, AK 99574

Dear Ms. Thomas:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

The PAG is an advisory body to the Trustee Council and, as such, its members serve at the discretion of the Trustee Council. The Trustee Council will soon be taking up the membership of the PAG for the 1994-1996 term. We appreciate your interest and your patience as we work through this process.

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Sincerely,

Molly McCammon
Director of Operations

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178

November 29, 1994

Gordon J. Zerbetz
7311 Augustine Drive
Anchorage, AK 99504

Dear Mr. Zerbetz:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

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Molly McCammon
Director of Operations

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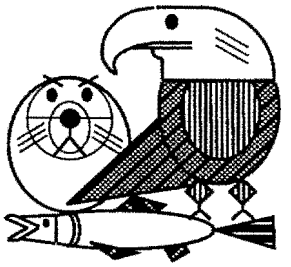

November 29, 1994

Nancy R. Lethcoe
Alaska Wilderness Recreation
& Tourism Association
P.O. Box 1353
Valdez, AK 99686

Dear Mrs. Lethcoe:

Thank you for your recent application to serve as a member of the *Exxon Valdez* Oil Spill Public Advisory Group (PAG).

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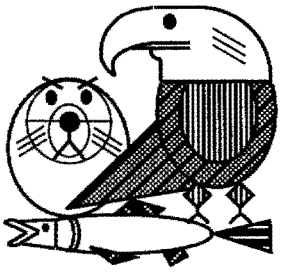

MEMORANDUM

To: Restoration Work Force

From: Molly McCammon
Director of Operations

Date: November 22, 1994

Subj: November 23 RWF Meeting

The weekly RWF meeting will be Wednesday, November 23, at 9:00 a.m. The Juneau location will be the Forest Service conference room. The Anchorage location will be the Simpson Building 4th floor conference room. Items to be discussed will include:

- Preparation for the December 2 Trustee Council meeting in Juneau
- Update on miscellaneous issues

Attachment

mm/raw

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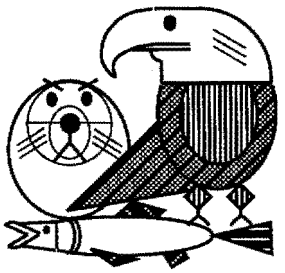

MEMORANDUM

TO: Craig Tillery, Assistant Attorney General

FROM: Molly McCammon, Director of Operations

DATE: November 22, 1994

SUBJ: Trustee Council Representation on SAAMS Board

The purpose of this memorandum is to ask for your counsel, from both a legal as well as policy perspective, regarding a matter involving operation of the IMS research facilities.

In order to ensure that Trustee Council interests are appropriately represented in decision making by the SAAMS Board as it pertains to the operation of the IMS research facilities, it has been suggested that a Trustee Council member or designee (possibly the Executive Director) serve on the SAAMS Board.

I would appreciate your thoughts on this suggestion. Do you see any legal problems with this idea (a potential for conflicts of interest)? I would appreciate hearing your thoughts regarding this matter as soon as possible.

cc: James R. Ayers

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178

November 16, 1994

The Honorable Mike Espy
Secretary of Agriculture
United State Department of Agriculture
14th Street & Independence Avenue SW
Administration Building - Room 200A
Washington DC 20250

Dear Secretary Espy:

I have been requested by the *Exxon Valdez* Trustee Council to forward the State of Alaska Natural Resource Trustees' concurrence with the Federal Trustees' Record of Decision for the *Exxon Valdez* Oil Spill Restoration Plan.

Sincerely,

James R. Ayers
Executive Director

cc: The Honorable Bruce Babbitt
Secretary of the Interior

The Honorable D. James Baker
Administrator of the National Oceanic
and Atmospheric Administration

Trustee Council Members

jra/raw

STATE OF ALASKA

WALTER J. HICKEL, GOVERNOR

DEPARTMENT OF LAW

OFFICE OF THE ATTORNEY GENERAL

P.O. BOX 110300 - DIMOND COURT HOUSE
JUNEAU, ALASKA 99811-0300
PHONE: (907) 465-3600
FAX: (907) 465-2075

The Honorable Bruce Babbitt
Secretary of the Interior

The Honorable Mike Espy
Secretary of Agriculture

The Honorable D. James Baker
Administrator of the National Oceanic
and Atmospheric Administration

Dear Messrs. Secretaries and Administrator:

The State of Alaska Natural Resource Trustees concur with the findings of the Federal Natural Resource Trustees as stated in the Record of Decision for the *Exxon Valdez* Oil Spill Restoration Plan. The Record of Decision adopts Alternative Five from the *Final Environmental Impact Statement for the* Exxon Valdez *Oil Spill Restoration Plan*. The comprehensive approach to restoration that is represented by Alternative Five is the most appropriate combination of restoration policies to meet the needs of the natural resources and services injured by the *Exxon Valdez* oil spill.

Sincerely,

Craig J. Tillery 11/2/94
for Bruce M. Botelho Date
Attorney General
State of Alaska

Carl L. Rosier 11/2/94
Carl L. Rosier Date
Commissioner
Alaska Department of
Fish & Game

John A. Sandor 11/2/94
John A. Sandor Date
Commissioner
Alaska Department of
Environmental Conservation

03-C32LH

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178

November 16, 1994

The Honorable Bruce Babbitt
Secretary of the Interior
United State Department of the Interior
1849 C Street NW (MS 6229-MIB)
Washington DC 20240

Dear Secretary Babbitt:

I have been requested by the *Exxon Valdez* Trustee Council to forward the State of Alaska Natural Resource Trustees' concurrence with the Federal Trustees' Record of Decision for the Institute of Marine Science Infrastructure Improvement Project at Seward, Alaska.

Sincerely,

James R. Ayers
Executive Director

cc: The Honorable Mike Espy
Secretary of Agriculture

The Honorable D. James Baker
Administrator of the National Oceanic
and Atmospheric Administration

Trustee Council Members

jra/raw

STATE OF ALASKA

DEPARTMENT OF LAW

OFFICE OF THE ATTORNEY GENERAL

WALTER J. HICKEL, GOVERNOR

PLEASE REPLY TO:

- *1031 WEST 4TH AVENUE, SUITE 200*
  ANCHORAGE, ALASKA 99501-1994
  PHONE: (907) 269-5100
  FAX: (907) 276-3697
- *KEY BANK BUILDING*
  100 CUSHMAN ST., SUITE 400
  FAIRBANKS, ALASKA 99701-4679
  PHONE: (907) 451-2811
  FAX: (907) 451-2846
- *P.O. BOX 110300-DIMOND COURT HOUSE*
  JUNEAU, ALASKA 99811-0300
  PHONE: (907) 465-3600
  FAX: (907) 465-6735

The Honorable Bruce Babbitt
Secretary of the Interior

The Honorable Mike Espy
Secretary of Agriculture

The Honorable D. James Baker
Administrator of the National Oceanic
and Atmospheric Administration

Dear Messrs. Secretaries and Administrator:

The State of Alaska Natural Resource Trustees concur with the findings of the Federal Natural Resource Trustees as stated in the Record of Decision for the proposed Institute of Marine Science Infrastructure Improvement Project at Seward, Alaska.

Sincerely,

Craig J. Tillery 11/2/94

for Bruce M. Botelho Date
Attorney General
State of Alaska

Carl L. Rosier 11/2/94

Carl L. Rosier Date
Commissioner
Alaska Department of
Fish & Game

Jan A. Sandor 11/2/94

John A. Sandor Date
Commissioner
Alaska Department of
Environmental Conservation

c:\wpdocs\cjt\babbitt.cjt

03-C5LH

Exxon Valdez Oil Spill Trustee Council

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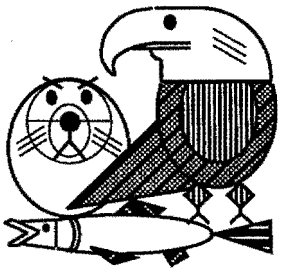


MEMORANDUM

To: Restoration Work Force

From: Molly McCammon
Director of Operations

Date: November 15, 1994

Subj: November 16 RWF Meeting

The weekly RWF meeting will be Wednesday, November 16, at 9:00 a.m. The Juneau location will be the Forest Service conference room. The Anchorage location will be the Simpson Building 4th floor conference room. Items to be discussed will include:

- Project 95320
- Run through projects left in hopper, including the Restoration Reserve
- December 2 Trustee Council meeting in Juneau (Draft Agenda attached)
- Update on miscellaneous issues

Attachment

mm/raw

AGENDA
EXXON VALDEZ OIL SPILL SETTLEMENT
TRUSTEE COUNCIL **11/15/94**
RECONVENED FROM NOVEMBER 3, 1994
DECEMBER 2, 1994 @ 8:30 A.M. -- JUNEAU 11:52 am
DRAFT

Trustee Council Members:

PHIL JANIK
Regional Forester
Alaska Region
U.S. Department of Agriculture-Forest Service

BRUCE BOTELHO/CRAIG TILLERY
Attorney General/Trustee
State of Alaska/Representative

GEORGE T. FRAMPTON, JR.
Assistant Secretary for Fish & Wildlife & Parks
U.S. Department of the Interior

STEVE PENNOYER
Director, Alaska Region
National Marine Fisheries Service

CARL L. ROSIER
Commissioner
Alaska Department of Fish & Game

JOHN A. SANDOR
Commissioner
Alaska Department of Environmental Conservation

Steve Pennoyer - Chair

1. Call to Order 8:30 a.m.
   - Approval of Agenda
   - Order of the Day
   - Approval of November 2, 1994 Meeting Notes

DRAFT

2. Executive Director's Report - Jim Ayers
   - Financial Report
   - Development of a Science Policy Outline
   - Habitat Protection & Acquisition
     - Small Parcel Process

Action Items:

3. Habitat Acquisition - Possible Executive Session
   - Chenega
   - Eyak
   - Tatitlek
   - Afognak
   - English Bay
   - Shuyak
   - Koniag

4. 1995 Work Plan

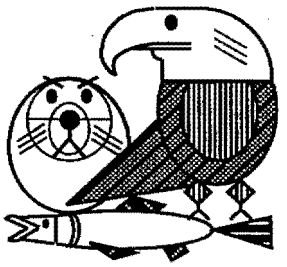
95080 - Fleming Spit Recreation Area Enhancement
95126 - Habitat Protection and Acquisition Support
95058 - Private Landowner
95141 - Afognak Island State Park Interim Support
95424 - Restoration Reserve

Adjourn

DRAFT

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



FAX COVER SHEET

To: Restoration Work Force

From: Molly McCammon Date: November 15

Comments: Total Pages: 4

P/S forward to the individual listed below.

RESTORATION WORK FORCE MEMBERS INCLUDE:

Bartels, Leslie
Berg, Catherine
Brodersen, Mark
Bruce, David
Fries, Carol
Gibbons, Dave
Gilbert, Veronica
Loeffler, Bob
McCammon, Molly
Montague, Jerome
Morris, Byron
Myers, Eric
Rabinowitch, Sandy
Spies, Bob
Sullivan, Joe
Thompson, Ray
Wright, Bruce

Document Sent By: _____

9/9/94

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*** MULTI TRANSACTION REPORT ***
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TX/RX NO. 3959

INCOMPLETE TX/RX

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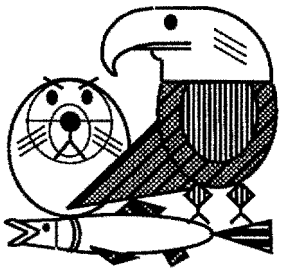
	[10] 19075867555	D.GIBBONS
	[11] 19074655375	M.BRODERSEN
	[12] 19074654759	J.MONTAGUE
	[13] 19077896608	MORRIS-WRIGHT
	[14] 2572510	S.RABINOWITCH
	[15] 5624871	C.FRIES
	[17] 2713992	R.THOMPSON
	[18] 5223148	J.SULLIVAN
	[19] 7863636	L.BARTELS
	[20] 7863350	C.BERG
	[35] 15103737834	B.SPIES
	[38] 2715827	G.BELT

ERROR

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



MEMORANDUM

To: Negotiators

From: Jim Ayers
Executive Director

Date: November 14, 1994

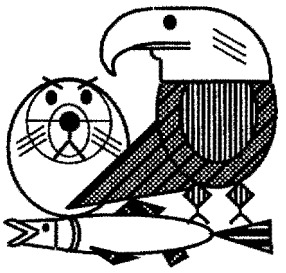
Subj: November 16 Negotiator's Meeting

There will be a Negotiator's meeting **Wednesday, November 16, at 10:30 a.m.** The Anchorage location will be the Simpson Building. Please contact Rebecca Williams for the Juneau location and to confirm your attendance.

jra/raw

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



Negotiator's Meeting
November 16, 1994
10:30 a.m.
Agenda

The following items will be discussed at today's meeting:

1) Maps

2) Restoration Benefits

3) Timeline

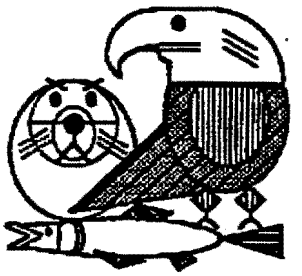
4) "Seal Bay like" Resolutions

- Afognak
- Eyak
- Tatitlek

jra/raw

Exxon Valdez Oil Spill Trustee Council

Executive Director's Office
709 West 9th Street, Room 859A
P.O. Box 20122
Juneau, AK 99802-0122
Phone: (907) 586-7238 Fax: (907) 586-7589



FAX COVER SHEET

Please deliver the following pages to:

TO:	Negotiators	FAX NUMBER:	
OFFICE:		DATE:	November 7, 1994
PHONE #:		TIME SENT:	1:41 pm

From: James R. Ayers
Executive Director

Distribution:	Fax #:		Fax #:
Dave Gibbons out	586-7555	Glenn Elison out	786-3640
JNU location – John Harmening	586-7843	Robert Putz	304-876-0739
Walt Sheridan	586-7840	Carol Fries	562-4871
Rich Goossens	586-7843	Alex Swiderski	278-7022
Maria Lisowski	586-7251	Barry Roth	202-208-3877
Charles Gilbert	257-2510	Dennis Lattery	561-5807
Sandy Rabinowitch	257-2510	Judy Robinson	561-5807

COMMENTS:

There will be a Negotiator's meeting Tuesday, November 8, at 10:30 a.m. The Anchorage location will be the Simpson Building. For the Juneau location, please call Mary Rivera at 586-7238.

Please call Rebecca Williams at 278-8012 to confirm your attendance.

Total Number of Pages (including this cover sheet): 1

Fax sent by: _____

If you do not receive all pages, please call: Mary Rivera at 586-7238.

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*** MULTI TRANSACTION REPORT ***
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TX/RX NO. 3930

INCOMPLETE TX/RX

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	[14] 2572510	S.RABINOWITCH
	[15] 5624871	C.FRIES
	[33] 19075867843	J.HARMENING
	[36] 2787022	ALEX-CRAIG
	5867840	
	5867843	
	5867251	
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	5615807	

ERROR

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*** ACTIVITY REPORT ***
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TRANSMISSION OK

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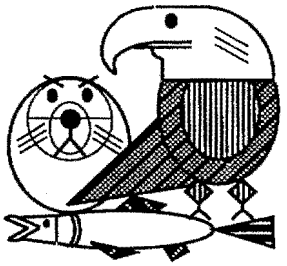
CONNECTION ID	M.BRODERSEN
START TIME	11/15 10:57
USAGE TIME	01'02
PAGES	3
RESULT	OK

Agenda & memo

Exxon Valdez Oil Spill Trustee Council
Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



FAX COVER SHEET

To: All Negotiators Number:

From: Jim Ayers Date: Nov. 15, 1994

Comments: Total Pages: 2

Pls forward to the individual in your ofc listed below.

Dave Gibbons	Glenn Elison
John Harmening	Robert Putz
Walt Sheridan	Carol Fries
Rich Goossens	Alex Swiderski
Maria Lisowski	Barry Roth
Chuck Gilbert	Dennis Lattery
Mark Bradersen	Judy Robinson

Document Sent By: Rebecca

9/9/94

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178

TO: Byron Morris
Dave Gibbons
Jerome Montague
Mark Brodersen

FROM: Eric Myers, Project Coordinator

DATE: November 14, 1994

SUBJ: DPDs for Authorized FY 95 Projects

Attached are two copies of a detailed project description (DPD) guidance packet as discussed at the most recent Work Force meeting.

If you have questions, please let me know.

enclosure

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178

November 10, 1994

Dear Concerned Citizen:

Thank you for your recent letter regarding the Trustee Council actions on habitat protection. Your comments have been forwarded to all the Trustee Council members.

As you know, the Trustee Council took action on November 2, 1994, to protect lands on Kodiak Island. The Trustees will meet again on December 2, in Juneau. The agenda will include discussions and possible acquisition of Tatitlek, Chenega, Afognak, English Bay, and Shuyak Island lands.

Thank you again for your continued interest in the *Exxon Valdez* Trustee Council actions. If you would like further information or details on this issue, or if you would like to be placed on the mailing list to receive our newsletter, please don't hesitate to call Ms. L.J. Evans at 1-800-478-7745 (within Alaska) or 1-800-283-7745 (outside Alaska).

Sincerely,

James R. Ayers
Executive Director

11/9 DONE

Keri -

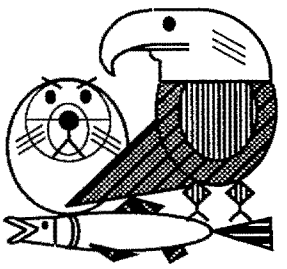
This letter needs to be copied and sent to each person who sent in a public comment on habitat protection. When you are ready, let me know and I'll show you where the comments are.

Thx R.

184 TOTAL LETTERS WENT OUT on 11/15 & 14 to individuals who sent in public comments on Hab Prot

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



TO: Agency Liaisons
Restoration Work Force

FROM: Molly McCammon, Director of Operations

DATE: November 10, 1994

SUBJ: Detailed Project Descriptions for Authorized FY 95 Projects

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The purpose of this memorandum is to:

1) provide you with a copy of the listing of FY 95 Work Plan projects as authorized by the Trustee Council at the November 2-3, 1994 meeting;

2) provide you with the enclosed material for distribution to Project Leaders to guide preparation of Detailed Project Descriptions (DPDs) and detailed budgets for FY 95 projects;

3) identify NEPA compliance documentation requirements; and

3) identify the timeline for peer review and final Executive Director approval of project DPDs and budgets.

The Trustee Council took action on the FY 95 Work Plan to authorize projects as shown in Attachment A. The Trustee Council conditioned authorization of individual projects upon the Executive Director's final approval following scientific/budget review, documentation of NEPA compliance, and consideration of project equipment needs in light of existing Trustee Council equipment inventory. Further, the Trustee Council specifically adopted a motion that authorized projects should proceed in a manner consistent with the conditions and recommendations made by the Chief Scientist as reflected in the various workshop memos (e.g., the sockeye program review, the genetics workshop, the Project 95320 review, etc.). **A complete set of the Chief Scientist review memos is provided as Attachment B.**

Prior to receipt of final approval, unless otherwise specifically provided, expenditures of funds authorized at the November 2-3 meeting are to be

limited to those costs associated with DPD/budget development and NEPA compliance efforts.

Detailed Project Descriptions

Guidance regarding the format and content of DPDs is provided in Attachment C. Unless otherwise indicated, lead agencies are responsible for the submission of a Detailed Project Description (DPD). Please provide: one copy of the DPD directly to Dr. Robert Spies/Chief Scientist (Applied Marine Science, 2155 Las Positas Court, Suite S, Livermore, California 94550); and two copies of the DPD to the Anchorage Restoration Office (attn: Eric Myers, Project Coordinator, 645 G Street, Suite 402, Anchorage, Alaska 99501). **DPDs should be submitted by Friday, December 9, 1995** (or sooner, if possible). Questions regarding DPDs should be directed to Eric Myers or Sandra Schubert in the Anchorage Restoration Office at 278-8012.

Project 95320/PWS System Investigation: With specific regard to Project 95320, the Chief Scientist has urged that a single DPD be prepared that integrates the various sub-parts of this project. Jerome Montague and Ted Cooney should work closely with Dr. Spies to ensure that the Project 95320 DPD is prepared in a manner that will be responsive to the needs of the peer review process.

Project Budget Information

A memorandum identifying outstanding project budget needs was distributed to the agency liaisons by Traci Cramer, Administrative Officer on November 7. This included a listing, shown in Attachment D, of projects that have been authorized by the Trustee Council for which budget detail is not available or is inconsistent with the amount authorized. Budget questions should be directed to Traci Cramer in the Executive Director's Office (907) 586-7238. Please provide: one hard copy of the budget to Traci Cramer (P.O. Box 20122, Juneau, Alaska 99802) as well as an electronic copy on diskette; and one copy of the budget to the Anchorage Restoration Office (attn: Eric Myers, Project Coordinator, 645 G Street, Suite 402, Anchorage, Alaska 99501).

Following submission of the detailed budgets, Traci Cramer will be coordinating the project budget reviews. Further information regarding that review process will be forthcoming under separate cover.

NEPA Compliance Documentation

Final approval of all projects will require the lead agency to provide *written* documentation regarding NEPA compliance. This includes a determination that a project qualifies for a Categorical Exclusion.

Timeline for DPD Preparation, Peer Review and Final Approval

Following receipt of DPDs (by December 9, 1994), the peer review process will take approximately 45 days with final Executive Director approval to follow thereafter. This schedule should allow for final approval of projects on or about February 1, 1995. If you are aware of a project that will require funding (other than for DPD preparation and/or NEPA compliance) prior to this time, please let me know in order to examine the potential for expedited review.

Attachment A — FY 95 Work Plan Projects (spreadsheet)
Attachment B — Chief Scientist Review memos
Attachment C — Guidelines for Preparing Detailed Project Descriptions (including a WordPerfect 5.1 DPD "shell" document)
Attachment D — List of Projects in Need of Further Budget Information

cc: James R. Ayers
Traci Cramer
Dr. Robert Spies
Dr. Ted Cooney

ATTACH(:NT A - DRAFT

1995 WORK PLAN -- AUTH JZED PROJECT FUNDING

NOTE: Funding totals ear at the top of each cluster.

Proj. No.	Title	Lead Agency	Interim Authorized 8/23/94	Remainder Authorized 11/3/94	**Total FY95 Authorization**	Conditions/Comments
PWS System Investigation			$1,077.4	$3,535.4	**$4,612.8**	***Funding subject to conditions in Chief Scientist's PWS System Investigation memo.***
95320A	Salmon Growth and Mortality	ADFG	$48.7	$219.1	**$267.8**	Sub-project of effort begun in FY94; extensive peer review of first year progress in October 1994.
95320E	Juvenile Salmon and Herring Integration	ADFG	$98.0	$845.1	**$943.1**	See 95320A.
95320G	Phytoplankton and Nutrients	ADFG	$88.5	$150.8	**$239.3**	See 95320A.
95320H	Role of Zooplankton in the PWS Ecosystem	ADFG	$51.9	$195.5	**$247.4**	See 95320A.
95320I	Isotope Tracers - Food Web Dependencies in PWS (Fish, Marine Mammals, and Birds)	ADFG	$0.0	$200.0	**$200.0**	Analysis and interpretation of stable isotope data will be consolidated in one lab to allow for consistent and less expensive analysis.
95320I(2)	Isotope Tracers - Food Webs of Fish	ADFG	$30.0	$0.0	**$30.0**	
95320J	Information Systems and Model Development	ADFG	$185.4	$650.8	**$836.2**	See 95320A.
95320K	PWSAC: Experimental Fry Release	ADFG	$0.0	$47.3	**$47.3**	See 95320A. EA was completed last year.
95320M	Observational Physical Oceanography in PWS and the Gulf of Alaska	ADFG	$138.7	$439.1	**$577.8**	See 95320A.
95320N	Nearshore Fish	ADFG	$413.1	$222.1	**$635.2**	See 95320A.
95320Q	Avian Predation on Herring Spawn	USFS	$23.1	$75.9	**$99.0**	See 95320A.
95320T	Juvenile Herring Growth and Habitat Partitioning	ADFG	$0.0	$340.3	**$340.3**	See 95320A. Includes development of herring stock structure model (in conjunction with 95166) as recommended by the Chief Scientist.
95320U	Somatic and Spawning Energetics of Herring/Pollock	ADFG	$0.0	$99.4	**$99.4**	See 95320A.
95320Y	Variation in Local Predation Rates on Hatchery-Released Fry	ADFG	$0.0	$50.0	**$50.0**	Budget reduced from original; will still allow primary objective to be met.
Other Pink Salmon Projects			$466.5	$1,637.9	**$2,104.4**	***Funding subject to conditions in Chief Scientist's pink salmon and genetics memos.***
95076	Effects of Oiled Incubation Substrate on Survival and Straying of Wild Pink Salmon	NOAA	$0.0	$179.9	**$179.9**	
95093	PWSAC: Restoration of Pink Salmon Resources and Services	ADFG	$0.0	$100.0	**$100.0**	Funding is for project planning and development under the guidance of the Chief Scientist. Includes funds for participation of PWSAC and the Native Village of Eyak Tribal Council, and NEPA work if necessary.

1995 WORK PLAN -- AUTHORIZED PROJECT FUNDING

NOTE: Funding total[illegible]ear at the top of each cluster.

Proj. No.	Title	Lead Agency	Interim Authorized 8/23/94	Remainder Authorized 11/3/94	**Total FY95 Authorization**	Conditions/Comments
95139A1	Carry-forward: Salmon Instream Habitat and Stock Restoration -- Little Waterfall Creek Barrier Bypass	ADFG	$90.0	$0.0	**$90.0**	
95191A	Investigating and Monitoring Oil Related Egg and Alevin Mortalities	ADFG	$68.4	$196.6	**$265.0**	On-going study effort extensively peer reviewed in prior years.
95191B	Injury to Salmon Eggs and Pre-emergent Fry Incubated in Oiled Gravel (Laboratory Study)	NOAA	$165.4	$165.6	**$331.0**	On-going study effort extensively peer reviewed in prior years.
95320B	PWS Pink Salmon Stock Identification and Monitoring (CWT)	ADFG	$84.3	$176.2	**$260.5**	In conjunction with 95320C, project assists ADF&G in transition to improved tool for managing injured species. Funding conditional on ADF&G developing plan to phase in full agency management by FY98.
95320C	Otolith Thermal Mass Marking of Hatchery Reared Pink Salmon in PWS	ADFG	$1.9	$649.1	**$651.0**	See 95320B. Funding conditional on plan to phase in full agency management by FY98.
95320D	PWS Pink Salmon Genetics	ADFG	$56.5	$170.5	**$227.0**	
Other Herring Projects			$387.4	$1,037.9	**$1,425.3**	***Funding subject to conditions in Chief Scientist's herring and genetics memos.***
95074	Herring Reproductive Impairment	NOAA	$148.8	$258.3	**$407.1**	
95165	PWS Herring Genetic Stock Identification	ADFG	$0.0	$105.4	**$105.4**	
95166	Herring Natal Habitats	ADFG	$238.6	$274.2	**$512.8**	Includes development of stock structure model in conjunction with 95320T.
95320S	Disease Impacts on PWS Herring Populations (competitive solicitation under State of Alaska two-step, RFQ-RFP process)	ADFG	$0.0	$400.0	**$400.0**	Cost is estimate only, as the actual scope of the project will be determined through the RFP process.
Sockeye Salmon Program			$944.1	$625.6	**$1,569.7**	***Funding subject to conditions in Chief Scientist's sockeye and genetics memos.***
95255	Kenai River Sockeye Restoration	ADFG	$372.4	$130.3	**$502.7**	Scope of project reduced to development of in-season management tool. ADF&G to develop sockeye restoration plan. If Kenai River runs return at normal rates, FY96 funding will be limited to sample analysis and final report preparation.
95258	Sockeye Salmon Overescapement (Kenai/ Kodiak)	ADFG	$485.1	$308.3	**$793.4**	Funding for smolt portion of project not included. Funding conditional on development of plan to phase in full agency management.

1995 WORK PLAN -- AUTH RIZED PROJECT FUNDING

NOTE: Funding total ear at the top of each cluster.

Proj. No.	Title	Lead Agency	Interim Authorized 8/23/94	Remainder Authorized 11/3/94	**Total FY95 Authorization**	Conditions/Comments
95259	Restoration of Coghill Lake Sockeye	ADFG	$86.6	$187.0	**$273.6**	Funding conditional on development of plan to phase in full agency management after FY97. Project scaled back to fertilization and monitoring only.
Marine Mammal Ecosystem and Research Projects			$114.7	$798.5	**$913.2**	
95001	Condition and Health of Harbor Seals	ADFG	$0.0	$172.8	**$172.8**	Project targets an injured resource of importance to subsistence communities.
95012	Comprehensive Killer Whale Investigation	NOAA	$0.0	$298.7	**$298.7**	Addresses both recovery monitoring and killer whale predation on harbor seals.
95064	Monitoring, Habitat Use, and Trophic Interactions of Harbor Seals in PWS	ADFG	$114.7	$232.4	**$347.1**	Project targets an injured resource of importance to subsistence communities.
95117-BAA	Harbor Seals and EVOS: Blubber and Lipids as Indices of Food Limitation	NOAA	$0.0	$94.6	**$94.6**	Project targets an injured resource of importance to subsistence communities.
Seabird/Forage Fish Interaction			$249.9	$180.0	**$429.9**	
95121	Fatty Acid Signatures of Selected Forage Fish Species in PWS	NOAA	$0.0	$30.0	**$30.0**	
95163A	Abundance and Distribution of Forage Fish and their Influence on Recovery of Injured Species	NOAA	$194.8	$0.0	**$194.8**	See 95163I.
95163F	Factors Affecting Recovery of PWS Pigeon Guillemot Populations	DOI	$55.1	$0.0	**$55.1**	See 95163I.
95163I	Seabird/Forage Fish Interaction: Program Management and Integration	DOI	$0.0	$150.0	**$150.0**	Planning and development funds for a comprehensive, integrated seabird/forage fish package, including hiring of a project leader. Future funding dependent on approval of a revised package, to come before the Trustee Council at a later date.
Nearshore Ecosystem Studies			$0.0	$130.0	**$130.0**	
95025	Nearshore Package: Project Planning and Development	DOI	$0.0	$130.0	**$130.0**	Planning and development funds for a comprehensive, integrated nearshore package ($120,000 to NBS, $10,000 to NOAA). Future funding dependent on approval of a revised package, to come before the Trustee Council at a later date.

1995 WORK PLAN -- AUTHORIZED PROJECT FUNDING

NOTE: Funding totals appear at the top of each cluster.

Proj. No.	Title	Lead Agency	Interim Authorized 8/23/94	Remainder Authorized 11/3/94	**Total FY95 Authorization**	Conditions/Comments
Intertidal/Subtidal Community Structure			$448.3	$615.7	**$1,064.0**	
95086C	Herring Bay Monitoring and Restoration Studies	ADFG	$327.3	$415.3	**$742.6**	Funds close-out of project, including *fucus* mat subproject (i.e., no new field work components).
95106	Subtidal Monitoring: Eelgrass Communities	ADFG	$0.0	$200.4	**$200.4**	
95285-CLO	Closeout: Subtidal Sediment Recovery Monitoring	NOAA	$121.0	$0.0	**$121.0**	
Subsistence Projects			$329.5	$1,298.1	**$1,627.6**	
95009D	Survey of Octopus and Chiton in Intertidal Habitats	USFS	$0.0	$125.0	**$125.0**	Funding is to consult with subsistence users, identify and survey harvest areas, and describe oiling history.
95027	Kodiak Shoreline Assessment: Monitoring Surface and Subsurface Oil	ADEC	$0.0	$447.8	**$447.8**	Funding is for final comprehensive assessment of Kodiak Island shoreline. Presence of oil is of concern to subsistence communities. Subsistence users will participate in assessment to determine final resolution.
95052	Community Interaction/Use of Traditional Knowledge	ADNR	$0.0	$152.0	**$152.0**	Project will increase outreach to spill area residents and communities, access traditional knowledge useful to restoration, and coordinate outreach efforts in other projects through the Anchorage Restoration Office.
95127	Tatitlek Coho Salmon Release Program	ADFG	$0.0	$5.0	**$5.0**	Funding is for NEPA compliance. If project meets NEPA approval, proposer may seek implementation funds from the Trustee Council at a later date.
95131	Clam Restoration (Nanwalek, Port Graham, Tatitlek)	ADFG	$0.0	$226.9	**$226.9**	Funding is for pilot project. Further expansion would depend on consistently successful production of littleneck clam seed on a small scale.
95138	Elders/Youth Conference	ADFG	$0.0	$76.4	**$76.4**	Conference focus will be discussion of means to assist in the recovery of injured resources. Conference will be coordinated under 95052.
95244	Seal and Sea Otter Cooperative Subsistence Harvest Assistance	ADFG	$52.6	$41.3	**$93.9**	Project would complete two-year effort. Outreach to be coordinated with 95052.
95266	Experimental Shoreline Oil Removal	ADEC	$97.9	$75.0	**$172.9**	Funding is for review of available treatment technologies, and a pilot test on an oiled beach near Chenega as appropriate.
95272	Chenega Chinook Release Program	ADFG	$0.0	$47.2	**$47.2**	EA approved. After four more years, operation will be financially self-sustaining.

1995 WORK PLAN -- AUTHORIZED PROJECT FUNDING

NOTE: Funding totals appear at the top of each cluster.

Proj. No.	Title	Lead Agency	Interim Authorized 8/23/94	Remainder Authorized 11/3/94	**Total FY95 Authorization**	Conditions/Comments
95279	Subsistence Restoration Project - Food Safety Testing	ADFG	$81.1	$99.5	**$180.6**	Project completes effort undertaken in previous years. Outreach to be performed through 95052.
95428-CLO	Closeout: Subsistence Planning Project	ADFG	$97.9	$2.0	**$99.9**	Project to be coordinated through 95052.
Other Fish/Shellfish Projects			$365.9	$53.7	**$419.6**	
95043B	Carry-forward: Cutthroat and Dolly Varden Rehabilitation in Western PWS	USFS	$134.8	$0.0	**$134.8**	
95137-CLO	Closeout: Prince William Sound Salmon Stock Identification and Monitoring Studies	ADFG	$55.8	$0.0	**$55.8**	
95139	Wild Stock Supplementation Workshop	ADFG	$0.0	$7.5	**$7.5**	Funding is for ADFG to prepare and participate in workshop on wild stock supplementation efforts, to be held winter 1995.
95139B	Closeout: Otter Creek/Shrode Creek Instream Restoration	USFS	$5.2	$0.0	**$5.2**	
95139C1	Montague Riparian Rehabilitation	USFS	$0.0	$46.2	**$46.2**	Budget includes funding (approximately $7,500) for USFS participation in wild stock supplementation workshop to be held winter 1995 (see 95139). Balance of funding to monitor effectiveness of FY94 work.
95139C2	Carry-forward: Salmon Instream Habitat and Stock Restoration -- Lowe River	ADFG	$170.1	$0.0	**$170.1**	
Other Bird Projects			$132.0	$682.8	**$814.8**	
95021	Seasonal Movement and Pelagic Habitat Use by Common Murres from the Barren Islands	DOI	$0.0	$54.0	**$54.0**	Funding is for pilot project.
95029	Population Survey of Bald Eagles in PWS	DOI	$0.0	$48.7	**$48.7**	If population is determined to be stable, no further Trustee Council funding is appropriate.
95031	Reproductive Success as a Factor Affecting Recovery of Murrelets in PWS	DOI	$0.0	$250.0	**$250.0**	Funding is for pilot project to determine effectiveness of study techniques.
95038	Symposium on Seabird Restoration	DOI	$0.0	$74.4	**$74.4**	A more comprehensive assessment of what is possible in restoration of seabirds is needed. Funding is conditional on expansion of project objectives to include publication of conference proceedings.
95039	Common Murre Productivity Monitoring	DOI	$30.5	$0.0	**$30.5**	Additional funding for project will be considered with seabird/forage fish package.

1995 WORK PLAN -- AUTHORIZED PROJECT FUNDING

NOTE: Funding totals appear at the top of each cluster.

Proj. No.	Title	Lead Agency	Interim Authorized 8/23/94	Remainder Authorized 11/3/94	**Total FY95 Authorization**	Conditions/Comments
95041	Introduced Predator Removal from Islands - Follow-up Surveys	DOI	$20.4	$46.1	**$66.5**	Project will allow measurable results to be obtained.
95102-CLO	Closeout: Murrelet Prey and Foraging Habitat in Prince William Sound	DOI	$63.8	$0.0	**$63.8**	
95427	Harlequin Duck Recovery Monitoring	ADFG	$17.3	$209.6	**$226.9**	Funding is for spring population composition and summer brood survey. This level of funding is needed only in FY95, FY98, and FY2001.
Oil Toxicity Projects			$252.3	$496.8	**$749.1**	
95026	Hydrocarbon Monitoring: Integration of Microbial and Chemical Sediment Data	ADEC	$0.0	$146.9	**$146.9**	Funding is to analyze and correlate existing data sets as recommended by peer reviewers.
95090	Mussel Bed Restoration and Monitoring in PWS and Gulf of Alaska	NOAA	$160.4	$278.4	**$438.8**	Important follow-up of prior work to determine effectiveness of techniques being used.
95290	Hydrocarbon Data Analysis, Interpretation, and Database Maintenance for Restoration and NRDA Environmental Samples Associated with the *Exxon Valdez* Oil Spill	NOAA	$91.9	$71.5	**$163.4**	Ongoing hydrocarbon interpretation and support services.
Reducing Marine Pollution			$232.2	$284.5	**$516.7**	
95115	Sound Waste Management Plan	ADEC	$0.0	$284.5	**$284.5**	Goal is to allow recovery of injured resources and services to proceed without the added interference of marine pollution.
95417	Carry-forward: Waste Oil Disposal Facilities	ADEC	$232.2	$0.0	**$232.2**	
Archaeology Projects			$223.9	$233.8	**$457.7**	
95007A	Archaeological Site Restoration - Index Site Monitoring	ADNR	$191.7	$150.0	**$341.7**	Recommend session with peer reviewers and archaeologists from involved agencies to develop less costly methodology for site monitoring. Project should involve local communities.
95007B	Archaeological Site Restoration	USFS	$32.2	$83.8	**$116.0**	Funding is for restoration of last identified site with severe damage. Future monitoring of this site, if necessary, is to be rolled into 95007A effort.

1995 WORK PLAN -- AUTHORIZED PROJECT FUNDING

NOTE: Funding totals appear at the top of each cluster.

Proj. No.	Title	Lead Agency	Interim Authorized 8/23/94	Remainder Authorized 11/3/94	**Total FY95 Authorization**	Conditions/Comments
Habitat Protection/Acquisition			$144.0	$44.0	**$188.0**	
95060	Spruce Bark Beetle Impacts	ADFG	$0.0	$26.8	**$26.8**	Fund (through RFP) literature search and compilation of existing information on spruce bark beetle. Assessment of extent of infestation in the spill area is normal agency responsibility.
95110-CLO	Closeout: Habitat Protection and Acquisition	ADNR	$144.0	$0.0	**$144.0**	
95505B	Data Analysis for Stream Habitat	USFS	$0.0	$17.2	**$17.2**	Project will complete data analysis for an existing stream habitat database.
Administration/Science Mgt./Public Info.			$3,922.0	$286.9	**$4,208.9**	
95089	Information Management System	Executive Director	$304.8	$218.0	**$522.8**	Fund development of information management plan and preliminary development of interactive computer program.
95100	Administration, Science Management and Public Information	All	$3,597.2	$68.9	**$3,666.1**	
95422-CLO	Closeout: Restoration Plan EIS/Record of Decision	USFS	$20.0	$0.0	**$20.0**	
Institute of Marine Science			$46.5	$0.0	**$46.5**	
95199-CLO	Institute of Marine Science - Seward Improvements EIS	ADFG	$46.5	$0.0	**$46.5**	
Decision Deferred			$626.2	$0.0	**$626.2**	
95058	Restoration Assistance to Private Landowners	ADFG	$0.0	$0.0	**$0.0**	Defer decision until December meeting.
95080	Fleming Spit Recreation Area Enhancements	ADNR	$0.0	$0.0	**$0.0**	Defer decision until December meeting.
95126	Habitat Protection and Acquisition Support	ADNR	$626.2	$0.0	**$626.2**	Defer decision on additional funding until December meeting. Budget needs additional scrutiny in regard to unexpended FY94 funds and balance of interim funding.
95141	Afognak Island State Park Interim Support	ADNR	$0.0	$0.0	**$0.0**	Review project at December meeting.
95424	Restoration Reserve	All	$0.0	$0.0	**$0.0**	Defer decision until December meeting.

1995 WORK PLAN -- AUTHORIZED PROJECT FUNDING

NOTE: Funding totals appear at the top of each cluster.

Proj. No.	Title	Lead Agency	Interim Authorized 8/23/94	Remainder Authorized 11/3/94	**Total FY95 Authorization**	Conditions/Comments

Interim Funding Authorized by Trustees 8/23/94:	**$9,962.8**
Additional Funding Authorized by Trustees 11/3/94:	**$11,941.6**
Authorized for Restoration Reserve:	**0**
Total Authorized Funding:	**$21,904.4**
Total Number of Projects Authorized for Funding:	**81**

NOTE: All project funding is conditioned on the Executive Director's final approval following scientific and budget review of the detailed project descriptions and budgets, and on compliance with NEPA requirements. The budget review will include an analysis of personnel requirements and equipment requests. Funding totals do not include funds requested for development and construction of the Institute of Marine Science (a total of $24.9 million) or for actual acquisition of habitat. "Interim funding" total includes $626,900 in carry-forward of FY94 authorization.

ATTACHMENT B

Attachment B contains the following memoranda:

1. Chief Scientist's recommendations on Project 95320 (Prince William Sound System Investigation)

2. Chief Scientist's recommendations on pink salmon efforts for FY 95

3. Chief Scientist's memorandum to Howard Ferren, PWSAC Special Projects Manager, on Project 95093 (Restoration of Pink Salmon Resources and Services)

4. Chief Scientist's recommendations on herring research and monitoring for FY 95

5. Chief Scientist's recommendations on fish genetics research for FY 95

6. Chief Scientist's recommendations on sockeye salmon monitoring for FY 95

Recommendations were developed following project reviews conducted by the Chief Scientist, with the help of core peer reviewers and the participation of agency scientists.

95320

APPLIED MARINE SCIENCES

October 21, 1994

TO: James Ayers
Executive Director

FROM: Robert Spies, Chief Scientist
Andrew Gunther

RE: Recommendation for Project 95320

Introduction

On April 4, 1994, I recommended that the Trustee Council approve the release of funds for project 94320 (also referred to as the SEA project). At that time I recommended that a review session be held in early October to assess the progress of the project after its first field season. This review session was held on October 4-6, 1994, in Cordova. The purpose of this memorandum is to provide my assessment of the progress of project 94320, and to provide recommendations to you regarding the continuation of this project in the FY95 Work Plan. You will find below my recommendations, followed by a summary of the review session and a brief discussion of each individual project. The information presented in this memo has been developed in part using written comments provided to me by Dr. Charles ("Pete") Peterson, Dr. Philip Mundy, Dr. William Pearcy, and Dr. George Rose.

Recommendations

After reviewing the progress of the program during 1994, and considering the oral and written comments of the peer reviewers who attended the recent review session in the Cordova, I recommend that the Trustee Council approve funding for projects 95320 A, E, G, H, I, J, M, N, Q, S, and T. I also would recommend funding projects 95320-U and 95320-Y at a reduced scope. This recommendation is made with the following general provisions, and the project-specific provisions found in the section below entitled "Project-Specific Recommendations for 1995."

1. *Preparation of an Integrated Detailed Study Plan*: The individual components of project 95320 should be more completely integrated by development of a single detailed study plan for the project's activities in FY95. This detailed study plan should be prepared instead of the individual Detailed Project Descriptions that have been used for projects sponsored by the Trustee Council in 1993 and 1994. While I would like to establish the exact format of this plan in conjunction with project scientists, peer reviewers, and yourself, at this time I would suggest this plan be formulated around the major hypotheses being studied in project 95320 ("lake/river", "prey switching", etc....). For each major hypothesis, the plan should demonstrate what investigations are being undertaken and what testable hypotheses are being proposed. The plan would then describe what data will be collected, the method of collection, and the analytical techniques (including statistical analyses) that will be applied to test the hypotheses. The plan should also include a general schedule and objective for all research cruises planned in

1995. The individual budgets for each component project would be appended to the plan with all appropriate documentation.

It is my opinion that developing this detailed study plan is more important than having each 1994 project produce a final report for delivery to OSPIC. I would therefore recommend that components of project 94320 continuing for FY95 submit a succinct, integrated report on 1994 operations and findings by January 10, 1995. This will allow all project participants to focus more of their attention on development of the detailed study plan, which would then serve as the primary organizing document for this ecosystem research project over the next several years. By submitting the detailed project description in early January 1995 we can use the occasion of the mid-winter workshop to have the reviewers discuss the detailed project descriptions with project scientists.

2. *Hatchery v. Wild Salmon Populations*: The program must carefully examine the applicability of studying hatchery populations as models for all juvenile salmon in PWS. While hatchery fish are an important part of the salmon resources, and they are conveniently (and thus inexpensively) studied, the validity of hatchery populations as biological models for naturally spawning stocks has never been established. It is likely that wild juvenile salmon, which are found predominantly in the eastern portion of PWS, behave very differently than hatchery fish. This, in combination with the differences in climate and bathymetry in the eastern Sound, suggests that predator-prey interactions and oceanographic influences on survival might be very different between the dense agglomerations of hatchery fish currently being studied in western PWS and the more diffuse wild stocks. Greater knowledge of wild stock behavior should make valuable contributions to future restoration plans for these fish populations.

Studying the smaller and diffuse populations of wild fish will be more difficult than studying the dense schools produced by the hatcheries. The logistical challenges to working in eastern PWS are also greater than working in the west. I recommend that this issue be addressed in FY96 for salmon studies, as the availability of mass-marked hatchery fish will be a critical component of any study design. Expansion of the project into eastern PWS in 1995 should occur to obtain proper characterization of the important physical and biological parameters in the Sound, including herring over wintering sites.

3. *New Equipment*: Although several requests have been made for new and expensive pieces of equipment, I recommend that such purchases be made only after careful consideration of how these devices will improve the data available to address the program's hypotheses. In this regard, an optical plankton counter (OPC) is an essential tool for gathering broad-scale information on the distribution of zooplankton necessary for testing the "lake/river" and "prey switching" hypotheses. During 1994, project 94320-J configured the OPC purchased by the Trustee Council for the Kenai River Sockeye Restoration program in 1993-94 for use in project 94320. The ADF&G Soldotna office needs the OPC in 1995 from July 15th through October 15th, while the SEA program needs an OPC from March through the end of August. I have looked into possible sharing of this instrument, but each transfer involves transportation costs of approximately a thousand dollars and each transfer involves the need for reconfiguration of the optics by the vendor. Therefore, sharing the single device does not appear feasible, and I recommend that an additional $25,000 be allocated to the budget of project 95320-J for the purchase of a second OPC for use in PWS (project 95320-J is responsible for maintaining and configuring the OPC for use in the field).

4. *Interpreting Hydroacoustic Data*: The detailed study plan for 1995 must include an explicit program that describes how the electronic data patterns obtained from the hydroacoustic instruments will be translated into biologically meaningful information. In general, the program must address calibration of instruments, determination of representative scaling factors for

density estimation, and methods for taxonomic identification of targets. The hydroacoustic component of the forage fish investigations (projects 94163 & 95163) must be part of this program as well to ensure comparable, high quality data from both of the hydroacoustic projects.

5. *Interaction of Modeling and Field Sampling*: The modeling component of project 95320 must identify interim modeling products that can be used to assess our ability to simulate PWS. These interim products should be designed for use in sensitivity analyses to provide useful information for guiding future field sampling. These interim modeling products should be part of an overall modeling plan that identifies which components of the comprehensive numerical model will be developed first, and how these components will be applied. The plan should also indicate what significance the interim model products have to the overall objectives of project 95320 in case we are unable to develop adequate numerical descriptions of certain keystone processes such as salmon predation rate.

Although a numerical model when complete will theoretically allow us to make predictions of salmon and herring returns, this is a highly complex undertaking and it is not now known whether we will ever be able to make predictions that are accurate or precise enough for use in fisheries management. Even without such quantitative predictions, however, substantial gains in qualitative knowledge of direct consequence to the management of these resources seem likely from the current program.

6. *Formation of an Executive Committee*: An executive committee should be established to manage project 95320. During the past year Dr. R. Ted Cooney of UAF has shouldered the burden of managing the program in response to your recommendation in April. His performance in this role has been exemplary, and I strongly recommend that he continue to serve as the scientific leader for the project. There is too much work here for a single individual, however, and an executive committee consisting of three or four principal investigators would provide him with valuable management support. In addition, the decision-making authority for the program must be concentrated to allow for a more efficient management process. Difficult decisions will be facing the project in the near future when it becomes clear that certain projects will be cut back while others will need to grow, and when it comes time to coordinate scientific publications. It will be very difficult to make these decisions with the 10-12 member group that currently is involved in program management.

7. *Coordination with Other Projects*: Close communication and coordination must exist between project 95320 and the work related to forage fish (project 94163 and related projects). Information being collected by 95320 and the forage fish projects will be useful to both studies, and the detailed study plan should indicate how 95320 plans to exchange information and formalize lines of communication. In addition, project 95320-J should remain in close contact with project 95089 ("Information Management System"). The expertise of the staff and the hardware infrastructure of project 95320-J could be very useful in the development of products for project 95089.

8. *Juvenile Salmon Sampling*: The detailed study plan should indicate how the "leading edge" sampling of salmon fry migration for growth studies controls for bias associated with the differential movement of different sized fry (for example, larger fry swim faster and are more likely to be found in the "leading edge"). The detailed study plan must also clearly indicate how the sampling plan determines the actual distribution of fry.

9. *Organization of herring projects*: The detailed study plan should provide a clear focus for the herring projects (95320-T/U). The hypotheses to be tested must be presented, and the objectives and methods of these studies must be carefully linked to other herring projects (see my memorandum of September 26, 1994, regarding herring research and monitoring in 1995),

the "forage fish" projects (94163, 95163, and others). The allocation of work effort in the detailed study plan should reflect the growing consensus that egg loss/embryo survival is not as important to herring recruitment as juvenile herring survival.

Summary of the Review Session

The review session was conducted in three phases, with each phase conducting during a single day. The first phase was devoted to presentations by the principal investigators of their activities and progress over the first field season. As expected, only very preliminary results were available, but reviewers were still able to direct questions to the investigators regarding methodologies and strategies used in the field. The reviewers were unanimous in their opinion that principal investigators were to be congratulated for conducting a successful field season given the extremely short time available for planning the effort. The reviewers (and I) continue to remain impressed with the dedication and commitment displayed by personnel at all levels in project 94320.

The second day of the review session involved assessments, using the preliminary data available, of the central scientific hypotheses of the project for explaining the factors controlling pink salmon and herring populations in PWS (such as the "lake/river" and "prey switching" hypotheses). It was clear from these discussions that despite there being only preliminary data available, the field effort in 1994 has added to our understanding of PWS and the factors that might be controlling pink salmon populations. However, as I pointed out to you in April, we will need to continue the study over several years under varying environmental conditions to fully understand the validity of these hypotheses.

The third day of the review focused upon plans for 1995. I convened a meeting of the reviewers over breakfast to discuss their thoughts from the first two days of the session. From this meeting I prepared a list of seven key issues that helped guide the discussion after a series of presentations were made regarding plans for FY95. The reviewers provided a significant amount of input to the principal investigators during this final portion of the review session. I should note that assessment of studies of salmon growth and mortality and salmon predation were hampered by the fact that the principal investigator for these critical projects was unable to attend the workshop due to the death of his father. Members of his staff did an admirable job of filling in on short notice, but they have not had the responsibility for overall project development and design.

Finally, you should keep in mind that the review session was inevitably a "snap-shot" look at a project that is rapidly evolving. Some of the principal investigators finished collecting their field data less than a week before the workshop, and project participants are currently compiling the results of the first year. Since the workshop, communications to my office from principal investigators have indicated that some of the recommendations contained in this memorandum are already being addressed.

Project-Specific Progress

The following section provides brief summaries of the progress of each component of project 94320. Please note that almost all of the investigators provided more detailed progress summaries to the Chief Scientist, and these are available at your request.

94320-A: Salmon Growth and Mortality

This project estimates the growth, diet, migration, and mortality of juvenile pink salmon in PWS. This project was able to go into the field within a week of the Trustee Council's decision to fund the study, and they consequently were able to take samples just before and during the release of juvenile salmon from the WHN Hatchery as planned. Sampling continued throughout the critical time period of April - July as the fry migrated south through PWS. Salmon fry and juveniles were collected, and retrieval of individuals with coded wire tags will be used to estimate growth. Stomach contents information will be used to describe juvenile salmon diet. Due to the unavailability of the principal investigator for this project, we were unable to pursue a detailed discussion of estimating mortality.

94320-B: Coded Wire Tag Recoveries from Pink Salmon in PWS

Approximately 1,000,000 pink salmon fry were tagged prior to release in 1994. Recovery of these tagged fry commenced soon after release, continued through the season, and will be continued when these fish return as adults in 1996. The data derived from the CWT program will be used to estimate growth, survival, and contribution of hatchery stocks to the commercial harvest. This program uses routine methods that have been reviewed in the past and did not receive any focused attention at the workshop.

94320-C: Otolith Mass Marking for In-Season Stock Separation

This project was withdrawn by ADF&G earlier this year due to uncertainties relative to capital costs. There was strong support among the reviewers for implementing a mass marking program if a feasible commitment to its long-term funding can be made.

94320-D: Genetic Structure of Pink Salmon Stocks

(The progress of this project was reviewed under my October 17, 1994, memorandum to you regarding fish genetics.)

94320-E: Salmon Predation

This project was very active during 1994. Over 6,000 stomachs from potential predators on juvenile salmon were collected, and six diel (24-hour) studies were conducted to determine predation rates. This study has clearly identified the importance of walleye pollock in the PWS ecosystem, and preliminary data suggest that predation on juvenile fishes (including salmon) is lower when zooplankton abundance is high. In addition, there appeared to be significantly less predation on juvenile fishes above 60 mm in size. However, there was much discussion among the reviewers regarding potential uncertainties in estimated predation rates, and how this uncertainty will influence the accuracy of predictions of salmon survival. Again, these discussions were cut short because the principal investigator was unavailable.

94320-F: Trophic Interactions of Harbor Seals

The purpose of this relatively small project was to determine if links between various food sources and the harbor seal population in PWS could be established either by use of lipid specific analysis or analysis of stable isotope ratios. Samples of blubber (for lipid) and whiskers (for stable isotopes) from harbor seals were obtained by the staff of project 94064, and these samples are still being processed. Preliminary results of stable isotope analysis of whiskers is presented below under discussion of project 94320-I.

94320-G: Plankton Dynamics: Phytoplankton and Nutrients

Over 800 samples from 309 stations were collected for analysis of nutrients, chlorophyll and phytoplankton species. In addition, a full set of continuous data (wind speed, barometric pressure, temperature (air, sea surface and at 10 depths), and chlorophyll) were obtained from the C-LAB buoy moored in PWS near Naked Island. These data are currently being processed, along with satellite images of sea surface temperature.

Due to the late start for Project 94320, it was not possible to take surveys during the beginning of the phytoplankton bloom in PWS. Data from previous years indicates that the onset of the bloom can vary by several weeks, and the timing of the bloom could be critical for zooplankton populations and other trophic interactions.

94320-H: The Role of Zooplankton in the Prince William Sound Ecosystem

Over 300 zooplankton samples have been collected from PWS to determine the abundance, distribution, and dynamics of zooplankton populations. These data, in conjunction with oceanographic (94320-M, 94320-G) and stomach contents (94320-E) information, will allow preliminary assessment of "lake-river" and "prey-switching" hypotheses. Very preliminary indications from the data that are available suggest that when the zooplankton populations were at their height, walleye pollock predation on year-0 fishes was reduced. This result is consistent with the concept that abundant macrozooplankton populations shield juvenile salmon from predation during a critical period of growth.

94320-I: Confirming Food Web Dependencies in the Prince William Sound Ecosystem

This project is using the predictable shifts in stable isotope ratios of carbon and nitrogen at different trophic levels to document the food web in PWS. In a remarkable work effort over such a short period of time, over 500 samples have been analyzed from zooplankton and various fishes in PWS to document trophic relationships. In addition, analysis of different portions of whiskers from seals has provided a picture through time of the food sources for individual seals. It is clear from preliminary data the pattern in the whiskers of individual seals differs markedly, documenting differences in food sources that could be related to prey availability or migratory patterns. Likely hypotheses to explain these observations will be put forward once a more complete data set is available.

94320-J: Information Systems and Model Development

Under this project the data and information management system for the entire 94320 project was established. The system was created and brought on-line on schedule and within budget, collecting and storing data as it arrived from the field and from satellites. Connectivity among all the 94320 collaborators was established via a wide area network within Cordova and an Internet connection through the University of Alaska Computing Network. Data visualization software was obtained, and preliminary visualization system was developed to display the data collected during the field season (an accurate, although oversimplified, way to think about the visualization system is as a 3-dimensional GIS). Development of the data base that will house the project's data, as an integrated component of the visualization system, was also begun. The novelty of the system (housing many different kinds and formats of data) has resulted in a

development grant ($90,000) being obtained from Xidak, Inc., (the software developer) by the Science Center to accelerate the development of this system.

Planning was completed for a near real-time radio communications system, including design and custom fabrication of VHF/UHF packet radio modems, selection of five land-based repeater sites, and negotiation of agreements with the U.S. Forest Service and the Alaska Department of Environmental Conservation for use of existing radio tower facilities. This system will provide a two-way communications link from a Cordova base station to the field survey vessels and to a fully-automated deep-water instrumentation package for the Hinchinbrook Entrance to PWS. This will allow near real-time oceanographic data acquisition and facilitate "adaptive" sampling through rapid field access to processed data and satellite information. In addition, a critical sampling device (the "aquashuttle") was obtained, reconfigured, and deployed. This multisensor device is towed behind a vessel and undulates through the water column on a pre-programmed path, providing simultaneous broad-scale examination of physical and biological properties of the water column that would be prohibitively expensive to collect by traditional methods.

94320-K: Experimental Fry Release
94320-L: Experimental Manipulation

Salmon fry were reared and released as planned from the PWSAC hatcheries at Ester Island (WHN Hatchery) and Sawmill Bay (AFK Hatchery). Certain lots of fry at both hatcheries were grown to a larger size than normal to test whether this might influence growth and survival after release. For currently unknown reasons, the fry at AFK did not reach the target size of 1.5 grams, and instead reached an average size of approximately 1 g. Further results of this study will not be available until the salmon return in 1996.

94320-M: Observational Oceanography in Prince William Sound and the Gulf of Alaska

Conductivity and temperature at depth (CTD) data was collected at approximately 950 stations in PWS and the Gulf of Alaska. This represents a coordinated effort by several different vessels, as oceanographic data were collected from almost every platform used by project 94320. In addition, the U.S. Coast Guard has allowed project 94320-M to use the cutter *Sweetbriar* for oceanographic sampling. Besides data collected from PWS, many historical data sets have been obtained or updated for use in this project. These include oceanographic and meteorological data that can be used, among other things, to assess transport of ocean water into PWS (i.e., determining if PWS is a "lake" or a "river"). This project was able to circumvent many delays in obtaining equipment from vendors by use of borrowed equipment. Collection of fine-scale oceanographic data, which is essential for identifying hydrographic features that may be very influential in distribution of fish in PWS, could not be collected until very late in the season due to the time taken for the order equipment to arrive. Preliminary data appear to have established important concepts regarding circulation and mixing in PWS, and will make significant contributions toward planning the sampling program in 1995.

This project obtained a donation of 16 CTDs from British Petroleum in addition to the cooperation of the Coast Guard mention above. The value of these items, assuming a charter cost for the *Sweetbriar* of $5,000 per day, is approximately $175,000.

94320-N: Nearshore Fish

This projected collected hydroacoustic measurements along transects in Lake Bay prior to, during, and after release of pink salmon fry from the WHN Hatchery in April, and then continued to collect data throughout the field season along transects throughout the out-migration corridor in Knight Island Passage, Montague Strait, and other locations in southwestern PWS. This project was able to go into the field on extremely short notice by obtaining equipment on loan from colleagues or vendors, and a very large data set has been collected. Hydroacoustic measurements were made in deeper water from a trawler, were net samples were taken concurrently. In shallower water a smaller vessel was used, and when possible a seiner collected samples to verify the identity of acoustic targets. The vast majority of this data is still being processed, and so there was very little discussion of the results of these surveys during the review session.

A feasibility study using airborne sensors to map surface current features was implemented using a aircraft-mounted high resolution video camera linked to a global positioning system (GPS). Using this technique identifying nearshore tidal rips and other hydrographic features was quite straightforward, and even single birds were visible. This technique may be promising to use in conjunction with fine-scale oceanography for documenting and characterizing hydrographic features of biological relevance to the project hypotheses.

94320-P: Planning & Communication

This small project component funded activities aimed at coordinating the efforts of project 94320 with other research sponsored by the Trustee Council, preparation and distribution of reports regarding progress of the project, and educate residents of PWS regarding research activities. Project personnel attended several meetings in Anchorage related to the restoration effort (including two sessions regarding "forage fish" research, and area closely linked with project), and two issues of a newsletter were produced during the field season. Personnel from project 94320-P also played a pivotal role in organizing and submitting the 1995 proposal package.

94320-Q: Avian Predation on Herring Spawn

This project was in the field in April and May, conducting aerial surveys for avian concentrations in herring spawning areas. Surveys were also conducted from boats and along shorelines in areas with and without spawn to gather data to test the hypothesis that temporal and spatial distribution of gulls, sea ducks, and shorebirds is positively correlated with the temporal and spatial distribution of herring spawn. Due to the early field season for this project, and diligent work by the principal investigator and her team, the data for this project was more completely analyzed than for any other portion of project 95320.

Almost 200,000 birds were counted during boat surveys, and three species of birds (glaucous-winged gulls [56%], mew gulls [12%], and surbirds [19.5%]) accounted for over 87% of the observations. Bird abundance (with glaucous-winged gulls predominating) was highly correlated with spawning, with the number of eggs and the number of days spawn was laid down at a given site being an excellent predictor of the number of birds present. These results provide strong support for the concept that herring spawn is an important food resource for gulls and certain migratory species in PWS, and that avian predation could have an important impact on herring egg mortality.

Project-Specific Recommendations for 1995

95320-A: Salmon Growth and Mortality

Estimates of juvenile salmon mortality in PWS are critical to the success of the entire ecosystem study. These estimates will be derived from other measurements, rather than measured directly. A very clear presentation of the methods for estimating mortality will need to be presented in 1995 study plan, including the source of all data used to make these estimates.

Attention also must be paid to possible biases in the sampling design derived from differential movement of different size fry and juveniles. For example, if larger fish swim faster, the current method of searching for the "leading edge" of the fry migration may bias the sampling toward larger fish and contribute to inaccurate growth estimates. Conversely, if larger fish move offshore faster, then this could bias the sampling toward smaller fish, as current sampling has taken place mainly inshore. The detailed study plan should summarize past results that support restricting the sampling to the nearshore, or must include some systematic sampling component to confirm the absence of juvenile fish in the pelagic environment.

95320-E: Juvenile Salmon and Herring Integration (formerly Salmon Predation)

The study plan for this project will have to address several key issues. First, the precise methods for calculating predation rates will need to be discussed, including a specific presentation of the data to be used, the source of that data, and recognition of the uncertainties in the data base. For instance, the Brief Project Description for this project indicates that estimates of predator biomass (needed for assessing the overall predation rate on juvenile salmon) will be provided by project 95320-N. However, the BPD for project 95320-N indicates only that "nekton density" will be determined, in recognition of the problems associated with making absolute estimates of biomass for particular species using hydroacoustic methods. The plan should indicate how estimated predation rates will account for the potential effects of (1) predator/prey density, (2) size of juvenile salmon, and (3) fine-scale oceanographic features. This will probably require diel feeding studies under different sets of conditions. The suggestions of Drs. Peterson and Pearcy regarding feeding experiments in field enclosures should be considered. The study plan should also indicate how the results of diel feeding periodicity studies will be extrapolated to entire predator populations.

The plan for pit-tagging juvenile salmon to estimate oceanic mortality (as opposed to mortality within PWS) may not be economically feasible. Careful consideration of costs must be given prior to approving this effort. You should note the high cost for this study is due to the fact that the cost for all the vessel charters in project 95320 are included in the budget of this project. Finally, I recommend that the principal investigators come up with a different name for this project that provides a better indication of the subject of the investigations being conducted.

95320-G: Plankton Dynamics: Phytoplankton and Nutrients

The study plan for 1995 should clearly indicate close coordination with the oceanographic surveys (95320-M), as collection of data coordinated in space and time by these two projects is essential to document, among other things, how representative the C-LAB buoy site is of PWS. The field sampling for this project also must be closely coordinated with zooplankton measurements. Discussion of the adequacy of spatial and temporal coverage of PWS, especially early in the season, should be included. The study plan should also describe how use of the Dual Path Absorption and Attenuation Meter will be coordinated with the continuous fluorescence measurements made using the aquashuttle. The project should also

indicate how the unavailability of the SeaWiFS sensor due to delayed launch of the SeaStar satellite will impact plans for data analysis and hypothesis testing.

95320-H: The Role of Zooplankton in the Prince William Sound Ecosystem

The study plan for 1995 should clearly indicate close coordination of the 1995 sampling with the oceanographic and plankton dynamics. These data sets need to be coincident in time and space for assessment of the lake/river hypothesis, and to test the linkage of phytoplankton production to zooplankton abundance. The manner in which this project will test for the importance of advection of zooplankton into PWS (in surface and deeper waters) must also be discussed (the feasibility of extending sampling into the Alaska Current outside PWS should be investigated). It is clear that the use of an optical plankton counter (OPC) on the aquashuttle could provide valuable information regarding the broad-scale distribution of zooplankton. The detailed study plan should describe how these data will be collected and calibrated, and the relative value of OPC data as opposed to data gathered using high-frequency hydroacoustics.

95320-I: Confirming Food Web Dependencies in the Prince William Sound Ecosystem

The study plan should clearly indicate how the stable isotope data gathered from the various species sampled in PWS will be applied to the key hypotheses being investigated by project 95320. In addition, application of stable isotope analyses to study short-term phenomena of interest (e.g., consumption of herring roe by birds) should be considered. Careful attention must be paid to the turnover rates in target tissues prior to commencing short-term studies, as high-turnover or very low turnover may eliminate the chance to detect stable isotope signals of interest. High turnover could confound the proposed assessment of stable isotope ratios in CWT fish as opposed to other fish. Short-term studies may require collecting (i.e., shooting) birds in order to obtain tissues of significance.

95320-J: Information Systems and Model Development

The work effort in 1995 for this project includes development of a descriptive model and a numerical model. The descriptive model is in essence the collection of all the data sets, which are geographically and temporally referenced, combined and overlaid on the National Ocean Service bathymetry and physical contours for Prince William Sound. By overlaying different variables it should be possible to begin to draw causal inferences, refine hypotheses, and focus 1995 sampling toward the key variables at the key times in the key places. The project plans to begin development of the numerical model in 1995, which when complete should allow us to make predictions of salmon returns based upon our understanding of key ecological processes such as ocean currents, zooplankton abundance, and predation on juvenile salmon.

There is, however, a long way to go before we reach the stage of predicting salmon or herring returns, and it is not now known whether we will ever be able to make predictions that are accurate or precise enough for use in fisheries management. The challenge of achieving this modeling goal can be illustrated by the following example. According to our current conceptual model, the key factor we must understand is survival of juvenile salmon in PWS, and how this is moderated by oceanographic conditions and the abundance and behaviors of prey (zooplankton) and predators. Assuming our conceptual model is correct, our success at predicting salmon returns using a numerical model will be influenced to a large degree by our success at predicting predation on juvenile salmon. Predicting predation on salmon in turn relies on estimates of predation rate derived from stomach contents analysis (95320-E), growth rates (95320-A), diel feeding studies (95320-E), hydroacoustic surveys (95320-N), zooplankton

abundance (95320-H), and oceanography (95320-M). Clearly, uncertainty in each of these inputs will cumulatively determine the accuracy and precision of our predictions of salmon predation, and ultimately of our prediction of salmon returns.

However, even should the direct quantitative predictions of annual salmon and herring abundance's resulting from the numerical model prove to be insufficient accuracy and precision for the purposes of fisheries management, substantial gains in qualitative knowledge of direct consequence to the management of these resources seem likely. Dr. Mundy provides the following example in his comments:

> ...data from the first season's juvenile pink salmon sampling in concert with data on the distribution of potential predators indicate that not only the timing, but also the duration of the release of pink salmon from hatcheries could be important in determining overall survival. Thus the current practice of releasing all of a hatchery's fry as soon as plankton availability seems favorable might actually produce lower survival than releasing the fry gradually over a longer period of time. Large releases of fry may attract predator swarms that would otherwise not assemble. Numerical modeling could help develop optimal release strategies for the particular circumstances of Prince William Sound. Further, the ability to compare biological and physical data in the logically consistent framework of the numerical model is an important tool for understanding the effects of oceanographic features such as fronts, also called "rips," on the survival and behavior of both adult and juvenile salmon. For example, radical changes in the timing of adult migrations can have serious consequences on the commercial harvest sector both by reducing the value of the catches and by reducing the opportunity to harvest. Such sharp changes in timing of adult salmon migrations have been shown to be related to physical oceanographic features in other species and localities. Regulations could be adapted to counter the negative effects of these oceanographic conditions when they are identified, for example, by permitting changes in the times or localities of harvests.

The reviewers were unanimous in their opinion that the integration of the modeling project with the other components of the project 95320 requires more work during 1995. A key feature of this integration is the development of interim or preliminary modeling products, based upon the initial field observations of 1994, that can be used to begin to evaluate the central hypotheses (lake/river and prey switching). Although much of this preliminary modeling would involve "educated conjectures" regarding key coefficients and parameters in the model, the reviewers felt that such efforts would help refine the 1995 field sampling effort. In particular, performing sensitivity analyses to understand which model parameters are most important will be essential for prioritizing field work over the next few years.

Consequently, the modeling component of project 95320 must identify interim modeling products that can be used to assess our ability to simulate PWS. These interim products should be designed for use in sensitivity analyses to provide useful information for guiding future field sampling. These interim modeling products should be part of an overall modeling plan that identifies which components of the comprehensive numerical model will be developed first, and how these components will be applied. The plan should also indicate what significance the interim model products have to the overall objectives of project 95320 in case we are unable to develop adequate numerical descriptions of certain keystone processes such as salmon predation rate. This project should also stay in close communication with project 95089 ("Information Management System"), and should investigate the possibility of co-developing X-Mosaic products for distribution or as servers on the Internet.

95320-M: Observational Oceanography in Prince William Sound and the Gulf of Alaska

This program will continue to utilize well-established oceanographic techniques for monitoring oceanographic conditions in PWS. The principal investigator is examining possible vessels of opportunity for winter surveys, which are not possible under the current budget, and these efforts should be continued. In 1995 it is essential to begin investigation of fine-scale oceanographic features in PWS, as these may strongly influence the distribution of plankton and nekton. The detailed study plan should indicate how regions in the PWS will be prioritized for fine-scale oceanographic investigation, and how resources will be allocated to provide adequate characterization of these more localized and short-lived phenomena while maintaining broad-scale coverage including expansion into eastern PWS.

95320-N: Nearshore Fish

The detailed study plan for 1995 must include an explicit program that details how the electronic data patterns obtained from the hydroacoustic instruments will be translated into biologically meaningful information. In general, the program must address calibration of instruments, determination of representative scaling factors for density estimation, and methods for taxonomic identification of targets. The specific contents of such a program have been described by Dr. Rose, who has also discussed this subject at length with the Principal Investigator for project 95320-N. The hydroacoustic component of the forage fish investigations (projects 94163 & 95163) must be part of this program as well to ensure comparable, high quality data from both of the hydroacoustic projects.

The precise manner in which the hydroacoustic data will be used to address the key scientific hypotheses driving project 95320 must also be described in the detailed study plan. I am concerned that some investigators may not understand the potential limits of interpreting hydroacoustic information (see the example cited above under project 95320-E [Juvenile Salmon and Herring Integration]).

95320-Q: Avian Predation on Herring Spawn

The database being developed by this project will be much more meaningful with an additional year's of data, especially utilizing the proposed technique of video image analysis for counting birds. Understanding the importance of avian predation on herring spawn will contribute to more accurate estimates of egg loss for use in ADF&G's current models for predicting herring spawning biomass. This project is also generating valuable information related to the importance of herring spawn in PWS for migratory waterfowl and resident seabirds.

However, given the growing consensus that egg survival and embryo mortality are not as important to herring recruitment as juvenile survival, it seems likely that in FY96 I will recommend reallocating the resources from this project toward juvenile herring over wintering and survival research. Finally, you should note that the BPD for project 95320-Q proposes collecting (i.e., shooting) 30 glaucous-wing gulls and 30 surf scoters for dietary analysis in 1995.

95320-S: Disease Impacts on PWS Herring Populations

This project is being implemented through a competitive solicitation by ADF&G. The proposed work effort for this project will be based upon submissions that are currently

confidential. I will have the opportunity to review the scope of work for the successful offeror before it is finalized. The role of this project in the herring research effort proposed for FY95 funding is discussed in my memorandum of September 26, 1994, regarding herring research and monitoring in 1995.

95320-T: Juvenile Herring Growth and Habitat Partitioning

There was general agreement among the reviewers that improving our understanding of juvenile herring populations is a critical to creating a capacity to predict herring returns. The presentation of the near-term goals of this project at the workshop, however, was vague. A critical first-year goal of this program should be to identify sites in PWS that can be used to conduct an annual survey for juvenile herring. This project should go forward only if the

detailed study plan clearly indicates the short-term goals of this project and the testable hypotheses that will be investigated. The role of this project in the herring research effort proposed for FY95 funding is discussed in my memorandum of September 26, 1994, regarding herring research and monitoring in 1995.

95320-U: Somatic and Spawning Energetics of Herring and Pollock

The role of this project in the herring research effort proposed for FY95 funding is discussed in my memorandum of September 26, 1994, regarding herring research and monitoring in 1995. I now recommended this project receive the funding requested for FY95 as ADF&G has promised to develop a stock/structure model of the PWS herring population in 1995.

95320-Y: Variation in Local Predation Rates on Hatchery-released Fry

There was agreement among the reviewers that a small component be added to project 95320 to assess the impact of bird predation on salmon fry during the period immediately after release, as this source of predation could have a major impact on mortality. Data collected by this component could have important implications for fry release strategies.

This component need not bc as elaborate as the BPD for project 95320-Y. The purpose of the project should be to determine if this source of predation is of an order of magnitude that could influence overall juvenile salmon survival in PWS. The project should be able to go forward for a fraction of the cost proposed ($161,200).

Pink Salmon

APPLIED
Aquamarine
SCIENCES

October 3, 1994

To: James Ayers, Executive Director
From: Dr. Robert B. Spies, Chief Scientist
Re: Recommendations on pink salmon monitoring for 1995

On September 29-30, I conducted a review of pink salmon monitoring needs for 1995 in Prince William Sound with the help of core reviewers and salmon biologists. During the course of the review the monitoring and restoration projects proposed for the 1995 work plan were evaluated by the peer reviewers. There is a separate group of projects, mainly those in the 94320 package that address research needs for pink salmon in the context of the spill area ecosystem; those projects are not covered in this memo but will be reviewed in Cordova on October 4-6, 1994 and subject to a separate memo. The purpose of this memo is to summarize the monitoring workshop and its findings and to present a recommendation to you for pink salmon monitoring and restoration in the 1995 work plan.

Summary and recommendation

A successful workshop was held on monitoring and restoration needs for pink salmon. The common goal of the monitoring and other restoration projects proposed is to provide better tools for monitoring the wildstock component of the run. Better estimates of the wildstock component will allow better management of the harvest, and thereby make it possible to restore wild stocks of pink salmon. Current tools for stock size assessment are mainly aerial surveys (ADF&G base funding) and coded wire tagging (94320B).

There was great support for insitituting thermal mass marking (TMM) as a replacment for CWT. This method is technically superior to CWT as it is possible to mark all of the hatchery incubated fish, eliminate the criticisms of the CWT technology, and improve inseason management. The Trustee Council could make a lasting contribution to the protection of wildstocks by funding the conversion toTMM. The EVOS Trustee Council should only provide funds for the transition to this new technology, however, if the future cost of sustaining the thermal mass marking is such that ADF&G can assure the Trustee Council it will sustain the program with base funding. Also, there needs to be a

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committment from the Prince William Sound Aquaculure Corporation (PWSAC) that it will maintain the TMM proceedure in its hatcheries. The key to this sustainability is an estimate to be provided to me in the next 10 days by biologists from ADF&G and PWSAC managers of the cost of the transition to the TMM program, both during the proposed transition period and in the future.

A second tool that could be instituted for better management of the run to protect wildstocks is a change of run timing and instituting remote releases/returns of hatchery fish. There are many biological, economic and social/political issues in making such changes and the scope of such an effort is larger than the perview of the EVOS Trustee Council. However, if Trustee Council funding can be used to leverage such changes these could also potentially provide lasting protection to the wildstocks. If the Trustee Council were to enter this arena it may be by way of a planning effort in conjunction with the Regional Planning Team.

Finally, a proposal from the PWSAC was presented and discussed. The scope of the proposed effort is very large, encompassing stock identification, enumeration, direct restoration, monitoring, and improved mangement. The goal of all of these activities is again to restore wildstocks of pink salmon. The PWSAC proposal also includes the two activities mentioned above (TMM and altertion of hatchery runs). The PWSAC effort is proposed within the context of other efforts, studies and restoration efforts on pink salmon salmon. There was support for several aspects of this proposal: monitoring of stock baselines, research on genetic interactions of wild and hatchery stocks, and, as mention above, TMM and altertion of hatchery runs. There was little support for widespread taking of wildstock eggs for hatchery incubation and subsequent release of the fry in the original streams. Instead an alteration of the proposed genetic manipulation experiments was proposed to include one or two streams where concerns about the possible deleterious effects of hatchery rearing on genetic fitness could be tested through several generations on a small scale.

Studies reviewed in the workshop

95076	Effect of oil on straying
95137	PWS salmon stock identification
95191A/B	Early life history stage mortality
95024	Enhancement of wild pink salmon
95069	Restoration of salmon of special importance to natives
95139A/B	Spawning channel/marine barrier bypass-Port Dick Creek
95006	Paint River salmon development
95065	PWSAC: Pink salmon fry mortality
95079	Restoration through small scale hatcheries
95320B	Stock idetification by coded wire tagging
95320C	Otolith thermal mass marking of hatchery reared fish
95320K	PWSAC: Experimental fry release
95093	PWSAC: Restoration of wild stock pink salmon

In addition to these studies there were several others (e.g., 95320A, salmon growth and mortality; 95320E, juvenile salmon and herring integration; 95320 N, the nearshore fish/hydroacoustics study; 95320Y, variation in local predation rates on hatchery released fry) which will be considered in the review of the SEA package, 94320). Project 95165 (Genetic stock identification) will also be reviewed in a mini-workshop on fish genetics for stock assessment to be held on October 7th in Anchorage.

Structure and format of the workshop

We began the workshop with a review of results of past Trustee Council sponsored studies of pink salmon damage and recovery. This was followed by a summary of the 1994 pink salmon run in Prince William Sound. These presentations were made by Sam Sharr of ADF&G. A long group discussion ensued on the tools needed for better managment of wild stocks of pink salmon. As with the herring issue, stock identification (including separation of wildstocks and hatchery stocks) was a key issue. Another part of the workshop was devoted to ecotoxicology. The main ecotoxicological issues were the continued investigations of high egg mortality in oiled streams (95191a/b) and the possible effect of oil on rate of straying or homing to the natal stream (95076). A large portion of the second day of the workshop was devoted to a discussion of the PWSAC proposal for broad scale restoration of wild stocks. As a result of this process the needs for further information were identified with reference to the proposed 1995 work plan projects. Towards the end of the meeting, Dr. Phil Mundy, the main reviewer, also had a chance to present his views of the priorities in pink salmon restoration. The

written comments from Dr. Mundy were also supplied to me following the review.

Significant general findings of the workshop

1. The aerial survey method and coded wire tagging are appropriate management tools for stock identification for the purposes of in season management. However, TMM is generally regarded as a superior method for differentiating wild stock fish from hatchery fish and would improve the ability of ADF&G to manage the return for protction of wild stocks.

2. Genetic research carried out on a few streams using the methods proposed for marking salmon could provide very useful information on straying rates and other aspects of pink salmon population genetics. Questions raised during the review with regard to the long-term effects of hatchery incubation of wild stock eggs might also be answered during such a review. The state geneticist might be favorably inclined to approve small scale genetic manipulation of stocks for the purposes of answering such questions.

3. There was little support from salmon biologists for direct and broad-scale intervention in wild streams with hatchery incubation of eggs and subsequent return of juveniles to the stream of origin. In the judgement of most of the salmon biologists, including the state geneticist from ADF&G, the risk of introducing undesirable traits leading to poor fitness of stocks outweighed the potential advantages from such a program.

4. The studies on the effects of oil on the natal habitat (95191) should be continued to their logical conclusion. If there are enough fish available from the 1993 brood year experiments when they return (there was a large release of fish that had been exposed as eggs and fry) then the study should perhaps continue through the f_2 generation. This would mean extending the research through 1996.

5. The proposed studies of the abnormally high mortality of pink salmon fry at Cannery Creek Hatchery in 1993 and at Cannery Creek and AFK Hatchery (95065) in 1994 were not favorably received. Although this is an important problem and is of significant concern, there is no demonstrable link to the oil spill and no way to show a link with the results of the study.

Implementing improved pink salmon monitoring and management in Prince William Sound

There are several more steps needed to firm up my recommendations to you on pink salmon projects for 1995. In addition, there are some longer term planning efforts that need to go hand in hand with implementing improved managment for the purposes of wild stock pink salmon restoration. First, with regard to the implementation of thermal mass marking a proposal jointly developed jointly by ADF&G and PWSAC to include costs for the transition to TMM and estimates of the annual cost of TMM. We then need a department-level decision on whether they can committ to TMM once it is developed. If the transition costs are reasonable and the annual costs are sustainable by base ADF&G funding then I would recommend that the Trustee Council fund the transition. Secondly, the other major action that could help restore the wildstocks would be to separate the harvest of hatchery stocks from the wild stocks by separating the runs in time and space. This would entail a major review on the part of the Regional Planning Team. There would be a series of important desions to be made with economical/political/social implications for the fishing community. If the Trustee Council is interested in exploring such an option then a process needs to be identified and a plan developed for Trustee Council participation. Thius is an apporach that I would be willing to explore with the help of Dr. Mundy, put it will take some time. Perhaps the best way to handle this issue is to defer any immediate Trustee Council action until the appropriate participants have been contacted and the potential role of the Trustee Council can be better defined in such a process.

Summary of recommendations by project

Below is a tabular presentation of my recommendations developed from the review process. These recommendations are not meant to preclude a careful budgetary review.

Project No.	Short title	Recommendation
95076	Effect of oil on straying	Fund as a follow up on damage assessment; however could be eliminated if there is a request for significant reduction of the overall 1995 budget. This project not likely to contribute to improved management.
95137	PWS salmon stock identification	Defer funding; addresses only salmon species in PWS not shown to damaged by the spill
95191A/B	Early life history stage mortality	Continue funding as requested.
95024	Enhancement of wild pink salmon	Combined with the PWSAC proposal
95069	Restoration of salmon of special importance to natives	Combined with the PWSAC proposal
95139A~~B~~	Spawning channel/marine barrier bypass-Port Dick Creek	Defer funding: link to damage questionable, low probability of success, also doubts about cost-benefit; goal appears to be to produce fish for harvest
95006	Paint River salmon development	Do not fund; low technical merit; weak link to spill (Paint River was not oiled).
95065	PWSAC Pink salmon fry mortality	Do not fund; no demonstrable link between oil spill and abnormally high mortality of pink salmon fry at some hatcheries in 1993 and 1994
95079	Restoration through small scale hatcheries	Do not fund; there may be significant new risks to wild stocks through operation of another hatchery

95320B	Stock identification by coded wire tagging	Fund; a year's overlap will still be needed if the TMM program is instituted.
95320C	Otolith thermal mass marking of hatchery reared fish	Fund only if transition costs are reasonable and ADF&G committs to long-tern base funding.
95320K	PWSAC experimental fry release	Fund; this is needed for 95320 program.
95093	PWSAC Restoration of wild stock pink salmon	Recommendation awaits a revised proposal.

CC: M. McCammon
P. Mundy

95093

APPLIED marine SCIENCES

October 22, 1994

To: Mr. Howard Ferren, Special Projects Manager, Prince William Sound Aquaculture Association (PWSAC)

From; Dr. Robert Spies, Chief Scientist, *Exxon Valdez* Oil Spill Trustee Council

Thank you for your latest proposal, "Restoration of PWS natural spawning salmon resources and services overview: An integrated and collaborative approach". I have reviewed this proposal on behalf of Jim Ayers with the help of several reviewers. We would like to continue to help in the evolution of this proposal and we have responded as quickly as we could. It is obvious that PWSAC has made a good effort to produce a comprehensive proposal to address restoration of pink salmon wild stocks injured by the *Exxon Valdez* oil spill. This proposal has to be considered within a complex context of oil spill injury to stocks, hatchery and wild stock interactions, management and harvest activities, as well as the responsibilities of several institutions beyond the Trustee Council. In this memo I hope to outline some of the issues that came up during the course of the review in order that we can engage in a reiterative process of focusing the proposed effort in a direction that will be most helpful to the Trustee Council mission.

1. The Trustee Council has committted to a long-range study of pink salmon in the PWS ecosystem and project 94191 is indicating that the main continuing injury that appears to be tied to oil is the higher rate of embryo mortality in oiled streams compared to unoiled streams in southwest PWS. What you have proposed to deal with this problem is meant to lead to direct supplementation to bolster production of the oiled streams. Since the type of intervention that is ultimately contemplated involves manipulations of the survival of early life history stages in the wild stocks, it carries with it the potential to deselect the populations for certain adaptive genetic combinations This has been discussed in the recent review meetings and the revised proposal is responsive to this concern in that it is configured to directly address the survival through the second generation of supplemented fish in a pilot study mode. It should be clear from the onset that this is an experimental approach where we will be trying to bring to bear the best approaches currently available to answer this question. **There should be no expectation that these experiments will necessarily provide unequivocal answers to the questions that need to be answered with regard to the risks to wild stocks from supplementation, or in fact will lead to wide spread supplementation in the near future.**

2. It is clear that there has been a history of discussion of the issue of remote releases to potentially solve the problems of wild stock-hatchery interactions. Your proposal contains a request for funds for this type of work and a

proposal for an immediate remote release of a large number of fry in the spring of 1995 in PWS. A workable solution to the challenge of maintaining hatchery production without further harm to wild stocks has serious biological issues and has to take place within a context of other institutions and past work on this problem (e.g., the Phase III Salmon Plan). Information from ADF&G indicates that remote releases of fry this spring may be problematic and require permits that may not be immediately forthcoming. Clearly if the Trustee Council could help to resolve this issue it may be of great benefit to the injured wild stocks, but this might best be done as backing for an initial planning effort in a multi-institutional (ADF&G, Regional Planning Team, PWSAC, Board of Fish, EVOS TC) framework. If , for example, PWSAC could solve some of the gear group allocations issues among its members then this might lead the way to implementation of biologically sound solutions, if they exist.

3. Work such as stock baseline inventories and assessment of stream conditions need to be planned within the historical context of ADF&G efforts and archive information as well as their future plans. The objectives of this work need to be better defined. More planning needs to take place in order to make the work truly integrative of past and future programs.

4. The goal of putting local residents to work on active restoration of the Sound is a laudable and one that the Trustee Council will look favorably on. I hope we can retain this feature in the evolving proposal.

5. The genetics work proposed for PWS will require an Environmental Assessment or an Environmental Impact Statement. It is unlikely that the actual work would commence in the coming year.

6. Finally, we encourage PWSAC to identify a strong scientific leader that can embrace all aspects of this project, command the respect of the local population as well as the community of salmon biologists in Alaska.

Given all these considerations it is my opinion that the Trustee Council should provide for funds so that this proposal can continue to develop and evolve during 1995. Given the recent progress and partnerships that are evolving in this process and the need to obtain an EA or an EIS for the pilot work, something in the range of 100 K in funds for environmental compliance work (EA or EIS) and for planning for 1995 seems appropriate. Please let me know your thoughts on these issues.

CC: Ayers
McCammon
Sullivan
Brady
Seeb

Herring

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marine
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September 26, 1994

To: James Ayers, Executive Director
From: Dr. Robert B. Spies, Chief Scientist
Re: Recommendations on herring research and monitoring for 1995

On September 12-13, I conducted a review of herring research and monitoring needs for 1995 in Prince William Sound with the help of core reviewers and herring biologists. During the course of the review the projects proposed for the 1995 work plan were evaluated by the peer reviewers. The purpose of this memo is to summarize the meeting and its findings and to present a final recommendation to you for herring research and monitoring in the 1995 work plan. I will also propose a general plan for gradual implementation of herring research and monitoring in Prince William Sound.

Summary and recommendation

A successful workshop was held on research and monitoring needs for Pacific herring. Current tools for stock size assessment and forecasting year class strength, aerial surveys (ADF&G base funding) and egg deposition surveys (95166), should continue and be supplemented by development during 1995 of an indexing survey (95320 T) to be implemented in 1996. It is not feasible to implement large-scale coded wire tagging of herring (95051) at present. The project on movement or larval and juvenile herring (95057) should be delayed until 1996. The reproductive impairment (95074) and disease impact work (95320S) should continue and be closed out in 1996. The work on herring somatic and spawning energetics could start but its full development within PWS is hindered by lack of a stock composition model. Management and coordination needs to be immediately improved in order for the work on herring to move forward in a efficient manner--a coordinator and chief investigator needs to be identified. In addition a synthesis of all available information on Pacific herring in PWS and development of a stock composition model should be a prerequisite for any work undertaken beyond 1995.

Studies reviewed in the workshop

95166	Herring Natal Habitat
95051	Large-scale coded wire tagging of herring
95057	Movement of larval and juvenile fish
95320T	Juvenile growth and habitat partitioning
95165	Genetic stock identification
95074	Reproductive impairment
95320S	Herring disease
95320U	Somatic and spawning energetics of herring and pollack

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In addition to these studies there were several others (e.g., 95320 N, the nearshore fish/hydroacoustics study; 95163, Abundance and distribution of forage fish) whose integration with the herring work was considered). Project 95165 (Genetic stock identification) will also be reviewed in a mini-workshop on fish genetics for stock assessment to be held on October 7th in Anchorage.

Structure and format of the workshop

We began the workshop with a review of the current status of the herring resource in Prince William Sound. This was led by John Wilcox of ADF&G with significant help from Evelyn Biggs-Brown. This summary was followed by a long group discussion of the possible factors constraining herring production and recovery. An effective tool during this discussion for matching needs and proposed actions was a population dynamics matrix consisting of the potential important limiting factors (e.g., food. water temperature, predation, toxicity and disease) arrayed against the various life history stages (e.g., egg, larvae, juvenile and adult). This was followed by a discussion of the stock identification issues (particularly in relationship to the proposed projects on coded-wire tagging and genetics). As a result of this process the needs for further information were identified with reference to the proposed 1995 work plan projects. Towards the end of the meeting, the reviewers also had a chance to present their views of the priorities in herring research. The written comments from the reviewers (Drs. Phil Mundy, Jake Schweigert, Max Stocker) were sent to me following the review. A set of notes on the meeting was also provided by Evelyn Biggs-Brown.

Significant general findings of the workshop

Organizational

1. There is a need to summarize the status and history of the herring resource in Prince William Sound and our understanding of the factors that have affected it. This will be a benchmark from which a rational program for herring research and monitoring can be constructed. It should also probably be revised annually. All reviewers concurred with this finding.

2. There is a need for a scientific coordinator for herring research and monitoring to ensure the most effective integration and application of project activities towards herring restoration goals.

Technical

1. While the egg deposition and aerial survey methods are appropriate management tools for estimating the size of the adult spawning biomass, the best predictor of the strength of a year class will be the abundance of year 0+

juveniles. This data is not currently being collected, and a program to obtain this information needs to be developed. If the Juvenile Herring Growth and Habitat Partitioning project (95320T) goes forward the first year will be devoted to developing the indexing stations for such an annual survey of O+ age class herring.

2. There needs to be a reigning hypothesis and model of stock structure of herring in PWS before a substantial amount of the genetic work is carried out. The simplest hypothesis would be a one stock hypothesis. It is very unlikely that allozyme analyses (a standard technique for genetic stock separation) of herring will reveal more than one stock in PWS. Similarly, mitochondrial and nuclear DNA work done elsewhere on Pacific herring stocks have not yet produced anything very promising in terms of finding more subtle differences. It may be worth investing a modest amount of funds in pursuing some of the newer molecular techniques, but it will probably take at least a year before these would begin to provide answers.

3. It is unclear how useful hydroacoustic surveys of herring would be in providing information for management. The spawn deposition and aerial surveys now carried out by ADF&G and the indexing surveys of 0+ age class juveniles developed in the next two years would probably provide enough information for management. The calibration of hydroacoustic survey data with that of the other three methods and the overall interpretation of stock abundance could be problematical.

4. The coded wire tag studies will require a long-term commitment of Trustee Council funds. A great number of juvenile fish will have to be tagged to get a good recovery. There is considerable doubt that the fish in possession of all the processors would be accessible for tag recovery. The overall chances for success of this project are considered to be very lowat this time.

5. Gathering information on egg loss and embryo mortality in the natal habitat project is of lower priority . It is unlikely that such studies will contribute anything to the overall improvement of year-class strength predictions; the best predictor is likely to be 0+ age class abundance.

A plan for gradual implementation of herring research and monitoring in Prince William Sound

Population dynamics

In 1995 natal habitat monitoring (95166) and aerial surveys (ADF&G base funds) should continue to provide the basic information on spawning adult biomass for PWS as well as a possible modest effort in modeling egg loss and other factors in early life history affecting age class strength. The juvenile growth and habitat partitioning project (95320T) should develop a series of

indexing stations for eventual use in sampling of juvenile herring. This development would be conducted in conjunction with work in the SEA program now targeting the survival of juvenile pink salmon. The reproductive toxicology (95074) and disease work (95320S) would be continued to determine the potential effects of oil on herring reproduction and the effects of disease on population size. A modest amount of work on somatic and spawning energetics could be started (95320U), but this work cannot be completed satisfactorily until a stock structure model is in place. A herring research and coordinator should be appointed and a stock structure model implemented.

In 1996, when more data on oceanographic conditions in the Sound are available, it may make sense to implement the study proposed this year on Movement of larval and juvenile fish (95057). Projects 95166 and 95320T would be continued as providing the basic information needed for forecasting stocks in the management of the fishery. Projects 95074 and 95320S would probably be closed out.

Stock identification

In 1995 a stock structure model needs to be developed for guiding this whole effort. In addition a very modest investment of funds in pursuing some of the newer molecular techniques that might be more powerful for use in stock separation should be made. The coded wire tag studies would be deferred until such time that new technology, the circumstances of harvesting or information on stock structure indicates that such an effort will have a higher chance of success than is apparent now. Any activities beyond 1995 will depend on more encouraging results from the genetics work.

Summary of recommendations by project

Below is a tabular presentation of my recommendations developed with the help of the reviewers. Funds for the stock model development and herring research coordinator might come from savings realized in 95166, 95320T or another source. These recommendations are not meant to preclude a careful budgetary review.

Project No.	Short title	Recommendation
95166	Herring Natal Habitat	Fund spawn deposition surveys, and historical habitat data base development only; egg loss and embryo survival work not likely to contribute to improved management.
95051	Large-scale coded wire tagging of herring	Defer funding; low probability of success at present.
95057	Movement of larval and juvenile fish	Defer funding; reconsider when SEA oceanographic data are available.
95320T	Juvenile growth and habitat partitioning	Fund juvenile abundance survey development and some diet, predation and co-occurring species work; cytogenetics work of lower priority.
95165	Genetic stock identification	Possibly fund some exploratory work with new DNA technology; subject to another review on 10/7/94.
95074	Reproductive impairment	Continue funding as requested.
95320S	Herring disease	Fund as requested.
95320U	Somatic and spawning energetics of herring and pollack	Fund preliminary effort at about 50K; possible increases in 1996.

CC: M. McCammon
P. Mundy

APPLIED
marine
SCIENCES

Fish Genetics

October 21, 1994

To: James Ayers, Executive Director
From: Dr. Robert B. Spies, Chief Scientist
Re: Recommendations for fish genetics research for 1995

On October 7, I conducted a review of fish genetics research needs for 1995 with the help of several reviewers and biologists from the Alaska Department of Fish and Game. During the course of the review the fish genetic projects for pink salmon, herring and sockeye salmon proposed for the 1995 work plan were evaluated by the peer reviewers. There were also separate reviews that addressed the overall needs for each of these species and each review is the subject of a separate memo. The purpose of this memo is to summarize the genetics workshop and its findings and to present a recommendation to you for fish genetics work in the 1995 work plan.

Summary and recommendation

A successful workshop was held on fish genetic research needs for pink salmon, sockeye salmon and herring. The common goal of these restoration projects is to provide better definition of the stock structure of several fisheries--the Prince William Sound fishery for herring and pink salmon and the Upper Cook Inlet fishery for sockeye salmon. Better estimates of the stock structures of these fisheries will allow better management of the harvest, and thereby make it possible to restore the components of these stocks that were affected by the oil spill. In addition, the salmon genetics studies should help clarify the stock issues relative to a variety of supplementation efforts that are being proposed for salmon.

Overall the reviewers were impressed with the very high quality of the sockeye salmon genetics research on Upper Cool Inlet that has been accomplished in the last three years. The investigators have made a major contribution to this field and to the ability of the ADF&G to better manage this fishery. Should the Trustee Council elect to support further genetic work on any of the three species, based on the sockeye results to date we can be assured that the quality of the work will be excellent. Excellent progress has been achieved since these studies started in 1992. Analyses of several thousand fish from more than 30 locations in Upper Cook Inlet streams for allozyme frequencies at more than 60 loci has allowed the establishment of a comprehensive baseline for the major stocks of sockeye contributing to the mixed stock fishery. Although in extensive proof testing the Kenai River fish have been allocated correctly at an accuracy exceeding 80%, the considerable within-drainage genetic heterogeneity observed presents some remaining difficulties that further work with the use of DNA markers may eventually solve. Alternatively, the Russian River substock in the Kenai drainage allocates at an accuracy of around 90% in the simulations based on the current

allozyme analysis, so this may provide an immediate marker for Kenai River fish at a higher precision. The managers of the Upper Cook Inlet fishery appear to be ready to accept use of the genetic stock identification tools as they are currently developed for in-season management, so the Trustee Council appears to have accomplished its major goal of providing a tool for better management of this fishery. In a related memo on sockeye salmon I outline the wider issues and evidence relative to a potential problems for sockeye salmon in the Kenai River drainage. The recommendation there is for a reduced level of funding for sockeye restoration work in 1995 in view of the lessening possibility that there is a serious problem with adult returns from the 1989 and 1990 brood years. The basis of this recommendation is solely the lessening concern for the effect of the spill on the resource; the quality of the research is among the best that the Trustee Council has supported.

There were two aspects of pink salmon genetic investigations--stock identification and potential genetic damage from the spill. The main body of results are not yet available from the stock identifications studies carried out with 1994 Trustee Council funding (94320 D). Administrative procedures to award the contract have recently been completed and the contractor is proceeding with the analyses of pink salmon collected over the past two years. These studies include a strong component of molecular marker work, as the main result of more classic allozyme work may be only stock structure separations due to run timing and place of spawning in the stream (intertidal versus upstream). The second component of the pink salmon genetics work are investigations of the underlying genetic nature of the differences observed in egg mortality rates between oiled and unoiled streams. It appears that gross genetic abnormalities that would be detectable by flow cytometry are not different between oiled and unoiled streams and most likely do not explain the higher mortalities of eggs, as predicted by reviewers several years ago. Detecting microlesions in the genome of fish from oiled streams that might explain the differing rates of egg mortalities will be very challenging. However the reviewers and I think that further investigation is warranted. The proposers for 95093 from the Prince William Sound Aquaculture Association also attended the review and the reviewers and I, as well as the Principal Geneticist from ADF&G, Dr. James Seeb, used this opportunity to discuss the general nature of genetic risks in supplementation of wildstocks of pink salmon.

Defining the stock structure of herring is clearly important if we are to better manage the herring stocks that have apparently so precipitously declined in the last two years. Past work with the conventional allozyme analysis has generally only been successful in defining differences in stock structure over very large areas, e.g., the north Pacific, and the main genetics reviewer is suggesting that a concerted effort be made with one molecular technique. I am recommending that the herring genetics work be funded as requested.

Studies reviewed in the workshop

95255	Kenai River sockeye salmon restoration (genetics component)
95320D	PWS pink salmon genetics
95191A	Oil related egg and alevin mortalities (genetics component)
95320D	Herring genetics
95093	PWSAC: Restoration of wildstock pink salmon

Structure and format of the workshop

We began the workshop with a review of results of past Trustee Council sponsored studies of sockeye salmon genetics presented by Dr. Lisa Seeb. An extended discussion ensued about the application of the genetic baseline for sockeye salmon and how it should be used in management of the mixed stock fishery in Upper Cook Inlet.

This was followed by a summary of the progress on the pink salmon work in Prince William Sound by Dr. James Seeb. Most of the presentation involved a summary of a pre-hatchery study of allozyme frequencies in PWS pink salmon. This was followed by a discussion of the results of the genetics component of the pink salmon egg and alevin mortality investigations. This provided an opportunity to revisit the PWSAC proposal for broad scale restoration of wild stocks. Drs. Smoker and Gharret from the University of Alaska, Juneau then presented an experimental design for examining the phenotypic distribution of heritable egg mortality factors. The written comments from Dr. May, the genetics reviewer, and Dr. Mundy, the management applications reviewer, were supplied to me following the review. In addition Dr. Chris Wood, a reviewer for sockeye salmon, read the written materials supplied by Dr. Lisa Seeb on sockeye salmon genetics for the review and supplied his comments.

Significant general findings of the workshop

Sockeye salmon

1. A very careful investigation has been planned whereby a comprehensive baseline has been developed of allozyme frequencies for the spawning populations contributing to the Upper Cook Inlet mixed fishery. The investigators have gone to great length to proof test their data and prepare themselves for mixed stock work. The genetic heterogeneity of stocks within river systems, whereby some stocks from within the river system, more closely resemble those from another river system than they do other substocks with the same river, has some what decreased the power of the methodology. This heterogeneity within rivers may also be contributing to

the within-river mixed fishery variance observed this year. The difficulties of within river variance may be obviated by DNA data, however insufficient data from any of the DNA studies currently exist to make this determination. A DNA method can not replace allozyme work for in-season management, but it may prove useful for post-season analysis if the cost per sample (fish) proves reasonable. A limited number of DNA studies have been carried out, both within Alaskan agencies and with contractors in other states. The more promising of these methods, mtDNA and microsatellites, with the less promising, the growth hormone gene sequences, dropped from the study. While numerous polymorphisms were noted for RAPDs, the main reviewer did not think that this technique has the potential for in season use because of the difficulties of obtaining consistent results between laboratories and the dominant nature of most variants. The latest results obtained from the UA-Juneau laboratory and from ADF&G should be pooled on an individual basis to provide a more complete haplotype designation.

2. The simulations to test the performance of GSI for sockeye in Cook Inlet appear to be very rigorous and the results are promising. The most appropriate implementation will depend upon tradeoffs of cost, reliability, and the number of populations to be distinguished. The most cost effective procedure may involve differentiating a limited number of "stock groupings" where populations that are difficult to distinguish are grouped together. We recommend evaluation of a "two stock" model that evaluates only Kenai River and others.

Pink salmon

1. The study of stock structure in pink salmon within the EVOS-affected area has been well conceived and is being carried out in a systematic fashion. The award of the contract to the Washing State University group was logical and the initial results demonstrate the capabilities of this group. The investigators should be aware that the same considerations that dictate the sample sizes for the allozyme work apply equally to the DNA work. In fact each individual fish only supplies half the data for a single allozyme locus. If reductions in the number of individuals need to be made, careful consideration should be given to resultant confidences in haplotype frequencies.

2. The two-fold greater embryo mortality observed between oil-contaminated spawning habitat and unaffected habitat is certainly worth exploring further. Pooling the family lots has permitted testing this relationship, but does not permit potential testing of the reasons for the greater mortality. In order to begin to unravel the effect one reviewer suggested that the investigators may want to make and maintain single pair matings in the future and to save all mortalities in 95% ethanol and in a fixative suitable for chromosomal investigation. Making haploid embryos from affected and control habitats may make the task of looking for chromosomal changes easier. Looking for

single base pair changes at specific loci has, in the opinion of the reviewers, only a small chance of success, but following several lines of attack on this problem may eventually lead to its solution.

Herring

1. Past attempts to define stock structure of herring using allozyme frequencies have generally only been able to define differences between widely separated populations. Therefore attempts to use allozyme frequencies to define stock structure of pink salmon within Prince William Sound are likely not to show more than one stock. The next obvious step is to use DNA markers to determine if there are definable substocks using these molecular techniques. The main reviewer, Dr. May, strongly recommends that all of the available funds for the herring work be funneled into a vigorous attempt using one methodology. An open RFP as it is currently formulated would allow any marker system to be proposed, however the genetics reviewer feels that a microsatellite DNA approach would be successful.

Summary of recommendations by project

Below is a tabular presentation of my recommendations developed from the review process. These recommendations are not meant to preclude a careful budgetary review.

Project No.	Short title	Recommendation
95255	Kenai River sockeye salmon restoration (genetics component)	Fund entire project at 50% of requested funds for one more year.
95320D	PWS pink salmon genetics	Continue funding as requested
95191A	Oil related egg and alevin mortalities (genetics component)	Continue funding as requested.
95320D	Herring genetics	Continue funding as requested
95093	PWSAC Restoration of wild stock pink salmon	Recommendation awaits review of a revised proposal.

CC: M. McCammon
P. Mundy
B. May

Sockeye Salmon

APPLIED marine SCIENCES

October 18, 1994

To: James Ayers, Executive Director
From: Dr. Robert B. Spies, Chief Scientist
Re: Recommendations on sockeye salmon monitoring for 1995

On October 10th, I conducted a review of sockeye salmon restoration, monitoring and research needs. During the course of the review the monitoring and restoration projects proposed for the 1995 work plan were evaluated by the peer reviewers in the context of past accomplishments of the programs. There was a separate review of the genetics aspect of the sockeye salmon restoration program and this will be the subject of another memo, although aspects of this program will be included here for completeness. The purpose of this memo is to summarize the findings from the monitoring and research workshop and to present a recommendation to you for sockeye salmon monitoring, research and restoration in the 1995 work plan.

Summary and recommendation

A successful workshop was held on the accomplishments of the sockeye salmon programs and their future needs relative to damage from the large escapements in 1989 into Kodiak Island and Kenai Peninsula streams. There have been several goals of the monitoring, research and other restoration projects:

1. to provide better tools for monitoring the mixed stocks of sockeye salmon targeted by the fisheries in upper Cook Inlet in order to compensate for the expected effects in 1994 and beyond in the Kenai River system from large escapements in 1987 through 1989,

2. to continue to monitor the potential effects of the large escapements to the Kenai River system and several sockeye systems on Kodiak Island through studies of limnological conditions in the lakes, the survival of fry and production of smolt in order to more appropriately manage the ecapement levels,

3. to take other actions, such as support of hydroacoutic surveys and test fisheries, to aid in season management in expectation of potential reverberations of large escapements (i.e., low returns of the 1989 and 1990 brood years) .

The first tool that has been developed from Trustee Council funding for better management of the in season fishery is the genetic stock identification (GSI) baseline developed for the Upper Cook Inlet. The managers are on the verge of accepting this tool for allocation of the catch to distinguish the Kenai and to other sources of production. GSI was used on

one in-river sample in 1994 and should be used in 1995 in the commercial fishery. The second management tool that has apparently achieved some success is the offshore hydroacoustic surveys that provide an estimate of the size of the offshore stock. While this stock size estimation requires some assumptions, it appears to be accurate, although it is not very precise and therefore has to be used with some caution. It does have the potential to provide very useful information to managers about the number of fish in the offshore area prior to their movement into other areas, or into their natal streams bordering on Upper Cook Inlet.

Limnological and fry condition studies, instituted in 1990, have produced some interesting contrasts in the conditions of Tustemena Lake, in the Kasiloff River drainage, with Skilak Lake, the major smolt producing portion of the main-stem Kenai River system. There are clear indications that in the glacial lake, Skilak, as in clear-water systems, that the fry graze preferentially on certain types of zooplankton, but unlike the clear water lake systems where populations of preferred zooplankters have been grazed down by large escapements, this has not happened in Skilak Lake as a result of several years of large escapements. It is apparent for Skilak Lake that the weight of fall (autumn) sockeye fry is inversely proportional to the number of spawning sockeye in the lake the previous summer and that for both lakes the mean fall fry weight increases with amount of zooplankton biomass available per fry. It is also apparent that as the fall progresses into winter and the following spring the lipid content of fry in Skilak lake decreases, particularly in the larger fry. None of this information has yet provided us with firm information about the ecological consequences of the large escapements that occurred from 1987 to 1989. While there is most likely a minimum size in any given fry cohort below which survival is unlikely, the main evidence that fry survival is a problem has come from the drastically decreasing counts of outmigrating smolts. It is now certain that the smolt traps on the Kenai River are trapping larger smolt much less efficiently than smaller smolt. After the large escapements entered the main stem of the Kenai we believe that it is possible the smolt sizes increased and that that this explains, at least in part, the drastically decreased numbers of outmigrating smolts caught in the traps. Therefore, there is now a great deal more uncertainty as to whether there are negative effects, as measured by adult returns, of large escapements in 1987 to 1989. into the Kenai River system.

To amplify further on the potential effects of large escapements on the subsequent adult returns one needs to consider the smolt-to -adult survival data. For the 1987 and 1988 brood years this survival was apparently on the order of 30 to 40%. If one assumes that the traps are not biased, then the survival of smolts to adults for the 1989 brood year would have had to been on the order of 120%, clearly an impossible statistic. If one adjusts the smolt survival data more into the range of 40% then the fry to smolt survival would have to be relatively constant at about 50% for brood years 1988

through 1992. Although th return per spawner for the 1988 and 1989 brood years are very low, indicating that there may have been an effect of the large escapements on adult returns to the Kenai, the fluctuations in the returns, as evident in 1994 and perhaps future years, may well be a manifestation of the natural variability in other aspects of this system.

On the basis of the available data the null hypothesis that the large escapement into the Kenai River from the *Exxon Valdez* oil spill has had no effect on adult returns cannot be disproved at this time. There are however lingering effects of large escapements into the Akalura Lake system that should receive some additional attention, including lowered adult returns. There were negative effects on adult production of a large 1989 escapement into Red Lake, but the zooplankton population has recovered; remaining problems in Red Lake are with egg survival rates and are may be due to causes unrelated to the oil spill.

The Trustee Council has funded some excellent work on Upper Cook Inlet sockeye salmon in the last 4 years, improved our knowledge of sockeye fry rearing in glacial lakes and has improved the tools available to managers in the future. The Alaska Department of Fish and Game should be able to perform its normal management functions in Upper Cook Inlet better as a result of this effort. In my view the Trustee Council has performed its job of providing tools for enhanced resource management while there was a great concern for a valued resource. Now that the concern has lessened and the tools are available for better management of the fishery, the Department of Fish and Game should reassume a larger share of the costs of the study and management of the upper Cook Inlet fishery. Perhaps there should be a one year transition where the Trustee Council sponsored effort is decreased considerably, mainly directed to finishing limnological studies in Skilak Lake and implementing the genetic stock identification studies, and directing more attention to the situation in Akalura Lake. Unless new data are produced in 1995 indicating a more direct and serious effect of the oil spill to sockeye salmon adult returns in the Kenai River drainage the programs should become part of the normal ADF&G program and budget.

The Coghill Lake situation is completely different than that of other sockeye systems that have been the object of Trustee Council studies. The problems in Coghill Lake are clearly unrelated to the spill, and the project appears to have been funded as replacement for lost fishing opportunities in 1989. The goal of the Alaska Department of Fish and Game has been to rebuild the sockeye run--the current escapements are only a few thousand fish while in the past returns of over one hundred thousand fish were common. There has been a drastic drop in the return per spawner from about 3 to about 0.3 starting in the mid-1980s. Data from 1994 indicate that the fertilization supported by the Trustee Council has successfully built up the plankton in this system. Non-trustee sponsored efforts by ADF&G to

supplement the natural sockeye population were the subject of considerable discussion, but without resolution. It is suggested that the Trustees fund a minimal effort in 1995 for fertilization of Coghill Lake. This should be done on the condition that: (1) ADF&G carry out a monitoring program on the condition of Coghill Lake, and (2) significant positive steps be taken to minimize interception of Coghill Lake fish in other directed fisheries.

Studies reviewed in the workshop

95048	Historical analysis of sockeye salmon growth
95105	Kenai River ecosystem restoration pilot enclosure study
95255	Kenai River sockeye restoration
95258	Sockeye salmon overescapement
95259	Restoration of Coghill Lake sockeye
95133	English Bay River sockeye salmon subsistence project

In addition to these studies there is the proposed work on fish genetics under 95255 which was considered in the review of the fish genetics projects. This project was reviewed in a mini-workshop on fish genetics for stock assessment to be held on October 7th in Anchorage. The results of this study will be the subject of another review.

Structure and format of the workshop

We began the workshop with a review of results of past Trustee Council sponsored studies of sockeye salmon by Dr. Dana Schmidt of the ADF&G. This was followed by a summary of the 1994 sockeye salmon return to the Kenai River presented by Mr. Ken Tarbox. The main part of the review consisted of a series of more detailed presentations on the major sockeye systems subject to Trustee Council funded programs in the last 4 years: Kodiak Island, the Kenai Peninsula and Coghill Lake (Prince William Sound). Questions of achieving effective restoration through management were addressed as they arose throughout the workshop. A meeting agenda is attached.

Significant general findings from the workshop

1. **Kodiak Island**: The returns of adult sockeye salmon to Red Lake and Akalura Lake were consistent with the damages based on overescapements in 1989 and subsequent changes in the limnological conditions of these lakes. Returns to Akalura Lake in 1994 were particularly small and Red Lake received the lower end of its escapement goal only by sacrificing directed fishing in the Ayakulik District. Lower than average returns to both Lakes resulting from damages from the spill may reasonably be expected in 1995.

There is evidence that production will continue to be low in both lakes beyond 1995, however in the case of Red Lake the production problem (survival from adult to fry) appears not to be related to the spill. The hypothesis relating damages to overescapement requires damage of the food base, or reduced caloric intake as a result of competition, or both. The zooplankton base, especially the cladocerans (which the fry favor as food) is normal at present. Reduction in production for brood years after 1991 appears to be a function of lowered adult to fry survival. This may well be unrelated to the effects of the spill. Red lake offers the clearest cut evidence of damage to production resulting from overescapement, but whether the continued below average survival is related to overescapement is questionable.

In the case of Kodiak Island where smolt counts are considered reliable and mean smolt size has varied widely among lakes and years, these studies provide a valuable opportunity to evaluate the relationship between mean smolt size and smolt–to–adult survival. In most regions, spawning escapement targets are developed based on implicit assumptions about optimal smolt size, yet there have been few experimental studies to test these assumptions. Such information would likely be valuable for optimizing sockeye production both from the study lakes and from other lakes within the region.

Also, given the abundance of sticklebacks in the Kodiak Island lakes, one reviewer recommends that further studies consider the plausibility of mechanisms by which intensive grazing by sockeye and sticklebacks might restructure the zooplankton community so that sticklebacks gain a (temporary) competitive advantage over sockeye, thus reducing the survival of young sockeye fry, and slowing the recovery of sockeye populations after an overescapement event.

2. Cook Inlet/Kenai Peninsula

The reviewers were impressed with the quality and thoroughness of the limnological investigations of sockeye salmon lakes on the Kenai Peninsula. Where these investigations are leading within the restoration program is less clear.

Although there is evidence based on age structured adult returns per spawner that overescapement (beginning in the 1988 brood year) could have reduced sockeye productivity in the Kenai River water shed, there is little indication of how such an effect has been produced by overescapement. At the present time it appears that the limnology program is grappling with which variables should be measured to study the effects of overescpaement, as well as where and when to measure them. There is no indication that the expected primary effect of overescapement, depression of zooplankton biomass, has occurred in response to the large escapements in 1989.

The reviewers were not convinced that high escapements resulting from disruption to fisheries during the oil spill in 1989 have reduced overwinter survival of fry in Kenai system lakes to the extent suggested. Conclusions in the status reports are plausible from a limnological perspective, but we believe it is more parsimonious to suggest that smolt counts have been misleading in the Kenai River system. There are at least three reasons to doubt the accuracy of the smolt counts, at least for the years 1991–93:

First, the **nominal** smolt counts suggest that age 0 fall fry–to–smolt survival was anomalously low for brood years 1989–91 (hence the starvation hypothesis) and that marine survival was impossibly high (>100%) for the 1989 brood year, the only data point available yet. On the other hand, if we assume that fry–to–smolt survival has not declined, remaining at pre–oil spill levels (approx. 50%), the anomaly in smolt–to–adult survival for the 1989 brood year would also disappear (31% survival instead of 119%), and the "**adjusted** smolt" estimate is within the normal range (see attached Figures 1 and 2). The adjusted fry–to– smolt survival values seem more consistent with the observed mean size and condition factor of fall fry than the unadjusted values in that better overwintering survival would be expected for larger, more robust fry. Finally, anomalies in age composition of smolts (calculated within brood years) can also be explained more easily by assuming that smolt counts were underestimated in 1991–93 than by postulating changes in "holdover rates" because of feeding conditions or fall fry size. For example, underestimation of smolts beginning in 1991 would result in an underestimate of age 2 smolts from the 1988 brood relative to age 1 smolts from the same brood counted in 1990, thus accounting for the high estimated proportion of age 1 smolts for that brood year (92%). Similarly, if smolt counts became (more) reliable again in 1994, the age 2 smolts from the 1991 brood would be overestimated relative to their age 1 siblings enumerated the preceding year, and accounting for the anomalously low estimate of 58% age 1 smolts for the 1991 brood year. Smolt age composition estimates for other years would not be biased if smolt counts were underestimated only in 1991–93, and this is consistent with the intermediate proportions actually observed (81–90%). In other words, the perception of a problem in the Kenai system hinges to a very large extent on the credibility of the smolt counts.

Second, the investigators report that the smolt enumeration methodology appears to very size selective for both sockeye and coho smolts. Avoidance of the inclined plane traps by larger smolts may be more problematic in the Kenai River than other rivers studied because of its lower turbidity which would allow larger smolts a greater opportunity to see and avoid the traps. Conclusions about overwintering survival and the effect of (reduced) smolt size on marine survival will depend critically on the reliability of the smolt counts. In our view, this problem must be addressed in any further studies of the Kenai system. We suggest developing an estimate of smolt age that is independent of the smolt trap catch. The occurrence of poor overwintering survival should also be

demonstrated prior to undertaking (or perhaps in conjunction with) experimental studies to investigate possible mechanisms causing (postulated) poor overwinter survival.

Third, estimated smolt–to–adult survival has always exceeded 30% for Kenai River smolts but has never exceeded 20% for Kasilof River smolts. Age 0 fall fry sizes have ranged from 0.9–1.8 g in the Kenai system compared with 1.3–2.5 g in the Kasilof system. Similarly, the proportion of age 1 smolts (by brood year) has ranged from 58–92% in the Kenai compared with 30–84% in the Kasilof. Thus, despite larger fry sizes, and more older (hence larger) smolts in the Kasilof River, estimated smolt–to–adult survival has been higher in the Kenai than in the Kasilof. We find this difficult to understand given the close proximity of the two systems. Other things being equal, it is widely held that smolt–to–adult survival increases with smolt size over this range in smolt size.

Should the Trustee Council choose to subsidize the management of the Kenai River sockeye fishery in 1995 it is recommended the GSI and Area Wide Sonar enumeration be supported. This support should not be without conditions that involve proscribed research protocols being in place before the season starts in 1995. At minimum collect GSI samples from each commercial drift fishing period between July 5 through July 17, and from catches of set nets of Kalifornsky Beach and east side set net beaches to the south during the same period, and from Kalifornsky Beach and east side beaches north after July 17. Not every set net period need be sampled. For example during an east side drift corridor opening, the beaches may not need to be sampled. A contingency plan would need to be in place prior to the start of the season, and there is need for further biometric evaluation of analysis strategies to be made as soon as possible, including consideration of the use of adaptive sampling strategies.

In addition, the District Wide sonar survey should be doubled up to make estimates of the number of sockeye in the district before and after the drift fleet openings between July 5 and 17. By estimating the number in the District after the opening, a check of the fleet's exploitation rate could be made. Biometric analysis of the survey design based on the 1994 survey data should be undertaken as soon as possible and the results submitted for peer review by the ADF&G biometrics staff and appropriate peer reviewers. The survey design and the frequency of samples relative to the commercial drift fleet openings should be agreed on prior to the commitment of funds.

In addition it is apparent that one of the primary goals for the management of the system, an escapement of goal of 400 to 700 thousand fish into the Kenai River system, has only been achieved in two years since 1987. The Trustee Council should consider a stipulation that acceptance of funding for management of a potentially overescaped system implies an obligation to do everything possible in the future to meet the defined escapement goals for the system.

3. **Coghill Lake**-The only apparent explanation for the catastrophic drop in return per spawner that started with the 1985 brood year and continues at present is the drop in the plankton biomass, especially that of cladocerans, presumably due to overescapement. While this is plausible, overescapement has not produced such drops in return per spawner in the past, although there is little historic information on plankton biomass. Judging from past responses of the system to overescapement, the hypothesis that attributes the current problem only to overescapement is insufficient by itself to explain the extremely low productivity of Coghill Lake.

Lacking an explanation for the poor production at Coghill Lake, there is no indication that supplementation would solve this problem at this time. There are at lest two reasons that hatchery supplementation seems premature: (1) the spawning habitat in Coghill Lake appears very suitable and no one has apparently suggested that egg-to-fry recruitment is limiting production and (2) there is evidence of subpopulation structure (tributary and lakeshore spawning habitats) that could be jeopardized by propagating a single component in an artificial environment without opportunities for imprinting on the natal spawning habitat.

Supplementation may later become a desired option if the population continues to decline. However, the very late run timing of sockeye at Coghill this year might be an indication of the potential problems encountered in some forms of supplementation. We should know the orign of the late-arriving fish once they have been processed for coded wire tags.

Without a fishery management plan that reduces or eliminates interception rates of Coghill sockeye (in directed or non-directed fisheries) in the harvest restoration actions taken in Coghill Lake with Trustee Council support may be insufficient.

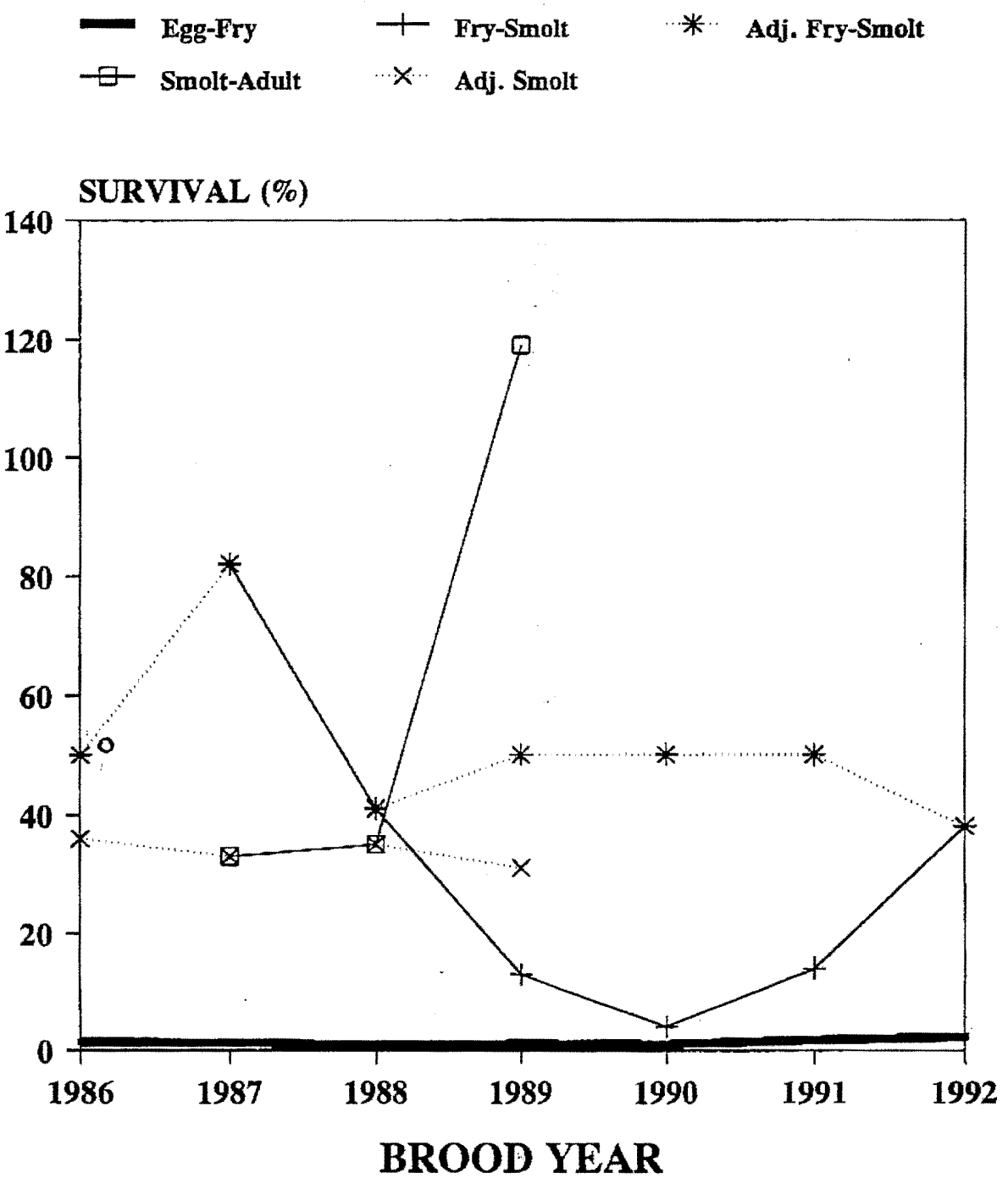
Summary of recommendations by project

Below is a tabular presentation of my recommendations developed from the review process. These recommendations are not meant to preclude a careful budgetary review.

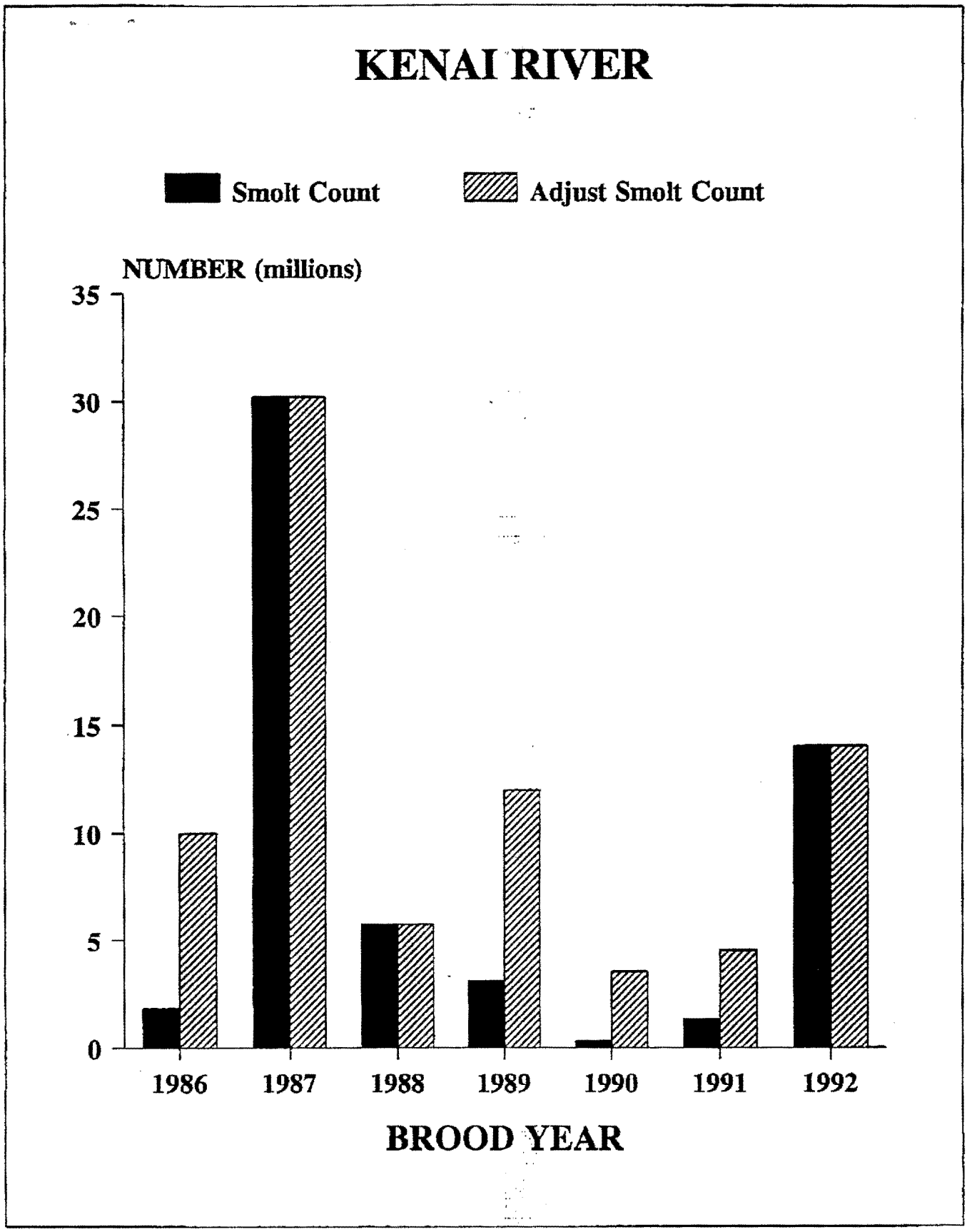
Project No.	Short title	Recommendation
95048	Historical analysis of sockeye salmon growth	Defer. Further clarification needed.
95105	Kenai River ecosystem restoration pilot enclosure study	Defer funding
95255	Kenai River sockeye restoration	Fund at 50% of request for 1 year with caveats as described herein.
95258	Sockeye salmon overescapement	Fund at 50% of request for 1 year with caveats as described herein.
95259	Restoration of Coghill Lake sockeye	Fund fertilization only with caveats as described herein.
95133	English Bay river sockeye salmon subsistence project	Defer funding until it can be demonstrated that proposed action will not compromise local sockeye salmon wildstock.

CC: M. McCammon
P. Mundy
C. Wood

KENAI RIVER



° 10 million fry → ? smolts → 1.8 million adults
⇒ 18 - 100% fry - smolt survival


KENAI RIVER
Smolt Count
Adjust Smolt Count
NUMBER (millions)
35
30
25
20
15
10
5
0
1986
1987
1988
1989
1990
1991
1992
BROOD YEAR

DETAILED PROJECT DESCRIPTIONS
for
FY 95 RESTORATION PROJECTS

Detailed Project Descriptions (DPDs) for FY 1995 restoration projects should include the following sections, together with a Cover Page:

A. INTRODUCTION
B. PROJECT DESCRIPTION
C. SCHEDULE
D. EXISTING AGENCY PROGRAM
E. ENVIRONMENTAL COMPLIANCE/PERMIT/COORDINATION STATUS
F. PERFORMANCE MONITORING
G. COORDINATION OF INTEGRATED RESEARCH EFFORT
H. PUBLIC PROCESS
I. PERSONNEL QUALIFICATIONS
J. BUDGET

The DPD should specifically address each item noted below. The DPD will be subject to peer review. The projects with substantive scientific content will be examined critically as is done with other government funding programs (e.g., the National Science Foundation, National Institutes of Health, etc.).

It is expected that a significant portion of the information requested below can be supplied from the brief project descriptions previously developed. **Nevertheless, each DPD should be prepared as a "stand alone" document so that the final peer review and approval process can be conducted efficiently.** (Note: A WordPerfect 5.1 detailed project description "shell document" on diskette is available from the Restoration Office to assist with preparation of consistently formatted DPDs.)

COVER PAGE

The cover page should provide the following information:

1. **Project Title** (please use the project title from the brief project description consistently to avoid confusion)
2. **Project Number**
3. **Lead Trustee Agency**
4. **Cooperating Agencies** (if any)
5. **Project Start-up/Completion Dates** (i.e., during FY 95)
6. **Expected Project Duration** (i.e., number of fiscal years in the future that funding from the Trustee Council will be sought)

7. **Cost of Project** (include total costs for Fiscal Year 1995 and an estimate of each relevant future Fiscal Year)
8. **Geographic Area** of project (location where field work will be conducted and/or data analyzed)
9. **Name/Signature of Project Leader(s)**[1] with appropriate affiliation (include a phone number, a fax number and mailing address)
10. **Name/Signature of lead agency Project Manager**[2] with appropriate affiliation (include a phone number, a fax number and mailing address)

A. INTRODUCTION

Provide a brief history or other background relevant to understanding the project. Clearly identify the relationship of the proposed project to restoration of injured resources or services. Include a brief summary of the status of the injured resources and/or services, and the rate or degree of recovery, if known. Discuss the fundamental rationale for the project — that is, how the proposed project is essential to the restoration mission and will benefit or accelerate the recovery of injured resources and/or services. For research and monitoring projects it is expected that a review of the relevant previous information (published and unpublished literature) for the purposes of justifying and directing the proposed work will be included in the introduction. A firm grasp of the problem and its scientific relevance in the context of our current understanding of natural resources will be key in obtaining favorable peer review.

B. PROJECT DESCRIPTION

Show that the project is technically feasible, would help restore an injured resource and/or service, can be completed over a reasonable period, and that environmental benefits outweigh any potential adverse environmental side effects. Any hypotheses and sub-hypotheses should be explicitly stated. Furthermore, the DPD should demonstrate a seamless logical construction of the project from major questions all the way down to sample collection.

The discussion should address each of the following points:

1. **Resources and/or Associated Services:** Identify the target injured resource(s) and/or service(s) that will benefit from this project.

---

[1] The Project Leader(s) is/are the individual(s) *who will be responsible for actual implementation of the project* (in the case of research projects, this would be the Principal Investigator). It is preferred that a single individual be identified, if possible.

[2] The Project Manager is the individual *who represents the lead agency* responsible for management and oversight of the project.

Relate the expected benefits of the project to the resources and/or associated services.

2. **Relation to Other Damage Assessment/Restoration Work:** Identify related past or on-going damage assessment or restoration work. It is not enough to merely list such related projects — the DPD should also show the substantive relationship of other projects to the proposed effort.

3. **Objectives:** Delineate time specific and measurable project objectives for each organization participating in the project.

4. **Methods:** Describe proposed methods that will be used in the project. The discussion of methodologies should be sufficiently detailed to allow a peer reviewer to critically evaluate whether the project objectives can be met using the methods proposed. Discuss alternative methodologies considered, if applicable (i.e., why the alternative chosen is better than other methods of achieving the objectives or if there are no alternatives).

5. **Location:** Identify where the project will be undertaken and where the project's benefits will be realized as applicable. Identify areas or communities that may be affected by the project. Describe the location(s) and include a map if geographic extent is known.

6. **Technical Support:** Define the technical support (i.e., computer services, laboratory analysis, data archiving, etc.) necessary to complete the project. GIS (ADNR) or hydrocarbon analysis (NOAA) needs must be identified here.

7. **Contracts:** Describe each professional and/or support contract, including what will be contracted, why a contract will be issued, and how the contracts will be awarded (provide justification for any sole-source contracts). Provide a justification statement for why a project should be done in-house or under contract.

C. SCHEDULE

Show the milestone dates for project activities including, at a minimum, field work, sampling events, data compilation and analysis, major contract deliverables, opportunities for public involvement, construction, and draft and final report submissions. Include a table or narrative listing project personnel and their responsibilities and an organizational chart. Identify any logistics needs necessary to carry out the project.

D. EXISTING AGENCY PROGRAM

As applicable, describe any agency or non-agency (private or other) program contributions (show dollar amount) to this project during the period October 1, 1994 to September 30, 1995 (federal fiscal year). What is the relationship of this project to normal agency management now and in the future?

E. ENVIRONMENTAL COMPLIANCE, PERMITTING AND COORDINATION STATUS

All federal, state, and local laws, regulations, permits, and consultation that must be completed or complied with for the project need to be identified. With respect to the National Environmental Policy Act (NEPA), this section should identify which Federal agency will serve as lead for NEPA compliance and whether a categorical exclusion (CE), environmental assessment (EA), or environmental impact statement (EIS) will be prepared. Specify how all compliance that is necessary to be completed prior to beginning work on the project will be achieved within the project schedule.

F. PERFORMANCE MONITORING

Outline the performance monitoring and management of this project. Describe the chain-of-command and outline what backups are available to complete the project if personnel changes occur. Discuss how the project time frames will be met. Discuss any quality assurance procedures and/or quality control measures that will be implemented as part of the project.

G. COORDINATION OF INTEGRATED RESEARCH EFFORT

Include a description of how this project is to be coordinated with related FY 95 projects, related on-going agency operations and/or other related efforts (or why coordination is not appropriate). Other related restoration projects should be specifically identified and information provided including multi-project or interagency coordination regarding such matters as data management, study site location(s), research platform sharing and equipment purchases. The means by which on-going coordination of work efforts will be accomplished over the life of the project(s) should be expressly addressed. A failure to clearly show the relationship of the proposed project to closely related efforts in the same geographic area or to other (non-Trustee Council) efforts will be taken to indicated incomplete preparation of the proposed work and will be reflected in a poor peer review.

H. PUBLIC PROCESS

Discuss what efforts have been made to involve the general public in the development or implementation of this project and what further

opportunities there will be for public involvement with the project (e.g., workshops, meetings, document review, etc.).

I. PERSONNEL QUALIFICATIONS

Include a one-page statement on the qualifications of each Project Leader(s) and other key personnel. Include relevant background information and experience working on similar or related projects for key personnel.

J. BUDGET

A copy of the budget should be provided. A memorandum identifying outstanding project budget needs was distributed to the agency liaisons by Traci Cramer, Administrative Officer on November 7. Following submission of the detailed budgets, Traci Cramer will be coordinating the project budget reviews. Further information regarding that review will be provided under separate cover. All questions regarding budget preparation should be directed to Traci Cramer at (907) 586-7238.

— Attachment D —

DRAFT

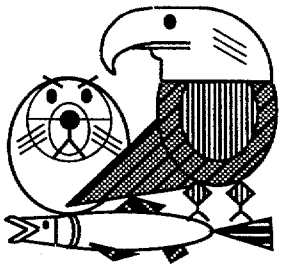
Agency	Cooperating Agency(s)	Project Number	Project Title	Budget On Hand	Approved
ADEC	DOI/NOAA	95266	Shoreline Restoration	$1,313.2	$75.0
ADF&G		95060	Spruce Bark Bettle Infestation Impacts on Injured Fish and Wildlife Species of the Exxon Valdez Oil Spill	$201.7	$26.8
		95086C	Herring Bay Monitoring and Experimental Study	$576.9	$415.3
		95093	PWSAC: Restoration of Pink Salmon Resources and Services	ND	$100.0
		95127	Tatilek Coho Salmon Release Program	ND	$5.0
		95131	Clam Restoration (Nanwalek, Port Graham, Tatitlek)	$445.0	$226.9
		95138	Elders/Youth Conference	$85.8	$76.4
		95139	Wild Stock Supplemental Workshop	ND	$7.5
		95165	Carry-forward: PWS Herring Genetic Stock Identification	$144.2	$105.4
		95255	Kenai River Sockeye Salmon Stocks	$272.6	$130.3
		95258	Sockeye Salmon Overescapement	$513.0	$308.3
	USFS	95259	Restoration of Coghill Lake Sockeye Salmon Stocks	$246.4	$187.0
	NOAA	95279	Subsistence Food Testing Project	$163.5	$99.5
		95320B	PWS Pink Salmon Identification and Monitoring (CWT)	ND	$176.2
		95320C	Otolith Thermal Mass Marking of Hatchery Pink Salmon in PWS	$640.3	$649.1
		95320I(2)	Isotope Tracers - Food Webs of Fish	$49.4	$200.0
		95320S	Disease Impacts on PWS Herring Populations (competitive solicitation under State of Alaska two-step RFQ-RFP process)	$666.1	$400.0
		95320Y	Variation in Local Predation Rates on Hatchery Released Fry	$161.2	$50.0
ADNR	ADF&G/DOI/NOAA /USFS	95052	Community Involvement and Use of Traditional Knowledge	$230.5	$152.0
		95080	Fleming Spit Recreation Area Enhancement	$827.0	$815.8
USFS		95009D	Survey and Experimental Enhancement of Octopuses in Intertidal Habitats	$188.9	$125.0

Agency	Cooperating Agency(s)	Project Number	Project Title	Budget On Hand	Approved
DOI-FWS		95025	Nearshore Package: Project Planning and Development	ND	$130.0
		95031	Reproductive Success as a Factor Affecting Recovery of Marbled Murrelets in PWS	$444.8	$250.0
DOI-NBS		95021	Seasonal Movement and Pelagic Habitat use by Common Murres from the Barren Island	$227.8	$54.0
NOAA		95121	Stable Isotope Ratios and Fatty Acid Signatures of Select Forage Fish Species in PWS	$48.4	$30.0
	ADEC/DOI-NBS	95163I	Forage Fish: Program Management and Integration	ND	$150.0

ND - The project is either new or no detail has been received.

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



November 8, 1994

Shelly Boss
#205, Lakeside Green
St. Albert, Alberta
T8N 3T3

Dear Ms. Boss:

Thank your for your letter of October 28, stating your interest in participating in the forage fish research project.

I have forwarded your letter and resume to David Irons, U.S. Fish and Wildlife Service, and Bruce Wright, U.S. National Marine Fisheries Service, the project co-leaders. They can be contacted directly at (907) 786-3376 and (907) 789-6600, respectively.

Thank you again for your interest and good luck to you.

Sincerely,

Molly McCammon
Director of Operations

mm/raw

Shelly Boss
#205, Lakeside Green
St. Albert, Alberta
T8N 3T3
Ph:(403)459-5357

October 28, 1994

645 G Street, Suite 401
Anchorage, AK
99501-3451

Council for Prince William Sound project,

I understand that information on the multi-year research effort studying forage fish in Prince William Sound can be obtained through this council; I am writing you to inquire about any suitable technical positions which may be available with the project. I have recently completed my Bachelor of Science with specialization in Zoology at the University of Alberta, and am very interested in continuing in the field of aquatic ecology. Should a suitable position with the Prince William Sound project become available, I would appreciate being considered for the position or informed as to where I might apply.

I have a strong interest in aquatic ecology, with both an educational background and research experience in this field. I have spent the past two field seasons working out of Meanook Biological Research Station (MBRS), a multi-disciplinary environmental research centre located in north-central Alberta, as a research assistant, and have recently filled the position of assistant manager at the station. While at MBRS, I worked on several projects involving fish ecology and sampling. These include a study monitoring the indirect effects of predation by northern pike on the reproductive behavior of the fathead minnow, another study determining population density effects on fathead minnows, one study on trophic interactions with fish, and another on the effects of fish presence or absence on common loon foraging behavior. I have thoroughly enjoyed my work in fish ecology and hope to expand my experience in this field.

Working at MBRS has also given me the opportunity to design and conduct my own independent research studies, and to work closely with other researchers on their projects. My research experience covers a diverse array of ecological fields, including fish, amphibian, aquatic bird, terrestrial bird and small mammal ecology. Filling the role of assistant manager of MBRS has exposed me to various administrative duties such as accounting and record keeping, as well as exercising my communication and interpersonal skills. I have developed computer skills through specific university courses and practical application; I am proficient working with IBM and Macintosh wordprocessing and spreadsheet programs. I am a dedicated worker, an attribute which I feel is reflected in my 1st class academic standing at university for three years and my being awarded a NSERC (Natural Sciences and Engineering Research Council) Undergraduate Summer Research Award in 1994. I believe my experience with fish ecology, sampling, and experimental method make me an excellent candidate for a potential position with the Prince William Sound project.

I appreciate your consideration of this application; if you would like to contact me or have any further questions, please don't hesitate to call or leave a message at the above phone number.

Sincerely,

A. Boss

Shelly Boss

Pleas Note: It is my understanding that as a Canadian citizen working for an American researcher, I would not have to apply for a work visa, and thus it would be an easy transition for me to work in Alaska.

Shelly Boss

Address: #205, Lakeside Green
St. Albert, Alberta
T8N 3T3

Phone: (403)459-5357
Citizenship: Canadian

Education:

Bachelor of Science Degree with specialization in **Zoology**, 1994
Graduated from the **University of Alberta**
Focus in ecology

Work Experience:

Research Station Assistant Manager August - October 1994
Dr. E. Prepas and Kathleen Gibson
Meanook Biological Research Station

- worked closely with station manager to ensure efficient daily operations of station.
- assisted in detailed accounting and billing of station user charges.
- organized high school field trips and provided instruction for field and lab methods.
- assisted in the preparation of grant proposals to provincial and federal funding agencies.

Zoology Field Research Technician May 1994 - August 1994
Dr. C. Paszkowski and Beverly Gingras
University of Alberta

- assisted in research study of common loon foraging behavior and reproductive success.
- analyzed loon prey base and habitat via invertebrate, fish, and vegetation sampling.
- performed observations on common loon foraging and chick feeding behavior.
- conducted daily waterbird surveys.
- transcribed and entered data.
- conducted independent study involving the activities and microhabitat use of the boreal toad.

Zoology Field/Lab Research Assistant May-July 1993
Dr. C. Paszkowski and Hilary Jones,
University of Alberta

- performed behavioral observations on fathead minnows and northern pike.
- collected, sorted, and marked fish from the field.
- cleaned and maintained aquaria.
- designed, conducted, and analyzed independent experiment involving fathead minnow reproductive behavior.
- performed observations on common loon foraging behavior.
- conducted whole-lake waterbird surveys.

Zoology Field Research Assistant July-August 1993

Dr. S. Hannon and Ainsley Sykes,
University of Alberta

- assisted in study on bird and small mammal diversity.
- performed vegetation analysis of study sites.
- identified species of birds occupying study sites.

Botany Lab Assistant March-April 1992

Dr. R. Stockey,
University of Alberta

- responsible for sorting, arranging, and cataloguing of fossilized plants.

Groundskeeper/Maintenance Worker Summer 1989-1992

ADALCA Housing Co-operative Ltd.;
Parks and Recreation, Town of Barrhead

- responsible for care of all common grounds at housing co-op..
- worked in care and maintenance of town property.
- worked independently with little supervision.
- operated and serviced tractor-mowers, weed eaters, town vehicles.

Achievements and Special Skills:

Academic:

- Received NSERC (Natural Sciences and Engineering Research Council) Undergraduate Summer Research Award, 1994.
- Achieved 1st class standing at University, 1992-1994.
- Received Alexander Rutherford Scholarship, three consecutive years.

Science:

- macroinvertebrate, vegetation, and bird identification skills.
- experienced with field instruments (eg. clinometer, densiometer, Ekman dredge).
- experienced with fish collection methods (eg. electroshocking, minnow traps, seine netting).

Other:

- WordPerfect, QuatroPro.
- Microsoft Word, Excel.
- Fortran programming skills.
- Statistical packages: Statsgraphics, QuatroPro, Systat.
- Strong canoeing skills; experienced with outboard motors, trailers, all-terrain vehicles.

References:

Dr. Cynthia Paszkowski

- U of A Professor
- Phone:(403)492-1286

Ms. Beverly Gingras

- U of A Graduate Student
- Phone:(403)492-5494

Ms. Ainsley Sykes

- U of A Graduate Student
- Phone:(403)492-4734

Course Record:

Zoology courses

Course number		Grade	Course Name
Zoology	120	(6)	Animal Biology
Zoology	200	(8)	Chordates
Zoology	231	(7)	Principles of Ecology
Zoology	241	(6)	Vertebrate Physiology
Zoology	242	(7)	Principles of Animal Physiology
Zoology	250	(7)	Survey of the Invertebrates
Zoology	260	(8)	Humanity & the Biosphere
Zoology	306	(8)	Ornithology
Zoology	321	(8)	Mechanisms of Evolution
Zoology	331	(8)	Animal Population Ecology
Zoology	332	(9)	Animal Community Ecology
Zoology	340	(9)	Environmental Physiology
Zoology	361	(8)	Marine Biology
Zoology	366	(6)	Boreal Ecology
Zoology	371	(8)	Behavioral Ecology & Sociobiology
Zoology	429	(8)	Individual Study
Zoology	430	(8)	Experimental Zoology
Zoology	464	(9)	Limnology

Science options

Botany	199	(6)	Plant Biology
Botany	201	(8)	Non-vascular Plants
Botany	210	(8)	Vascular Plants
Botany	219	(8)	Plant Structure & Development
Botany	333	(7)	The Ecology of Aquatic & Peatland Plants
Botany	381	(7)	Pollution Biology
Chemistry	104	(7)	Introductory University Chemistry
Computing	251	(8)	Intro. to Programming for Scientific Applications
Genetics	197	(6)	Heredity
Math	113	(8)	Elementary Calculus I
Psychology	104	(6)	Basic Psychological Processes
Soils	316	(9)	Soils and People
Statistics	237	(8)	Biostatistics

Arts options

Economics	101	(6)	Introduction to Microeconomics
Economics	102	(8)	Introduction to Macroeconomics
Economics	282	(8)	Intermediate Macroeconomic Theory I
English	110	(8)	Literary Forms
Anthropol.	392	(8)	Primate Behavior
Interdiscipl.	369	(8)	Economics of the Environment

*All grades based on a 9 point scale.

Exxon Valdez Oil Spill Trustee Council

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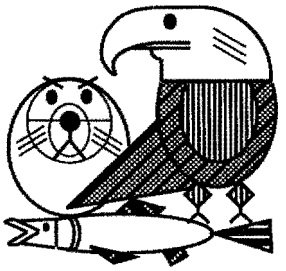

MEMORANDUM

To: Restoration Work Force

From: Molly McCammon
Director of Operations

Date: November 8, 1994

Subj: **November 10** RWF Meeting

The weekly RWF meeting will be **Thursday, November 10**, at 9:00 a.m. The Juneau location will be the NMFS conference room #413. The Anchorage location, as always, will be the Simpson Building 4th floor conference room. Items to be discussed will include:

- The November 2 & 3 Trustee Council meeting
- December 2 Trustee Council meeting in Juneau
- Update on miscellaneous issues

mm/raw

****
*** MULTI TRANSACTION REPORT ***
****

TX/RX NO. 3857

INCOMPLETE TX/RX

TRANSACTION OK	[09] 19075867589	J.AYERS
	[10] 19075867555	D.GIBBONS
	[11] 19074655375	M.BRODERSEN
	[12] 19074654759	J.MONTAGUE
	[13] 19077896608	MORRIS-WRIGHT
	[14] 2572510	S.RABINOWITCH
	[15] 5624871	C.FRIES
	[17] 2713992	R.THOMPSON
	[18] 5223148	J.SULLIVAN
	[19] 7863636	L.BARTELS
	[20] 7863350	C.BERG
	[35] 15103737834	B.SPIES
	[38] 2715827	G.BELT

ERROR

Exxon Valdez Oil Spill Trustee Council

Restoration Office
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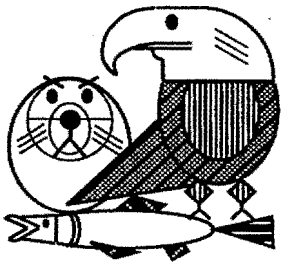
Phone: (907) 278-8012 Fax: (907) 276-7178



FAX COVER SHEET

To: Restoration Work Force

From: Molly McCammon Date: November 8, 1994

Comments: Total Pages: 2

Note: Change of date - Thursday

FAX COMPLETE

RESTORATION WORK FORCE MEMBERS INCLUDE:

Bartels, Leslie
Berg, Catherine
Brodersen, Mark
Bruce, David
Fries, Carol
Gibbons, Dave
Gilbert, Veronica
Loeffler, Bob
McCammon, Molly
Montague, Jerome
Morris, Byron
Myers, Eric
Rabinowitch, Sandy
Spies, Bob
Sullivan, Joe
Thompson, Ray
Wright, Bruce

Document Sent By: Jami

9/9/94

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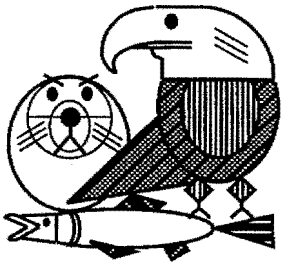
Phone: (907) 278-8012 Fax: (907) 276-7178



Ms. Bobby Pearson
LGL Alaska Research Associates, Inc.
4175 Tudor Centre Dr. — Suite 101
Anchorage, Alaska 99508

Dear Ms. Pearson,

Please find attached information from Byron Morris/NOAA regarding the funding history for project 95191B/Investigation/Monitoring Oil & Egg - Alevin Mortality (lab work), a project that has gone under different names in prior years. I wasn't sure if you had already received a copy of this information directly from Mr. Morris. Please note that FY 95 funding for Project 95191B in the amount of $165,600 was, in fact, authorized by the Trustee Council at the recent November 2-3, 1994 meeting.

As you know from discussions with Eric Myers in the Anchorage Restoration Office, the remainder of the projects about which you have inquired have been managed by the Alaska Department of Fish and Game. Jerome Montague (465-4125) is the Trustee Council agency liaison for ADFG and will provide the information you need.

Please let me know if you have further questions.

Sincerely,

Molly McCammon
Director of Operations

attachment

cc: James R. Ayers
Jerome Montague/ADFG
Byron Morris/NOAA
Mark Brodersen/ADEC

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Office of Oil Spill Damage
Assessment and Restoration
P.O. Box 210029
Auke Bay, Alaska 99821

November 1, 1994

MEMORANDUM FOR: Molly McCammon

FROM: Byron Morris Byron

SUBJECT: LGL Request for Budget Information

Your memorandum of October 25 requests that we provide prior year funding information for several projects. One of these projects, 95191B, is conducted by NOAA (NMFS, Auke Bay Laboratory). Below is the funding history for this project, which has gone under different names and numbers in different years.

1992	Project R60C	Pink Salmon Egg/Fry Mortality	$54.2K
1993	Project 93003	Salmon Egg to Fry Survival	$342.7K
1994	Project 94191	Oil Related Egg & Alevin Mortality	$374.2K
1995	Project 95191B	Injury to Salmon Eggs & Fry (report)	$165.4K
1995	Project 95191B	Injury to Salmon Eggs & Fry	$165.6

The last entry has not yet been approved for funding by the Trustee Council, but is expected to be this week.

This project started with the spawning of the 1992 brood at the end of FY 92 and has continued with a spawning of the 1993 brood which is in progress at this time. The goal of the project is to expose incubating eggs and alevins to oil contaminated gravel, measure direct impacts of oil on survival and growth, rear the survivors to spawning, and measure the long-term impacts on the resulting progeny through emergence. This controlled laboratory exposure was stimulated by the field observations of ADFG in 1989-1991. The project has measured direct oil impacts to developing eggs/alevins, and has yet to complete the study with a spawning of adults (scheduled for September, 1995) and evaluation of their progeny (Sept 95-Apr 96). Looking for a genetic impact has been a secondary objective, using flow-cytometry, which has not worked, and other techniques are currently in progress.

cc: J. Montague
E. Meyers
J. Rice

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 "G" Street, Anchorage, AK 99501
Phone: (907) 278-8012 Fax: (907) 276-7178

November 8, 1994

Dr. Gregory T. Ruggerone
Natural Resources Consultants, Inc.
4055 21st Avenue West, Suite 200
Seattle, Washington 98199

Dear Dr. Ruggerone:

Thank you for your letter. My apologies for the delay in response. As your letter indicates, your proposal, 95049, was not be funded in large part because the Trustee Council has an independent scientific review process already in place. That process has been coordinated by Dr. Robert Spies of Applied Marine Services in Livermore, California, since shortly after the spill occurred in 1989. Dr. Spies' title is the Chief Scientist for the *Exxon Valdez* Oil Spill Trustee Council. The review process uses scientists from around the country who are experts in the particular field requiring review. These scientists play an active and on-going role in the restoration program.

Since the Chief Scientist's contract was due to expire this year, a request for proposals was issued early this summer to fill that position. The request was advertised in newspapers in Anchorage, Fairbanks, Juneau, and within the spill area. The request was also published in Science Magazine. After reviewing the competing the proposals, Dr. Spies was again selected as the Chief Scientist.

A number of fisheries scientists have been used in the past by Dr. Spies for review of specific, fishery-related projects. If you wish to be considered for this work, please contact him directly at Applied Marine Sciences; 2155 Los Positas Court, Suite S; Livermore, California 94550l; telephone: (510) 373-7142.

If you have any further questions, please call myself or Bob Loeffler at the Anchorage Restoration Office.

Sincerely,

Molly McCammon
Director of Operations

cc: Dr. Robert Spies

NRC
NATURAL RESOURCES CONSULTANTS, INC.

4055 21ST AVENUE WEST, SUITE 200
SEATTLE, WASHINGTON 98199, U.S.A.
TELEPHONE: (206) 285-3480
TELEFAX: (206) 283-8263

12 October 1994

Molly McCammon
Director of Operations
Exxon Valdez Oil Spill Trustee Council
645 G Street
Anchorage, Alaska 99501

Dear Ms. McCammon:

Professor Donald Rogers of the University of Washington and I sent a proposal to the *Exxon Valdez* Oil Spill Trustee Council last June. The proposal was titled, "Independent Review of Restoration and Monitoring Projects." We thought our expertise in salmon field studies and salmon management in Alaska would be of great benefit to the Trustee Council. Professor Rogers has more than 35 years experience and I have more than 15 years hands-on experience with Alaskan salmon issues.

However, the Draft 1995 Work Plan indicated our proposal (95049) was given a low rating because a Request For Proposals on this topic was to be released soon. Despite our interest in reviewing salmon projects funded by the Trustee Council, Professor Rogers and I never heard about the RFP and apparently the time period for responding to it has elapsed.

If the Trustee Council should need salmon experts to review ongoing projects or projects funded in the future, please feel free to contact us.

Sincerely,

Greg Ruggerone

Gregory T. Ruggerone, Ph.D.

cc: D. Rogers

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12 October 1994

Molly McCammon
Director of Operations
Exxon Valdez Oil Spill Trustee Council
645 G Street
Anchorage, Alaska 99501

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However, the Draft 1995 Work Plan indicated our proposal (95049) was given a low rating because a Request For Proposals on this topic was to be released soon. Despite our interest in reviewing salmon projects funded by the Trustee Council, Professor Rogers and I never heard about the RFP and apparently the time period for responding to it has elapsed.

If the Trustee Council should need salmon experts to review ongoing projects or projects funded in the future, please feel free to contact us.

Sincerely,

Greg Ruggerone

Gregory T. Ruggerone, Ph.D.

cc: D. Rogers

ATTACHMENT A - DRAFT

1995 WORK PLAN -- AUTHORIZED PROJECT FUNDING

NOTE: Funding totals are shown at the top of each cluster.

Proj. No.	Title	Lead Agency	Interim Authorized 8/23/94	Remainder Authorized 11/3/94	Total FY95 Authorization	Conditions/Comments
PWS System Investigation			$1,077.4	$3,535.4	**$4,612.8**	***Funding subject to conditions in Chief Scientist's PWS System Investigation memo.***
95320A	Salmon Growth and Mortality	ADFG	$48.7	$219.1	**$267.8**	Sub-project of effort begun in FY94; extensive peer review of first year progress in October 1994.
95320E	Juvenile Salmon and Herring Integration	ADFG	$98.0	$845.1	**$943.1**	See 95320A.
95320G	Phytoplankton and Nutrients	ADFG	$88.5	$150.8	**$239.3**	See 95320A.
95320H	Role of Zooplankton in the PWS Ecosystem	ADFG	$51.9	$195.5	**$**	
95320I	Isotope Tracers - Food Web Dependencies in PWS (Fish, Marine Mammals, and Birds)	ADFG	$0.0	$200.0	**$**	data will be t and less
95320I(2)	Isotope Tracers - Food Webs of Fish	ADFG	$30.0	$0.0		
95320J	Information Systems and Model Development	ADFG	$185.4	$650.8		
95320K	PWSAC: Experimental Fry Release	ADFG	$0.0	$47.3		
95320M	Observational Physical Oceanography in PWS and the Gulf of Alaska	ADFG	$138.7	$439.1		
95320N	Nearshore Fish	ADFG	$413.1	$222.1		
95320Q	Avian Predation on Herring Spawn	USFS	$23.1	$75.9	**$99.0**	See 95320A.
95320T	Juvenile Herring Growth and Habitat Partitioning	ADFG	$0.0	$340.3	**$340.3**	See 95320A. Includes development of herring stock structure model (in conjunction with 95166) as recommended by the Chief Scientist.
95320U	Somatic and Spawning Energetics of Herring/Pollock	ADFG	$0.0	$99.4	**$99.4**	See 95320A.
95320Y	Variation in Local Predation Rates on Hatchery-Released Fry	ADFG	$0.0	$50.0	**$50.0**	Budget reduced from original; will still allow primary objective to be met.
Other Pink Salmon Projects			$466.5	$1,637.9	**$2,104.4**	***Funding subject to conditions in Chief Scientist's pink salmon and genetics memos.***
95076	Effects of Oiled Incubation Substrate on Survival and Straying of Wild Pink Salmon	NOAA	$0.0	$179.9	**$179.9**	
95093	PWSAC: Restoration of Pink Salmon Resources and Services	ADFG	$0.0	$100.0	**$100.0**	Funding is for project planning and development under the guidance of the Chief Scientist. Includes funds for participation of PWSAC and the Native Village of Eyak Tribal Council, and NEPA work if necessary.

rebecca, this is a new 1st page to the document i gave ya earlier (the note on 953204 is changed slightly.) sorry! - Sandra

ATTACHMENT A - DRAFT

1995 WORK PLAN -- AUTHORIZED PROJECT FUNDING

NOTE: Funding totals appear at the top of each cluster.

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95320A	Salmon Growth and Mortality	ADFG	$48.7	$219.1	**$267.8**	Sub-project of effort begun in FY94; extensive peer review of first year progress in October 1994.
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95320G	Phytoplankton and Nutrients	ADFG	$88.5	$150.8	**$239.3**	See 95320A.
95320H	Role of Zooplankton in the PWS Ecosystem	ADFG	$51.9	$195.5	**$247.4**	See 95320A.
95320I	Isotope Tracers - Food Web Dependencies in PWS (Fish, Marine Mammals, and Birds)	ADFG	$0.0	$200.0	**$200.0**	Analysis and interpretation of stable isotope data will be consolidated in one lab to allow for consistent and less expensive analysis.
95320I(2)	Isotope Tracers - Food Webs of Fish	ADFG	$30.0	$0.0	**$30.0**	
95320J	Information Systems and Model Development	ADFG	$185.4	$650.8	**$836.2**	See 95320A.
95320K	PWSAC: Experimental Fry Release	ADFG	$0.0	$47.3	**$47.3**	See 95320A. EA was completed last year.
95320M	Observational Physical Oceanography in PWS and the Gulf of Alaska	ADFG	$138.7	$439.1	**$577.8**	See 95320A.
95320N	Nearshore Fish	ADFG	$413.1	$222.1	**$635.2**	See 95320A.
95320Q	Avian Predation on Herring Spawn	USFS	$23.1	$75.9	**$99.0**	See 95320A.
95320T	Juvenile Herring Growth and Habitat Partitioning	ADFG	$0.0	$340.3	**$340.3**	See 95320A. Includes development of herring stock structure model (in conjunction with 95166) as recommended by the Chief Scientist.
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95320Y	Variation in Local Predation Rates on Hatchery-Released Fry	ADFG	$0.0	$50.0	**$50.0**	Budget reduced from original; will still allow primary objective to be met.
Other Pink Salmon Projects			$466.5	$1,637.9	**$2,104.4**	***Funding subject to conditions in Chief Scientist's pink salmon and genetics memos.***
95076	Effects of Oiled Incubation Substrate on Survival and Straying of Wild Pink Salmon	NOAA	$0.0	$179.9	**$179.9**	
95093	PWSAC: Restoration of Pink Salmon Resources and Services	ADFG	$0.0	$100.0	**$100.0**	Funding is for project planning and development under the guidance of the Chief Scientist. Includes funds for participation of PWSAC and the Native Village of Eyak Tribal Council, and NEPA work if necessary.

1995 WORK PLAN -- AUTHORIZED PROJECT FUNDING

NOTE: Funding totals appear at the top of each cluster.

Proj. No.	Title	Lead Agency	Interim Authorized 8/23/94	Remainder Authorized 11/3/94	**Total FY95 Authorization**	Conditions/Comments
95139A1	Carry-forward: Salmon Instream Habitat and Stock Restoration -- Little Waterfall Creek Barrier Bypass	ADFG	$90.0	$0.0	**$90.0**	
95191A	Investigating and Monitoring Oil Related Egg and Alevin Mortalities	ADFG	$68.4	$196.6	**$265.0**	On-going study effort extensively peer reviewed in prior years.
95191B	Injury to Salmon Eggs and Pre-emergent Fry Incubated in Oiled Gravel (Laboratory Study)	NOAA	$165.4	$165.6	**$331.0**	On-going study effort extensively peer reviewed in prior years.
95320B	PWS Pink Salmon Stock Identification and Monitoring (CWT)	ADFG	$84.3	$176.2	**$260.5**	In conjunction with 95320C, project assists ADF&G in transition to improved tool for managing injured species. Funding conditional on ADF&G developing plan to phase in full agency management by FY98.
95320C	Otolith Thermal Mass Marking of Hatchery Reared Pink Salmon in PWS	ADFG	$1.9	$649.1	**$651.0**	See 95320B. Funding conditional on plan to phase in full agency management by FY98.
95320D	PWS Pink Salmon Genetics	ADFG	$56.5	$170.5	**$227.0**	
Other Herring Projects			$387.4	$1,037.9	**$1,425.3**	***Funding subject to conditions in Chief Scientist's herring and genetics memos.***
95074	Herring Reproductive Impairment	NOAA	$148.8	$258.3	**$407.1**	
95165	PWS Herring Genetic Stock Identification	ADFG	$0.0	$105.4	**$105.4**	
95166	Herring Natal Habitats	ADFG	$238.6	$274.2	**$512.8**	Includes development of stock structure model in conjunction with 95320T.
95320S	Disease Impacts on PWS Herring Populations (competitive solicitation under State of Alaska two-step, RFQ-RFP process)	ADFG	$0.0	$400.0	**$400.0**	Cost is estimate only, as the actual scope of the project will be determined through the RFP process.
Sockeye Salmon Program			$944.1	$625.6	**$1,569.7**	***Funding subject to conditions in Chief Scientist's sockeye and genetics memos.***
95255	Kenai River Sockeye Restoration	ADFG	$372.4	$130.3	**$502.7**	Scope of project reduced to development of in-season management tool. ADF&G to develop sockeye restoration plan. If Kenai River runs return at normal rates, FY96 funding will be limited to sample analysis and final report preparation.
95258	Sockeye Salmon Overescapement (Kenai/ Kodiak)	ADFG	$485.1	$308.3	**$793.4**	Funding for smolt portion of project not included. Funding conditional on development of plan to phase in full agency management.

1995 WORK PLAN -- AUTHORIZED PROJECT FUNDING

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Proj. No.	Title	Lead Agency	Interim Authorized 8/23/94	Remainder Authorized 11/3/94	**Total FY95 Authorization**	Conditions/Comments
95259	Restoration of Coghill Lake Sockeye	ADFG	$86.6	$187.0	**$273.6**	Funding conditional on development of plan to phase in full agency management after FY97. Project scaled back to fertilization and monitoring only.
Marine Mammal Ecosystem and Research Projects			$114.7	$798.5	**$913.2**	
95001	Condition and Health of Harbor Seals	ADFG	$0.0	$172.8	**$172.8**	Project targets an injured resource of importance to subsistence communities.
95012	Comprehensive Killer Whale Investigation	NOAA	$0.0	$298.7	**$298.7**	Addresses both recovery monitoring and killer whale predation on harbor seals.
95064	Monitoring, Habitat Use, and Trophic Interactions of Harbor Seals in PWS	ADFG	$114.7	$232.4	**$347.1**	Project targets an injured resource of importance to subsistence communities.
95117-BAA	Harbor Seals and EVOS: Blubber and Lipids as Indices of Food Limitation	NOAA	$0.0	$94.6	**$94.6**	Project targets an injured resource of importance to subsistence communities.
Seabird/Forage Fish Interaction			$249.9	$180.0	**$429.9**	
95121	Fatty Acid Signatures of Selected Forage Fish Species in PWS	NOAA	$0.0	$30.0	**$30.0**	
95163A	Abundance and Distribution of Forage Fish and their Influence on Recovery of Injured Species	NOAA	$194.8	$0.0	**$194.8**	See 95163I.
95163F	Factors Affecting Recovery of PWS Pigeon Guillemot Populations	DOI	$55.1	$0.0	**$55.1**	See 95163I.
95163I	Seabird/Forage Fish Interaction: Program Management and Integration	DOI	$0.0	$150.0	**$150.0**	Planning and development funds for a comprehensive, integrated seabird/forage fish package, including hiring of a project leader. Future funding dependent on approval of a revised package, to come before the Trustee Council at a later date.
Nearshore Ecosystem Studies			$0.0	$130.0	**$130.0**	
95025	Nearshore Package: Project Planning and Development	DOI	$0.0	$130.0	**$130.0**	Planning and development funds for a comprehensive, integrated nearshore package ($120,000 to NBS, $10,000 to NOAA). Future funding dependent on approval of a revised package, to come before the Trustee Council at a later date.

1995 WORK PLAN -- AUTHORIZED PROJECT FUNDING

NOTE: Funding totals appear at the top of each cluster.

Proj. No.	Title	Lead Agency	Interim Authorized 8/23/94	Remainder Authorized 11/3/94	**Total FY95 Authorization**	Conditions/Comments
Intertidal/Subtidal Community Structure			$448.3	$615.7	**$1,064.0**	
95086C	Herring Bay Monitoring and Restoration Studies	ADFG	$327.3	$415.3	**$742.6**	Funds close-out of project, including *fucus* mat subproject (i.e., no new field work components).
95106	Subtidal Monitoring: Eelgrass Communities	ADFG	$0.0	$200.4	**$200.4**	
95285-CLO	Closeout: Subtidal Sediment Recovery Monitoring	NOAA	$121.0	$0.0	**$121.0**	
Subsistence Projects			$329.5	$1,298.1	**$1,627.6**	
95009D	Survey of Octopus and Chiton in Intertidal Habitats	USFS	$0.0	$125.0	**$125.0**	Funding is to consult with subsistence users, identify and survey harvest areas, and describe oiling history.
95027	Kodiak Shoreline Assessment: Monitoring Surface and Subsurface Oil	ADEC	$0.0	$447.8	**$447.8**	Funding is for final comprehensive assessment of Kodiak Island shoreline. Presence of oil is of concern to subsistence communities. Subsistence users will participate in assessment to determine final resolution.
95052	Community Interaction/Use of Traditional Knowledge	ADNR	$0.0	$152.0	**$152.0**	Project will increase outreach to spill area residents and communities, access traditional knowledge useful to restoration, and coordinate outreach efforts in other projects through the Anchorage Restoration Office.
95127	Tatitlek Coho Salmon Release Program	ADFG	$0.0	$5.0	**$5.0**	Funding is for NEPA compliance. If project meets NEPA approval, proposer may seek implementation funds from the Trustee Council at a later date.
95131	Clam Restoration (Nanwalek, Port Graham, Tatitlek)	ADFG	$0.0	$226.9	**$226.9**	Funding is for pilot project. Further expansion would depend on consistently successful production of littleneck clam seed on a small scale.
95138	Elders/Youth Conference	ADFG	$0.0	$76.4	**$76.4**	Conference focus will be discussion of means to assist in the recovery of injured resources. Conference will be coordinated under 95052.
95244	Seal and Sea Otter Cooperative Subsistence Harvest Assistance	ADFG	$52.6	$41.3	**$93.9**	Project would complete two-year effort. Outreach to be coordinated with 95052.
95266	Experimental Shoreline Oil Removal	ADEC	$97.9	$75.0	**$172.9**	Funding is for review of available treatment technologies, and a pilot test on an oiled beach near Chenega as appropriate.
95272	Chenega Chinook Release Program	ADFG	$0.0	$47.2	**$47.2**	EA approved. After four more years, operation will be financially self-sustaining.

1995 WORK PLAN -- AUTH JZED PROJECT FUNDING

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Proj. No.	Title	Lead Agency	Interim Authorized 8/23/94	Remainder Authorized 11/3/94	**Total FY95 Authorization**	Conditions/Comments
95279	Subsistence Restoration Project - Food Safety Testing	ADFG	$81.1	$99.5	**$180.6**	Project completes effort undertaken in previous years. Outreach to be performed through 95052.
95428-CLO	Closeout: Subsistence Planning Project	ADFG	$97.9	$2.0	**$99.9**	Project to be coordinated through 95052.
Other Fish/Shellfish Projects			$365.9	$53.7	**$419.6**	
95043B	Carry-forward: Cutthroat and Dolly Varden Rehabilitation in Western PWS	USFS	$134.8	$0.0	**$134.8**	
95137-CLO	Closeout: Prince William Sound Salmon Stock Identification and Monitoring Studies	ADFG	$55.8	$0.0	**$55.8**	
95139	Wild Stock Supplementation Workshop	ADFG	$0.0	$7.5	**$7.5**	Funding is for ADFG to prepare and participate in workshop on wild stock supplementation efforts, to be held winter 1995.
95139B	Closeout: Otter Creek/Shrode Creek Instream Restoration	USFS	$5.2	$0.0	**$5.2**	
95139C1	Montague Riparian Rehabilitation	USFS	$0.0	$46.2	**$46.2**	Budget includes funding (approximately $7,500) for USFS participation in wild stock supplementation workshop to be held winter 1995 (see 95139). Balance of funding to monitor effectiveness of FY94 work.
95139C2	Carry-forward: Salmon Instream Habitat and Stock Restoration -- Lowe River	ADFG	$170.1	$0.0	**$170.1**	
Other Bird Projects			$132.0	$682.8	**$814.8**	
95021	Seasonal Movement and Pelagic Habitat Use by Common Murres from the Barren Islands	DOI	$0.0	$54.0	**$54.0**	Funding is for pilot project.
95029	Population Survey of Bald Eagles in PWS	DOI	$0.0	$48.7	**$48.7**	If population is determined to be stable, no further Trustee Council funding is appropriate.
95031	Reproductive Success as a Factor Affecting Recovery of Murrelets in PWS	DOI	$0.0	$250.0	**$250.0**	Funding is for pilot project to determine effectiveness of study techniques.
95038	Symposium on Seabird Restoration	DOI	$0.0	$74.4	**$74.4**	A more comprehensive assessment of what is possible in restoration of seabirds is needed. Funding is conditional on expansion of project objectives to include publication of conference proceedings.
95039	Common Murre Productivity Monitoring	DOI	$30.5	$0.0	**$30.5**	Additional funding for project will be considered with seabird/forage fish package.

1995 WORK PLAN -- AUTHORIZED PROJECT FUNDING

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Proj. No.	Title	Lead Agency	Interim Authorized 8/23/94	Remainder Authorized 11/3/94	**Total FY95 Authorization**	Conditions/Comments
95041	Introduced Predator Removal from Islands - Follow-up Surveys	DOI	$20.4	$46.1	**$66.5**	Project will allow measurable results to be obtained.
95102-CLO	Closeout: Murrelet Prey and Foraging Habitat in Prince William Sound	DOI	$63.8	$0.0	**$63.8**	
95427	Harlequin Duck Recovery Monitoring	ADFG	$17.3	$209.6	**$226.9**	Funding is for spring population composition and summer brood survey. This level of funding is needed only in FY95, FY98, and FY2001.
Oil Toxicity Projects			$252.3	$496.8	**$749.1**	
95026	Hydrocarbon Monitoring: Integration of Microbial and Chemical Sediment Data	ADEC	$0.0	$146.9	**$146.9**	Funding is to analyze and correlate existing data sets as recommended by peer reviewers.
95090	Mussel Bed Restoration and Monitoring in PWS and Gulf of Alaska	NOAA	$160.4	$278.4	**$438.8**	Important follow-up of prior work to determine effectiveness of techniques being used.
95290	Hydrocarbon Data Analysis, Interpretation, and Database Maintenance for Restoration and NRDA Environmental Samples Associated with the *Exxon Valdez* Oil Spill	NOAA	$91.9	$71.5	**$163.4**	Ongoing hydrocarbon interpretation and support services.
Reducing Marine Pollution			$232.2	$284.5	**$516.7**	
95115	Sound Waste Management Plan	ADEC	$0.0	$284.5	**$284.5**	Goal is to allow recovery of injured resources and services to proceed without the added interference of marine pollution.
95417	Carry-forward: Waste Oil Disposal Facilities	ADEC	$232.2	$0.0	**$232.2**	
Archaeology Projects			$223.9	$233.8	**$457.7**	
95007A	Archaeological Site Restoration - Index Site Monitoring	ADNR	$191.7	$150.0	**$341.7**	Recommend session with peer reviewers and archaeologists from involved agencies to develop less costly methodology for site monitoring. Project should involve local communities.
95007B	Archaeological Site Restoration	USFS	$32.2	$83.8	**$116.0**	Funding is for restoration of last identified site with severe damage. Future monitoring of this site, if necessary, is to be rolled into 95007A effort.

1995 WORK PLAN -- AUTHORIZED PROJECT FUNDING

NOTE: Funding totals for each cluster appear at the top of each cluster.

Proj. No.	Title	Lead Agency	Interim Authorized 8/23/94	Remainder Authorized 11/3/94	**Total FY95 Authorization**	Conditions/Comments
Habitat Protection/Acquisition			$144.0	$44.0	**$188.0**	
95060	Spruce Bark Beetle Impacts	ADFG	$0.0	$26.8	**$26.8**	Fund (through RFP) literature search and compilation of existing information on spruce bark beetle. Assessment of extent of infestation in the spill area is normal agency responsibility.
95110-CLO	Closeout: Habitat Protection and Acquisition	ADNR	$144.0	$0.0	**$144.0**	
95505B	Data Analysis for Stream Habitat	USFS	$0.0	$17.2	**$17.2**	Project will complete data analysis for an existing stream habitat database.
Administration/Science Mgt./Public Info.			$3,922.0	$286.9	**$4,208.9**	
95089	Information Management System	Executive Director	$304.8	$218.0	**$522.8**	Fund development of information management plan and preliminary development of interactive computer program.
95100	Administration, Science Management and Public Information	All	$3,597.2	$68.9	**$3,666.1**	
95422-CLO	Closeout: Restoration Plan EIS/Record of Decision	USFS	$20.0	$0.0	**$20.0**	
Institute of Marine Science			$46.5	$0.0	**$46.5**	
95199-CLO	Institute of Marine Science - Seward Improvements EIS	ADFG	$46.5	$0.0	**$46.5**	
Decision Deferred			$626.2	$0.0	**$626.2**	
95058	Restoration Assistance to Private Landowners	ADFG	$0.0	$0.0	**$0.0**	Defer decision until December meeting.
95080	Fleming Spit Recreation Area Enhancements	ADNR	$0.0	$0.0	**$0.0**	Defer decision until December meeting.
95126	Habitat Protection and Acquisition Support	ADNR	$626.2	$0.0	**$626.2**	Defer decision on additional funding until December meeting. Budget needs additional scrutiny in regard to unexpended FY94 funds and balance of interim funding.
95141	Afognak Island State Park Interim Support	ADNR	$0.0	$0.0	**$0.0**	Review project at December meeting.
95424	Restoration Reserve	All	$0.0	$0.0	**$0.0**	Defer decision until December meeting.

1995 WORK PLAN -- AUTHORIZED PROJECT FUNDING

NOTE: Funding totals for each cluster appear at the top of each cluster.

Proj. No.	Title	Lead Agency	Interim Authorized 8/23/94	Remainder Authorized 11/3/94	**Total FY95 Authorization**	Conditions/Comments

Interim Funding Authorized by Trustees 8/23/94:	**$9,962.8**
Additional Funding Authorized by Trustees 11/3/94:	**$11,941.6**
Authorized for Restoration Reserve:	**0**
Total Authorized Funding:	**$21,904.4**
Total Number of Projects Authorized for Funding:	**81**

NOTE: All project funding is conditioned on the Executive Director's final approval following scientific and budget review of the detailed project descriptions and budgets, and on compliance with NEPA requirements. The budget review will include an analysis of personnel requirements and equipment requests. Funding totals do not include funds requested for development and construction of the Institute of Marine Science (a total of $24.9 million) or for actual acquisition of habitat. "Interim funding" total includes $626,900 in carry-forward of FY94 authorization.

PROJECTS PROPOSED BUT NOT FUNDED -- 1995 WORK PLAN

Proj. No.	Title	Lead Agency	Amount Requested	Comments
95002	Leave No Trace Education Program	USFS	$177.7	No link to restoration.
95003	Area E Commercial Salmon Permit Buyback Program	ADFG	$11,735.0	Issues dealing with the economic condition of commercial fishermen are outside the purview of the Trustee Council.
95005	Harlequin Duck Abundance and Productivity in Western Cook Inlet	DOI	$40.5	Low priority. Need to first focus on development of necessary survey techniques.
95006	Paint River Pink Salmon Development	ADFG	$173.9	Low technical merit; weak link to restoration (Paint River was not injured by EVOS; project was pursued prior to EVOS).
95009A	Trophics and Community Structure in the Intertidal and Shallow Subtidal	USFS	$455.4	Proposal not well developed. EVOS workshop on intertidal/subtidal questions will be held winter 1995, under the direction of the Chief Scientist.
95009B	Primary Productivity as a Factor in the Recovery of Injured Resources in Prince William Sound	USFS	$218.9	Proposal not well developed. EVOS workshop on intertidal/subtidal questions will be held winter 1995, under the direction of the Chief Scientist.
95009C	Trophic Dynamics and Energy Flow: Impacts of Herring Spawn and Sea Otter Predation on Nearshore Benthic Community Structure	DOI	$217.3	Project objectives will be considered by team developing nearshore package.
95009E	Community Structure of Mobile Foragers Using the Nearshore	USFS	$280.5	Issues better addressed in 95320Q.
95010	Intertidal Fauna and Flora Species Composition, Abundance and Variability Relative to Physical Habitat Controls	DOI	$73.5	Proposal not well developed. EVOS workshop on intertidal/subtidal questions will be held winter 1995, under the direction of the Chief Scientist.
95013	Killer Whale Monitoring in PWS	NOAA	$107.6	Objectives integrated into 95012.
95014	Predation by Killer Whales in PWS: Feeding Behavior and Distribution of Predators and Prey	NOAA	$173.7	Objectives integrated into 95012.
95016	A Tribute to Prince William Sound	USFS	$161.0	No link to restoration.
95017	Port Graham Coho Salmon Subsistence Fishery Restoration Project	ADFG	$587.9	Based on information provided, project has low technical merit.
95018	Partitioning of Primary Production Between Pelagic and Benthic Communities	ADFG	$219.2	Not part of current SEA hypothesis, although potentially of interest to future ecosystem studies.
95022	Foraging Efficiencies at Temporary Food Patches	DOI	$183.0	Proposal less well developed than other forage fish proposals.
95023	Food Web Relationships of Pelagic Species Exhibiting Long-term Decline	DOI	$168.0	Proposal of lesser priority than other forage fish proposals.

PROJECTS PROPOSED BUT N[illegible] FUNDED -- 1995 WORK PLAN

Proj. No.	Title	Lead Agency	Amount Requested	Comments
95024	Enhancement of Wild Pink Salmon Stocks	ADFG	$184.3	Objectives are being addressed under 95093.
95025A	Factors Affecting Recovery of Sea Ducks and Their Prey	DOI	$407.1	Funding for planning and development of a comprehensive, integrated nearshore package provided under 95025.
95025B	Sea Otter Abundance and Distribution, Food Habits and Population Assessment	DOI	$163.2	Funding for planning and development of a comprehensive, integrated nearshore package provided under 95025.
95025C	Pigeon Guillemots and River Otters as Bioindicators of Nearshore Ecosystem Health	DOI	$180.0	Funding for planning and development of a comprehensive, integrated nearshore package provided under 95025.
95025D	Settlement Rates of Nearshore Invertebrates, Oceanic Processes and Population Recovery: Are They Linked?	DOI	$429.4	Funding for planning and development of a comprehensive, integrated nearshore package provided under 95025.
95025E	Algal Competition Limiting Recovery in the Intertidal	DOI	$220.0	Proposal not well developed. EVOS workshop on intertidal/subtidal questions will be held winter 1995, under the direction of the Chief Scientist.
95025F	Availability and Utilization of *Musculus* spp. as Food for Sea Ducks and Sea Otters	DOI	$5.5	Funding for planning and development of a comprehensive, integrated nearshore package provided under 95025.
95025G	Relation of Clam Population Structure to Recovery of Injured Nearshore Vertebrate Predators	DOI	$121.3	Funding for planning and development of a comprehensive, integrated nearshore package provided under 95025.
95025H	Effects of Predatory Invertebrates on Nearshore Clam Populations in PWS	DOI	$118.4	Funding for planning and development of a comprehensive, integrated nearshore package provided under 95025.
95025J	Primary Productivity as a Factor in the Recovery of Injured Resources in Prince William Sound	DOI	$397.0	Funding for planning and development of a comprehensive, integrated nearshore package provided under 95025.
95030	Productivity Survey of Bald Eagles in PWS	DOI	$81.9	Project 95029 considered to be of greater value this year.
95042	Five-year Plan to Remove Predators from Seabird Colonies	DOI	$75.0	Project addresses some species that have not been injured and locations outside of the spill area. Planning effort should be part of normal agency management.
95043A	Cordova Cutthroat Trout Habitat	USFS	$23.6	Defer decision pending outcome of wild stock supplementation workshop this winter. See 95139.
95044	*In Situ* Formation and Ecotoxicity of Hydrocarbon Degradation Products Produced by Ultramicrobacteria	NOAA	$132.5	Proposer should consider other more appropriate funding alternatives. Link to restoration undefined.
95045	Green Island Intertidal Restoration Monitoring	USFS	$26.4	Proposal not well developed. EVOS workshop on intertidal/subtidal questions will be held winter 1995, under the direction of the Chief Scientist.
95046	Long-term Record in Tree Rings of Climatic Features	NOAA	$153.6	Link to restoration unclear.

PROJECTS PROPOSED BUT N(FUNDED -- 1995 WORK PLAN

Proj. No.	Title	Lead Agency	Amount Requested	Comments
95047	Oil Containment	ADNR		Proposal incomplete.
95048	Historical Analysis of Sockeye Salmon Growth	ADFG	$99.2	Low priority.
95049	Independent Review of Restoration and Monitoring Projects	ADFG	$31.9	Project would duplicate work already approved by the Trustee Council and implemented through the work of the Chief Scientist and peer reviewers.
95050	A Test of Sonar Accuracy in Estimating Escapement of Sockeye Salmon	ADFG	$79.3	Current sonar is near end of usable life. A calibration effort would best be undertaken after system is replaced.
95051	Large-scale Coded Wire Tagging of PWS Herring	ADFG	$231.9	Low probability of success at present time.
95053	Cordova's Mini-Imaginarium	ADNR	$62.6	No link to restoration.
95055	Prehistoric Ecological Baseline for PWS	USFS	$141.6	Link to restoration unclear.
95057	Movement of Larval and Juvenile Fishes within PWS	NOAA	$0.0	Project withdrawn by proposer.
95058	Restoration Assistance to Private Landowners	ADFG	$211.9	Defer decision until December meeting.
95062	River Otter Recovery Monitoring	ADFG	$74.4	Proposal is to collect latrine site information, which the peer reviewers believe would provide only limited insights into recovery.
95065	PWSAC Pink Salmon Fry Mortality	ADFG	$59.6	Does not relate to recovery of wild pink salmon.
95069	Restoration of Salmon Stocks of Special Importance to Native Cultures	ADFG	$375.1	Objectives are being addressed under 95093.
95071	Monitoring Nearshore Fish Species for Persistence of Oil Exposure and Ecotoxicological Effects	NOAA	$231.0	Lesser priority for funding this year.
95073	Impact of Killer Whale Predation on Harbor Seals in PWS	NOAA	$228.2	Objectives integrated into 95012.
95075	Population Structure of Blue Mussels in Relation to Levels of Oiling and Densities of Vertebrate Predators	NOAA	$197.5	Funding for planning and development of a comprehensive, integrated nearshore package provided under 95025.
95077	Recreation Impacts in PWS: Human Impacts as a Factor Constraining Long Term Ecosystem Recovery	ADNR	$117.0	No link to restoration.

PROJECTS PROPOSED BUT NOT FUNDED -- 1995 WORK PLAN

Proj. No.	Title	Lead Agency	Amount Requested	Comments
95078	Culture, History, and Ecosystems: Assessment of Cultural/ Historical Strategies to Building Long-term Understanding of Ecosystems in the Oil Spill Area	DOI	$166.7	Link to restoration objectives unclear.
95079	Pink Salmon Restoration Through Small-scale Hatcheries	ADFG	$150.0	Project not directed toward recovery of injured wild stocks.
95080	Fleming Spit Recreation Area Enhancements	ADNR	$1,365.0	Defer decision until December meeting.
95082	"Mor-Pac Hill" Campground Improvements	ADNR	$360.0	No link to restoration.
95084	Odiak Camper Park Expansion	ADNR	$266.0	No link to restoration.
95085	Cordova Historical Marine Park	ADNR	$196.5	No link to restoration.
95086A	Coastal Habitat Intertidal Monitoring and Experimental Design Verification	ADFG	$954.1	Proposal not well developed. EVOS workshop on intertidal/subtidal questions will be held winter 1995, under the direction of the Chief Scientist.
95086B	Population Dynamics of Eelgrass and Associated Fauna	ADFG	$106.3	Proposal not well developed. EVOS workshop on intertidal/subtidal questions will be held winter 1995, under the direction of the Chief Scientist.
95087	Relation of Sea Urchin Population Structure to Recovery of Injured Nearshore Vertebrate Predators	ADFG	$48.8	Funding for planning and development of a comprehensive, integrated nearshore package provided under 95025.
95092	Recovery Monitoring of PWS Killer Whales	NOAA	$110.0	Objectives integrated into 95012.
95095	Quantification of Stream Habitat for Harlequin Ducks and Anadromous Fish Species from Remotely Sensed Data	ADNR	$88.0	Low technical merit; questions regarding the proposed application of remote sensing.
95096	Restoration of Murres by Way of Social Attraction and Predator Removal	DOI	$167.0	Low technical merit. Project 95038 funded instead.
95097	Restoration of Murres by Way of Transplantation of Chicks: A Feasibility Study	DOI	$176.0	Low technical merit. Project 95038 funded instead.
95098	Identification of Seabird Feeding Areas from Remotely Sensed Data	DOI	$74.0	Low technical merit. Project 95038 funded instead.
95099	Murrelet Vocalization in Conjunction with Artificial Nests: A Possible Means of Attraction to Habitat	DOI	$77.0	Low technical merit. Project 95038 funded instead.
95105	Kenai River Ecosystem Restoration Pilot Enclosure Study	ADFG	$404.9	Low priority.

PROJECTS PROPOSED BUT NOT FUNDED -- 1995 WORK PLAN

Proj. No.	Title	Lead Agency	Amount Requested	Comments
95107	Subtidal Site Verification	ADFG	$56.2	Proposal not well developed. EVOS workshop on intertidal/subtidal questions will be held winter 1995, under the direction of the Chief Scientist.
95111	Sustainable Rockfish Yield	ADFG	$222.6	Final damage assessment report should be completed before further commitment of Trustee Council funding. Maximum sustained yield population needs to be determined before a restoration objective can be defined.
95112	Rockfish Restoration Objective	ADFG	$53.7	Final damage assessment report should be completed before further commitment of Trustee Council funding. Maximum sustained yield population needs to be determined before a restoration objective can be defined.
95113	Energetics of Intertidal Fish: The Connection between Lower and Upper Trophic Levels	ADFG	$392.5	Low technical merit.
95114	Eelgrass Community Structure Restoration Assessment Using Stable Isotope Tracers	ADFG	$145.1	Lower priority.
95116	Restoration of Intertidal Oiled Mussel Beds by Nondestructive Manipulation/Flushing with PES-51	ADEC	$91.7	Objectives addressed in 95266.
95119-BAA	Food Limitation on Recovery of Injured Marine Bird Populations	NOAA	$124.9	Project not focused sufficiently on recovery of sea birds in spill area.
95122	Mapping Potential Nesting Habitat of Marbled Murrelets in PWS Using Geographic Databases	USFS	$169.2	Defer decision pending EVOS workshop on information management to be held winter 1995. Workshop will include examination of necessary mapping and how Trustee Council effort can fit into agencies' efforts.
95123	Tatitlek Community Store	ADFG	$300.0	No link to restoration of injured natural resource.
95124A	Tatitlek Mariculture Development Project	ADFG	$109.5	Opportunity for alternative funding.
95124B	Tatitlek Mariculture Development Project - Capital Outlay	ADFG	$405.0	Opportunity for alternative funding.
95125	Tatitlek Sockeye Salmon Release Program	ADFG	$39.0	Peer reviewers, concerned about potential hatchery/wild stock interaction, suggested efforts be focused on 95127.
95128	Teaching Subsistence Practices and Values	DOI	$114.0	Opportunity for alternative funding.
95129	Tatitlek Fish and Game Processing Center/Smokery	ADFG	$187.0	Opportunity for alternative funding.

PROJECTS PROPOSED BUT NOT FUNDED -- 1995 WORK PLAN

Proj. No.	Title	Lead Agency	Amount Requested	Comments
95130	Mental Health Center	ADFG	$106.1	No link to restoration of injured natural resource.
95132	Port Graham and Nanwalek Subsistence Baseline	ADFG	$518.7	Proposal involves preparation for future spills, which is beyond the purview of civil settlement funds. Newsletter/outreach component addressed in 95052.
95133	English Bay River Sockeye Subsistence Project	ADFG	$129.8	Opportunity for alternative funding.
95134	Chenega Bay Mariculture Development Project	ADFG	$184.3	Project needs further development and technical assistance, as appropriate; opportunity for alternative funding.
95135	Subsistence Harvest Support	ADFG	$50.0	Opportunity for alternative funding;.
95136	Skin Sewing Crafts Restoration	DOI	$29.9	Project of lesser priority for restoration of injured natural resources.
95139A2	Spawning Channel - Port Dick Creek	ADFG	$171.6	Defer decision pending outcome of wild stock supplementation workshop this winter. See 95139.
95139D	Salmon Instream Habitat and Stock Restoration--Pink Creek and Horse Marine Barrier Bypass Development	ADFG	$61.6	Defer decision pending outcome of wild stock supplementation workshop this winter. See 95139.
95140	Subsistence Skills Program	ADFG	$36.7	Project of lesser priority for restoration of injured natural resources.
95141	Afognak Island State Park Interim Support	ADNR	$309.5	Review project at December meeting.
95159	Surveys to Determine Additional Oil Spill Effects and Recovery of Marine Bird and Sea Otter Populations in PWS	DOI	$426.8	Recommended frequency of monitoring is every three years; monitoring was done in winter 1994.
95163B	Forage Fish Assessment /Birds (formerly 95163)	ADFG	$155.0	Funding for planning and development of a comprehensive seabird/forage fish package provided under 95163I.
95163C	Competition and Prey of Forage Fish (formerly 95163)	ADFG	$76.6	Funding for planning and development of a comprehensive seabird/forage fish package provided under 95163I.
95163D	Distribution and Abundance of Forage Fish as Indicated by Puffin Diet Sampling (formerly 95019)	DOI	$32.3	Funding for planning and development of a comprehensive seabird/forage fish package provided under 95163I.
95163E	Kittiwakes as Indicators of Forage Fish Availability (formerly 95033)	DOI	$180.0	Funding for planning and development of a comprehensive seabird/forage fish package provided under 95163I.
95163G	Diet Composition, Reproductive Energetics and Productivity of Seabirds Damaged by the *Exxon Valdez* Oil Spill (formerly 95118-BAA)	NOAA	$140.6	Funding for planning and development of a comprehensive seabird/forage fish package provided under 95163I.

PROJECTS PROPOSED BUT NOT FUNDED -- 1995 WORK PLAN

Proj. No.	Title	Lead Agency	Amount Requested	Comments
95163H	Proximate Composition and Energetic Content of Selected Forage Fish Species in PWS (formerly 95120-BAA)	NOAA	$43.0	Funding for planning and development of a comprehensive seabird/forage fish package provided under 95163I.
95200	Public Access	USFS	$50.2	Low priority.
95320I(1)	Isotope Tracers - Food Web Dependencies in PWS Using Stable Isotopes (Marine Mammals and Birds)	ADFG	$115.4	Objectives integrated into project 95320I.
95320I(3)	Purchase of Isotope Radio Mass Spectrometer	ADFG	$257.4	Need for equipment not well substantiated by project proposal.
95320V	Herring Predation by Humpback Whales in PWS	ADFG	$279.8	Low priority.
95424	Restoration Reserve	All	$12,000.0	Defer decision until December meeting.

Total Amount Requested:	**$42,309.5**
Number of Projects:	**100**

MEMORANDUM

TO: Trustee Council

FROM: James R. Ayers
Executive Director

DATE: November 2, 1994

SUBJ: Recognition to Rod Kuhn

This memorandum is to highly recommend recognition for Mr. Rod Kuhn of the U.S. Forest Service. Mr. Kuhn managed the Draft and Final Environmental Impact Statement process for the Restoration Plan for the Trustee Council. The project was handed to Mr. Kuhn with an extremely tight schedule, a schedule that he and his team continuously met. Mr. Kuhn and the multi-agency state and federal team analyzed the Restoration Plan, developed alternatives, conducted public meetings, and assessed public comment — all necessary steps that culminated in the October 31 approval of the Record of Decision and the Trustee Council's adoption of the final Restoration Plan.

I recommend that a resolution of appreciation to Rod for his service to the restoration process might be in order. A draft is attached for your consideration.

RESOLUTION

WHEREAS, Rod Kuhn has served the *Exxon Valdez* Trustee Council as a representative of the Department of the Agriculture, U.S. Forest Service since January, 1994 ; and

WHEREAS, Mr. Kuhn managed for the Trustees the process of compliance with the National Environmental Policy Act for the Restoration Plan through assembling a multi-agency team, filing a Notice of Intent, identifying the scope of issues to be addressed, developing a Draft Environmental Impact Statement, conducting public meetings and taking public comment on the document, and addressing those comments in preparation of a Final Environmental Impact Statement and Record of Decision; and

WHEREAS, Mr. Kuhn has accomplished all of these objectives within an extremely limited time schedule and within budget, all the while maintaining an equable disposition; and

WHEREAS, Mr. Kuhn has given of his time, energy and his talents in the efforts to aid recovery and restoration of the resources and services in the areas affected by the *Exxon Valdez* oil spill,

THEREFORE BE IT RESOLVED, that the *Exxon Valdez* Oil Spill Trustee Council commends Mr. Kuhn for the excellence of his performance and extends appreciation for his efforts on behalf of the injured resources.

MEMORANDUM

TO: Trustee Council

FROM: James R. Ayers
Executive Director

DATE: November 3, 1994

SUBJ: Recognition to Nancy Swanton

This memorandum is to suggest recognition for Ms. Nancy Swanton of the U.S. Department of the Interior. Ms. Swanton managed the Draft and Final Environmental Impact Statement process for the Proposed Infrastructure Improvements for the Institute of Marine Science in Seward for the Trustee Council.

Ms. Swanton took over coordination of an EIS process which needed to be completed under extremely tight deadlines. Ms. Swanton successfully worked with the IMS project leaders from Seward and the agency representatives involved on behalf of the Trustee Council to develop alternatives, conduct public meetings, and assess public comment for inclusion in the Final EIS and the Record of Decision.

I recommend that a resolution of appreciation to Nancy for her service to the restoration process might be in order. A draft is attached for your consideration.

RESOLUTION

WHEREAS, Nancy Swanton has served the *Exxon Valdez* Trustee Council as a representative of the U.S. Department of the Interior; and

WHEREAS, Ms. Swanton managed for the Trustees the process of compliance with the National Environmental Policy Act for the Proposed Institute of Marine Science Infrastructure Improvements in Seward through filing a Notice of Intent, identifying the scope of issues to be addressed, developing a Draft Environmental Impact Statement, conducting public meetings and taking public comment on the document, and addressing those comments in preparation of a Final Environmental Impact Statement and Record of Decision; and

WHEREAS, Ms. Swanton served as a focal point for total coordination of the EIS process and accomplished all of these objectives within an extremely limited time schedule; and

WHEREAS, Ms. Swanton gave of her time, energy and talents in the efforts to aid recovery and restoration of the resources and services in the areas affected by the *Exxon Valdez* oil spill,

THEREFORE BE IT RESOLVED, that the *Exxon Valdez* Oil Spill Trustee Council commends Ms. Swanton for the excellence of her performance and extends appreciation for her efforts on behalf of the injured resources.

RESOLUTION

WHEREAS, Sanford P. Rabinowitch has served as a representative of the Department of the Interior and the National Park Service in planning restoration of the resources and services injured by the *Exxon Valdez* oil spill since 1990; and

WHEREAS, Mr. Rabinowitch has made significant contributions to the development of the comprehensive, balanced approach to restoration adopted by the Trustees through the Restoration Plan; and

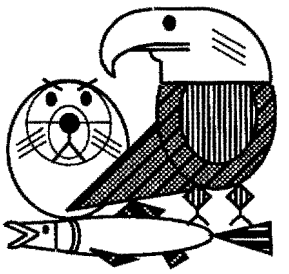
WHEREAS, Mr. Rabinowitch has been diligent in his efforts to advance meaningful public involvement in the Trustee Council process; and

WHEREAS, Mr. Rabinowitch has given of his time, energy and his talents in the efforts to aid recovery and restoration of the resources and services in the areas affected by the *Exxon Valdez* oil spill,

THEREFORE BE IT RESOLVED, that the *Exxon Valdez* Oil Spill Trustee Council commends Mr. Rabinowitch for the excellence of his performance and extends appreciation for his efforts on behalf of the injured resources.

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



November 1, 1994

Adela Backiel
Deputy Undersecretary
USDA - Natural Resources and Environment
Rm 217E Administration Building
14th and Independence Ave. SW
Washington, D.C. 20250

Dear Ms. Backiel,

As you are aware, the Record of Decision (ROD) for the Proposed Institute of Marine Science (IMS) Infrastructure Improvement Project in Seward, Alaska was signed yesterday by the Department of the Interior with the concurrence of the Department of Agriculture and the Department of Commerce.

In order to keep you informed on the developments related to this proposal, please find attached the Executive Director's Recommendation and Findings regarding this project. This recommendation and finding document is largely identical to the earlier draft version that was distributed directly to each of the Trustee Council members roughly one month ago at their October 5th meeting in Juneau. Since that time, in response to comments from the Department of Justice (Bill Brighton), as well as comments from the Department of Agriculture (Maria Lisowski), some additional revisions and clarifications have been made to the document as reflected in the attached letter to Bill Brighton. I believe this addresses the concerns that have been raised and that the proposed project as is consistent with the Memorandum of Agreement and the Consent Decree.

As you know this project will be before the Trustee Council for their consideration tomorrow.

Sincerely,

James R. Ayers
Executive Director

attachments