13.08.01 – Reading File

April 2000

13.08.01

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

April 25, 2000

To Whom It May Concern:

Please be advised that Dr. James Reynolds is traveling on behalf of the State of Alaska and the U.S. Government, and, in that capacity is entitled to receive government rates for airfare and accommodations.

He will be working on government business until September 30, 2000. Any questions relating to this matter should be directed to:

Executive Director
Exxon Valdez Oil Spill Trustee Council
Restoration Office
645 G Street Suite 401
Anchorage AK 99501-3451
(907) 278-8012

Thank you for your cooperation.

Sincerely,

Molly McCammon
Executive Director

mm/raw

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

April 25, 2000

To Whom It May Concern:

Please be advised that Alan Springer is traveling on behalf of the State of Alaska and the U.S. Government, and, in that capacity is entitled to receive government rates for airfare and accommodations.

He will be working on government business until September 30, 2000. Any questions relating to this matter should be directed to:

Executive Director
Exxon Valdez Oil Spill Trustee Council
Restoration Office
645 G Street Suite 401
Anchorage AK 99501-3451
(907) 278-8012

Thank you for your cooperation.

Sincerely,

Molly McCammon
Executive Director

mm/raw

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

April 21, 2000

Chris Elfring, Director
Polar Research Board (HA 454)
National Research Council
National Academy of Sciences, National Academy of Engineering
2101 Constitution Avenue NW
Washington, DC 20418

Dear Chris:

Enclosed please find 20 copies of the Gulf Ecosystem Monitoring (GEM) Science Program, April 21 NRC Review Draft. Also enclosed is one unbound copy for copying purposes. We have also included for the committee's use a single copy of the following documents:

- *Exxon Valdez* Oil Spill Trustee Council 2000 Status Report
- *Exxon Valdez* Oil Spill Trustee Council 1999 Status Report
- FY 2001 Invitation to Submit Restoration Proposals
- FY 2000 work plan documents – invitation, draft plan, final plan
- March 1999 Update on Injured Resources and Services
- 1994 *Exxon Valdez* Oil Spill Trustee Council Restoration Plan

We would be happy to provide additional copies of these documents upon request.

The draft GEM Science Program document describes a program and process for long-term research and monitoring in the northern Gulf of Alaska as a final legacy of the *Exxon Valdez* Oil Spill Trustee Council's restoration program following the 1989 oil spill. The Trustee Council is looking forward to benefiting from the experience of the National Research Council in its review. We are especially looking forward to guidance in terms of the structure and process of the program, particularly based on the experience of other programs nationwide and the experience of individual committee members. Additionally, a review of the scientific context of the program (Section IV) would be helpful. And finally, guidance in terms of strategies for developing an actual plan for long-term research and monitoring is critical as we begin to develop such a plan.

The GEM program is not itself a research and monitoring plan. In order to implement the GEM program in October 2002, the Trustee Council must begin developing such a plan in advance of the NRC's final recommendations regarding the GEM Science

Program document. Our process requires substantial public and scientific review and comment, as well as final approval by all six Trustees. Our goal is to have a draft plan delivered to the NRC by March 2001. Therefore, any informal guidance in terms of developing that plan would be appreciated as soon as possible.

We look forward to working with the NRC and the review committee in the next two years. Please don't hesitate to contact me with any questions about the document or the Trustee Council's timeline or process.

Sincerely,

Molly McCammon
Executive Director

Enclosures

mm/raw

USE THIS FORM FOR DATA ENTRY

firstname	Chris
lastname	Elfring, PhD
company	Polar Research Board (HA 454)
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state	DC
zipcode	20418
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project02	

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Trustee Council

THROUGH: Molly McCammon
Executive Director

FROM: Traci Cramer
Administrative Officer

This didn't go out to anyone

DATE: April 11, 2000

RE: Financial Report as of February 29, 2000

Attached is the Statement of Revenue, Disbursements and Fees, and accompanying notes for the *Exxon Valdez* Joint Trust Fund for the settlement period ending September 30, 2002, as of February 29, 2000. The following is a summary of the information incorporated in the notes and contained on the statement.

Liquidity Account Balance	$58,673,234	
Plus: Other Adjustments (Note 5)	8,208,517	
Less: Restoration Reserve Adjustment (Note 6)	-58,125,894	
Liquidity Fund Balance		$8,755,857
Restoration Reserve Accrued Value	$39,132,477	
Plus: Liquidity Fund Adjustment (Note 6)	58,125,894	
Restoration Reserve Balance		$97,258,371
Joint Trust Fund as of February 29, 2000		**$106,014,228**
Plus: Future Exxon Payments (Note 1)	$140,000,000	
Less: Reimbursements (Note 3)	-7,500,000	
Less: Commitments (Note 7)	-80,166,867	
Uncommitted Balance		$52,333,133
Joint Trust Fund as of September 30, 2002		**$158,347,361**

Attachments

cc: Agency Liaisons
Bob Baldauf

NOTES TO THE STATEMENT OF REVENUE, DISBURSEMENTS AND FEES
FOR THE *EXXON VALDEZ* JOINT TRUST FUND
FOR THE SETTLEMENT PERIOD ENDING SEPTEMBER 30, 2002
As of February 29, 2000

1. Contributions - Pursuant to the agreement Exxon is to pay a total of $900,000,000.

Received to Date	$760,000,000
Future Payments	$140,000,000

2. Interest Income - In accordance with the MOA, the funds are deposited in the United States District Court, Court Registry Investment System (CRIS). All deposits with CRIS are maintained in United States government treasury securities with maturities of 100 days or less. Total earned since the last report is $215,043.

3. Reimbursement of Past Costs - Under the terms of the agreement, the United States and the State are reimbursed for expenses associated with the spill. The remaining reimbursements represent that amount due the State of Alaska.

4. Fees – CRIS charges a fee of 5% of earnings for cash management services. Total paid since the last report is $10,752.

5. Other Adjustments - Under terms of the Agreement, both interest earned on previous disbursements and prior years unobligated funding or lapse are deducted from future court requests. Unreported interest and estimated lapse is summarized below.

	Interest	Lapse
United States	$687,391	$3,128,914
State of Alaska	$2,054,355	$2,337,857

6. Restoration Reserve/Liquidity Fund Adjustment – Includes the $12,000,000 transfer approved for Fiscal Year 1998, plus $1,475,000 in interest accrued since September 15, 1997, the $12,000,000 transfer approved for Fiscal Year 1999, plus $875,000 in interest accrued since September 15, 1998, and $12,000,000 transfer approved for Fiscal Year 2000, plus $275,000 in interest accrued since September 15, 1999. The proceeds from the securities that matured on November 15, 1998 and November 15, 1999 were deposited to the Liquidity Fund have also been included. This includes $18,627,865, plus $630,403 in interest, less $41,463 in fees. Also included is $284,088 for fees that were assessed against the Restoration Reserve prematurely and deposited in the Liquidity Fund.

7. Commitments - Includes $2,711,000 for the Archaeological Repository, $23,500 for project management/GA associated with the Repository, $100,800 for the Fiscal Year 2000 Work Plan and the following land payments.

Seller	Amount	Due
Afognak Joint Venture	$23,025,833	October 2000
Eyak	$18,000,000	September 2000 through 2002
Shuyak	$8,000,000	October 2000 through 2001
Shuyak	$11,805,734	October 2002
Koniag, Incorporated	$16,500,000	September 2002

STATEMENT OF REVENUE, DISBURSEMENT, AND FEES
***EXXON VALDEZ* OIL SPILL JOINT TRUST FUND**
As of February 29, 2000

	1997	1998	1999	To Date 2000	Cumulative Total
REVENUE:					
Contributions: (Note 1)					
Contributions from Exxon Corporation	70,000,000	70,000,000	70,000,000	0	760,000,000
Less: Credit to Exxon Corporation for					(39,913,688)
Deposit of Maturing Securities			9,095,002	9,532,863	18,627,865
Total Contributions	70,000,000	70,000,000	79,095,002	9,532,863	738,714,177
Interest Income: (Note 2)					
Exxon Corporation escrow account					831,233
Joint Trust Fund Account	2,971,070	2,673,585	2,124,921	1,103,567	24,252,882
Total Interest	2,971,070	2,673,585	2,124,921	1,103,567	25,084,115
Total Revenue	**72,971,070**	**72,673,585**	**81,219,923**	**10,636,430**	**763,798,292**
DISBURSEMENTS:					
Reimbursement of Past Costs: (Note 3)					
State of Alaska	5,000,000	3,750,000	3,750,000	0	99,059,288
United States	0	0	0	0	69,812,045
Total Reimbursements	5,000,000	3,750,000	3,750,000	0	168,871,333
Disbursements from Liquidity Account:					
State of Alaska	17,846,130	15,686,600	62,457,990	1,312,600	252,248,518
United States	60,101,802	39,468,461	32,676,850	525,754	233,275,387
Transfer to the Restoration Reserve	12,449,552				48,445,783
Total Disbursements	90,397,484	55,155,061	95,134,840	1,838,354	533,969,688
FEES:					
U.S. Court Fees - Liquidity Account (Note 4)	254,221	199,946	250,528	55,178	2,284,037
Total Disbursements and Fees	**95,651,705**	**59,105,007**	**99,135,368**	**1,893,532**	**705,125,058**
Increase (decrease) in Liquidity Account	**(22,680,635)**	**13,568,578**	**(17,915,445)**	**8,742,897**	**58,673,234**
Liquidity Account Balance, beginning balance	76,957,839	54,277,204	67,845,782	49,930,337	
Liquidity Account Balance, end of period	54,277,204	67,845,782	49,930,337	58,673,234	
Other Adjustments: (Note 5)					8,208,517
Restoration Reserve Adjustment: (Note 6)					(58,125,894)
Liquidity Fund Balance					8,755,857
Restoration Reserve Balance					97,258,371
Joint Trust Fund as of June 30, 1999					**106,014,228**
Future Exxon Payments (Note 1)					140,000,000
imbursements (Note 3)					(7,500,000)
Commitments: (Note 7)					(80,166,867)
Joint Trust Fund as of September 30, 2002					**158,347,361**

Statement 1

Statement of *Exxon Valdez* Settlement Funds
As of February 29, 2000

Beginning Balance of Settlement	900,000,000
Receipts:	
Interest Earned on Exxon Escrow Account	337,111
Net Interest Earned on Joint Trust Fund (Note 1)	21,968,845
Interest Earned on United States and State of Alaska Accounts	8,215,656
Total Interest	30,521,611
Disbursements:	
Reimbursements to United States and State of Alaska	168,871,333
Exxon clean up cost deduction	39,913,688
Joint Trust Fund deposits	570,674,077
Total Disbursements	779,459,098
Funds Available:	
Exxon Future Payments	140,000,000
Current Year Payment	0
Balance in Liquidity Account	58,673,234
Other Adjustments (Note 2)	8,208,517
Pending Court Requests	(304,300)
Acquisition Commitments (Note 3)	(77,331,567)
Archaeological Repository (Note 4)	(2,531,000)
Alaska Sealife Center (Note 4)	0
Remaining Reimbursements	(7,500,000)
Restoration Reserve Accrued Value	39,132,477
Joint Trust Fund Balance as of September 30, 2002	158,347,361

Note 1: Gross interest earned less District Court registry fees
Note 2: Adjustment for unreported interest earned and lapse
Note 3: Includes both current year and future year payments
Note 4: Other Authorizations

Footnote:
Pending Court Request includes $100,800 for the FY 2000 Work Plan, $180,000 for the Local Display Facilities component of the Archaeological Repository and $23,500 for project management and general administration associated with the Archaeological Repository.

Statement 2

Cash Flow Statement
***Exxon Valdez* Liquidity Account**
As of February 29, 2000

Receipts:		
Exxon payments		
December 1991	36,837,111	
December 1992	56,586,312	
September 1993	68,382,835	
September 1994	58,728,400	
September 1995	67,303,000	
September 1996	66,708,554	
September 1997	65,000,000	
September 1998	66,250,000	
Deposit of Maturing Securities	9,095,002	
September 1999	66,250,000	
Deposit of Maturing Securities	9,532,863	
Total Deposits	570,674,077	570,674,077
Interest Earned	24,252,882	
Total Interest	24,252,882	24,252,882
Total Receipts		594,926,959
Disbursements:		
Court Requests		
Fiscal Year 1992	12,879,700	
Fiscal Year 1993	27,634,994	
Fiscal Year 1994	50,554,653	
Fiscal Year 1995	89,989,597	
Fiscal Year 1996	74,388,774	
Fiscal Year 1997	77,947,932	
Fiscal Year 1998	55,155,061	
Fiscal Year 1999	95,134,840	
Fiscal Year 2000	1,838,354	
Total Requests	485,523,905	485,523,905
District Court Fees	2,284,037	2,284,037
Transfer to the Restoration Reserve		48,445,783
Total Disbursements		536,253,725
Balance in Joint Trust Fund		58,673,234

Footnote:
A total of $48,445,783 has been disbursed from the Liquidity Account to the Restoration Reserve. Of the total, $48,445,663 was used to purchase laddered securities. The difference of $120 represents costs paid to the Federal Reserve Bank. An additional $10 Federal Reserve Bank fees was assessed the Restoration Reserve on 11/17/97 for costs associated with the reinvestment of maturing securities.

Exxon Valdez Restoration Reserve								
Matured Securities/Outstanding Deposits								
As of February 29, 2000								
		Deposit	Adjustment	Earnings	Total			
November 15, 1998 Par Value		9,095,002	284,088					
November 15, 1999 Par Value		9,532,863	0					
Total of Matured Securities		18,627,865	284,088	588,941	19,500,894			
Fiscal Year 1998 Deposit		12,000,000		1,475,000	13,475,000			
Fiscal Year 1999 Deposit		12,000,000		875,000	12,875,000			
Fiscal Year 2000 Deposit		12,000,000		275,000	12,275,000			
Total of Outstanding Deposits		36,000,000		2,625,000	38,625,000			
Total Included in Liquidity Account					58,125,894			
Reserve Portfolio Accrued Value					39,132,477			
Total Accrued Value of the Restoration Reserve					97,258,371			
Interest/Fees associated with the 1998 Security:								
	Reserve	Liquidity	Total	Reserve	Liquidity	Total	Reserve	Liquidity
Period	Balance	Balance	Interest	Interest	Interest	Fees	Fees	Fees
11/19/98 - 11/26/98	9,095,002	47,795,857	40,418	7,691	32,727	4,273	813	3,460
12/10/98 - 12/16/98	9,113,858	48,059,641	26,436	5,013	21,423	2,937	557	2,380
adjustment	284,088							
12/17/98 - 12/23/98	9,402,403	48,089,227	29,586	5,785	23,802	3,287	643	2,645
12/24/98 - 12/30/98	9,407,545	48,117,048	27,821	5,439	22,382	3,091	604	2,487
11/12/99 - 11/17/99	9,726,466	50,222,386	47,265	9,154	38,111	2,488	482	2,006
November 15, 1999 Par Value	9,532,863							
1/20/00 - 1/26/00	19,405,259	58,925,192	55,979	18,435	37,544	2,946	970	1,976
1/27/00 - 2/02/00	19,422,724	58,970,998	45,806	15,087	30,719	2,411	794	1,617
2/03/00 - 2/09/00	19,437,016	59,023,541	52,543	17,303	35,240	2,765	911	1,855
2/10/00 - 2/16/00	19,453,409	59,071,705	48,164	15,861	32,303	2,535	835	1,700
2/17/00 - 2/23/00	19,468,435	59,120,461	48,756	16,055	32,701	2,566	845	1,721
2/24/00 - 3/01/00	19,483,646	58,673,235	54,827	18,207	36,621	2,886	958	1,927
Total				630,403	1,791,538		41,463	119,534

Schedule of Payments from Exxon
As of February 29, 2000

	September 93	September 94	September 95	September 96	September 97	September 98	September 99	Total
Reimbursements:								
United States								
FFY92	0							24,726,280
FFY93	11,617,165							36,117,165
FFY94	0	6,271,600						6,271,600
FFY95	0		2,697,000					2,697,000
Total United States	11,617,165	6,271,600	2,697,000	0	0	0	0	69,812,045
State of Alaska								
General Fund:								
FFY92	0							25,313,756
FFY93	0							16,685,133
FFY94	14,762,703							14,762,703
FFY95	0	0						0
Mitigation Account:								
FFY92	0							3,954,086
FFY93	0							12,314,867
FFY94	5,237,297	5,000,000						10,237,297
FFY95 (Prevention Account)	0		0					0
FFY96 (Prevention Account)				3,291,446				3,291,446
FFY97 (Prevention Account)					5,000,000			5,000,000
FFY98 (Prevention Account)						3,750,000		3,750,000
FFY99 (Prevention Account)							3,750,000	3,750,000
Total State of Alaska	20,000,000	5,000,000	0	3,291,446	5,000,000	3,750,000	3,750,000	99,059,288
Total Reimbursements	31,617,165	11,271,600	2,697,000	3,291,446	5,000,000	3,750,000	3,750,000	168,871,333

	September 93	September 94	September 95	September 96	September 97	September 98	September 99	Total
Deposits to Joint Trust Fund								
FFY92	0							36,837,111
FFY93	68,382,835							124,969,147
FFY94	0							0
FFY95	0	58,728,400	67,303,000					126,031,400
FFY96				66,708,554				66,708,554
FFY97					65,000,000			65,000,000
FFY98						66,250,000	66,250,000	132,500,000
Total Deposits to Joint Trust Fund	68,382,835	58,728,400	67,303,000	66,708,554	65,000,000	66,250,000	66,250,000	552,046,212
Exxon clean up cost deduction	0	0	0	0	0	0	0	39,913,688
Total Payments	100,000,000	70,000,000	70,000,000	70,000,000	70,000,000	70,000,000	70,000,000	690,831,233
Remaining Exxon payments to be made:								
September 1994								
September 1995								
September 1996								
September 1997								
September 1998								
September 1999								
September 2000		70,000,000						
September 2001		70,000,000						
		140,000,000						

The December 1991 payment includes interest accrued on the escrow account. The actual disbursements without interest was $24.5 million to the United States, $29 million to the State of Alaska and $36.5 million to the Joint Trust Fund. The total interest earned on the escrow account was $831,233 which was disbursed proportionately. This included $226,280 to the United States, $267,842 to the State of Alaska and $337,111 to the Joint Trust Fund.

The September 1994 reimbursement to the United States included an over-payment of $80,700 to NOAA. This over-payment is a direct result of final costs for damage assessment activities being lower than what was previously estimated. The funds were returned to the Joint Account by reducing the amount transferred to the United States in Court Request number 15.

Schedule of Disbursements
***Exxon Valdez* Liquidity Account**
As of February 29, 2000

	United States	State of Alaska	Court Request Total	Court Fees	Disbursements Total
Total Fiscal Year 1992	6,320,500	6,559,200	12,879,700	23,000	12,902,700
Total Fiscal Year 1993	9,105,881	18,529,113	27,634,994	154,000	27,788,994
Total Fiscal Year 1994	6,008,387	44,546,266	50,554,653	364,000	50,918,653
Total Fiscal Year 1995	48,019,928	41,969,669	89,989,597	586,857	90,576,454
Court Request 17		3,294,667	3,294,667		
Court Request 18	8,000,000		8,000,000		
Court Request 19	3,222,224	1,968,898	5,191,122		
Restoration Reserve Transfer			35,996,231		
Court Request 20		8,000,000	8,000,000		
Court Request 21	1,007,000	5,520,500	6,527,500		
Court Request 22	18,818,600	24,556,885	43,375,485		
Total Fiscal Year 1996	31,047,824	43,340,950	110,385,004	396,307	110,781,312
Court Request 23	2,613,500	0	2,613,500		
Court Request 24	176,500	3,075,625	3,252,125		
Court Request 25	785,859	442,833	1,228,692		
Court Request 26	24,154,000	530,000	24,684,000		
Court Request 27	324,700	1,470,900	1,795,600		
Restoration Reserve Transfer			12,449,552		
Court Request 28	0	2,627,000	2,627,000		
Court Request 29	5,919,169	5,699,772	11,618,941		
Court Request 30	26,128,074	4,000,000	30,128,074		
Total Fiscal Year 1997	60,101,802	17,846,130	90,397,484	254,221	90,651,705
Court Request 31	445,200	643,800	1,089,000		
Court Request 32	464,300	996,100	1,460,400		
Court Request 33	14,150,000		14,150,000		
Court Request 34	4,000,000		4,000,000		
Court Request 35	20,408,961	14,046,700	34,455,661		
Court Request 35 Correction					
Total Fiscal Year 1998	39,468,461	15,686,600	55,155,061	199,946	55,355,007
Court Request 35 Correctio	-300		-300		
Court Request 36		29,520,000	29,520,000		
Court Request 37	13,000,000		13,000,000		
Court Request 38	451,100	1,613,200	2,064,300		
Court Request 39	156,300		156,300		
98180 Revenue Adjustment	21,400	-21,400	0		
Court Request 40	4,951,500	4,858,800	9,810,300		
Court Request 41	14,096,850	26,487,390	40,584,240		
Total Fiscal Year 1999	32,676,850	62,457,990	95,134,840	250,528	95,385,368
Court Request 42	100,500	1,235,800	1,336,300		
Court Request 43	425,254	76,800	502,054		
Court Request 44			0		
Total Fiscal Year 2000	525,754	1,312,600	1,838,354	55,178	1,893,532
Total	**233,275,387**	**252,248,518**	**533,969,688**	**2,284,037**	**536,253,725**

Exxon Valdez Liquidity Account
Interest Earned/District Court Registry Fees
As of February 29, 2000

	FFY 1994	FFY 1995	FFY 1996	FFY 1997	FFY 1998	FFY 1999	FFY 2000	Total
Earnings Deposits	33,476	55,809						138,092
Earnings Allocated:								
1991								28,704
1992								1,080,309
1993	1,461,736							2,100,915
1994	1,876,788	1,402,938						3,279,726
1995		3,661,063	1,202,209					4,863,272
1996			2,364,556	810,894				3,175,451
1997				1,905,955	653,461			2,559,416
1998					1,820,177	695,964		2,516,141
1999						1,178,429	597,184	1,775,614
2000							451,204	451,204
Total	3,338,524	5,064,001	3,566,766	2,716,849	2,473,639	1,874,393	1,048,388	21,830,753
Total Earnings	3,372,000	5,119,809	3,566,766	2,716,849	2,473,639	1,874,393	1,048,388	21,968,845
Registry Fees:								
1991								3,189
1992								120,034
1993	179,658							233,435
1994	184,342	180,072						364,414
1995		406,785	133,579					540,364
1996			262,729	90,099				352,828
1997				164,121	52,983			217,105
1998					146,962	166,171		313,134
1999						84,357	31,431	115,787
2000							23,748	23,748
Total	364,000	586,857	396,307	254,221	199,946	250,528	55,178	2,284,037
Gross Earnings	3,736,000	5,706,667	3,963,073	2,971,070	2,673,585	2,124,921	1,103,567	24,252,882

Schedule of Interest Earned on United States and State of Alaska Accounts As of February 29, 2000			
	State of Alaska EVOSS Account	United States NRDA& R	Total
July 1996	128,195		128,195
August 1996	106,079		106,079
September 1996	110,890	29,042	139,933
October 1996	181,598		181,598
November 1996	162,806		162,806
December 1996	153,991	71,093	225,084
January 1997	147,934		147,934
February 1997	125,137		125,137
March 1997	131,457	24,374	155,831
April 1997	122,111		122,111
May 1997	114,954		114,954
June 1997	99,811	368,523	468,334
July 1997	221,906		221,906
August 1997	36,898		36,898
September 1997	159,695	38,289	197,984
October 1997	119,195		119,195
November 1997	49,120		49,120
December 1997	92,204	130,183	222,387
January 1998	120,038		120,038
February 1998	29,888		29,888
March 1998	59,202	76,715	135,917
April 1998	55,222		55,222
May 1998	59,406		59,406
June 1998	50,136	74,613	124,749
July 1998	37,215		37,215
August 1998	78,178		78,178
September 1998	157,591	(44,921)	112,670
October 1998	61,084		61,084
November 1998	(16,484)		(16,484)
December 1998	74,639	87,633	162,272
January 1999	80,222		80,222
February 1999	(78,738)		(78,738)
March 1999	101,632	172,530	274,162
April 1999	58,096		58,096
May 1999	(12,282)		(12,282)
June 1999	37,975	94,821	132,797
July 1999	28,764		28,764
August 1999	37,133		37,133
September 1999	147,627	100,380	248,007
October 1999	80,400		80,400
November 1999	40,543		40,543
December 1999	25,243	64,447	89,690
January 2000	16,945		16,945
February 2000	87,758		87,758
Total	6,449,401	1,766,254	8,215,656

NOTE: The $117,178 NRDA&R interest figure is cummulative.

Interest was earned for the period July 1992 through June 1996, but the specific amounts have been hidden to allow the spreadsheet to print on one page.

Schedule of Interest Adjustments to the Court Requests
As of February 29, 2000

Court Request	United States	State of Alaska	Total	Comments
Court Request 2	39,871	80,775	120,646	
Court Request 3	3,648	35,012	38,660	
Total Fiscal Year 1993	43,519	115,787	159,306	
Court Request 5	51,231	64,944	116,175	
Court Request 6	22,427	180,536	202,963	
Court Request 7		58,554	58,554	
Total Fiscal Year 1994	73,658	304,034	377,692	
Court Request 8	34,621	52,823	87,444	
Court Request 9		117,838	117,838	
Court Request 10	37,618	44,291	81,909	
Court Request 13	3,849	320,837	324,686	
Court Request 15	63,226	449,634	512,860	
Total Fiscal Year 1995	139,314	985,423	1,124,737	
Court Request 19	48,676	262,202	310,878	
Notice 1	37,100	300	37,400	
Notice 2	26,600	289,400	316,000	
Court Request 22	109,666	934,433	1,044,099	
Total Fiscal Year 1996	222,042	1,486,335	1,708,377	
Court Request 25	29,041	398,567	427,608	
Court Request 26a		275,700	275,700	
Court Request 29	463,989	782,501	1,246,490	
Total Fiscal Year 1997	493,030	1,456,768	1,949,798	
Court Request 34a	19,000	8,700	27,700	
Court Request 35	300		300	
Total Fiscal Year 1998	19,300	8,700	28,000	
Total Fiscal Year 1999	0	0	0	
Notice 3	88,000	38,000	126,000	
Total Fiscal Year 2000	88,000	38,000	126,000	
Adjustments to Date	1,078,863	4,395,047	5,473,910	
Total Interest Reported	1,766,254	6,449,401	8,215,656	linked to the Int Acct spreadsheet
Unallocated Interest	**687,391**	**2,054,355**	**2,741,746**	

Footnote: The Total Interest Reported is linked to the INT Acct spreadsheet

Schedule of Lapse Adjustments to the Court Requests
As of February 29, 2000

Court Request	United States	State of Alaska	Total
Court Request 6	3,106,555	3,661,600	6,768,155
Total Fiscal Year 1994	3,106,555	3,661,600	6,768,155
Court Request 15	220,858	2,376,950	2,597,808
Total Fiscal Year 1995	220,858	2,376,950	2,597,808
Court Request 22	1,165,334	2,500,448	3,665,782
Total Fiscal Year 1996	1,165,334	2,500,448	3,665,782
Court Request 29	1,102,442	3,549,927	4,652,369
Total Fiscal Year 1997	1,102,442	3,549,927	4,652,369
Adjustments to Date	5,595,189	12,088,925	17,684,114
Total Reported thru FY99	8,724,103	14,426,782	23,150,885
Unallocated Lapse	**3,128,914**	**2,337,857**	**5,466,771**

Schedule of Work Plan Auth tions and Other Authorizations

	FFY 92	FFY 93	FFY 96	FFY 97	FFY 98	FFY 99	FFY 00	Total
Work Plan Authorizations								
United States:								
June 15, 1992	6,320,500	0						
January 25, 1993	0	3,113,900						
January 25, 1993	0	6,035,500						
November 10, 1993	0	0						
November 30, 1993	0	0						
June 1994								
June 1994								
July 1994								
Carry Forward Authorization								
August 1994								
November 1994								
December 1994								
March 1995								
August 1995			6,238,800					
December 1995			3,270,900					
January 1996			150,000					
April 1996			478,000					
May 1996			15,200					
June 1996			23,000					
August 1996				7,923,700				
December 1996				310,900				
February 1997				0				
May 1997				0				
August 1997				85,000	7,263,600			
December 1997					445,200			
June 1998					(39,200)			
August 1998						5,397,700		
December 1998						451,100		
May 1999								
August 1999						91,700	4,859,800	
December 1999 (CR#42)							85,500	
January 2000 (CR#43)							197,400	
March 2000 (CR#44)								
Total	6,320,500	9,149,400	10,175,900	8,319,600	7,669,600	5,940,500	5,142,700	68,714,200

Schedule of Work Plan Autl tions and Other Authorizations

	FFY 92	FFY 93	FFY 96	FFY 97	FFY 98	FFY 99	FFY 00	Total
Work Plan Authorizations								
State of Alaska								
June 15, 1992	6,559,200	0						
January 25, 1993	0	3,574,000						
January 25, 1993	0	7,570,900						
November 30, 1993	0	0						
June 1994								
June 1994								
July 1994								
Carry Forward Authorization								
August 1994								
November 1994								
December 1994								
March 1995								
August 1995			12,653,600					
December 1995			2,231,100					
April 1996			500,000					
May 1996			300					
June 1996			0					
August 1996				11,606,300				
December 1996				310,400				
February 1997				275,700				
May 1997				0				
August 1997				(85,000)	9,393,200			
December 1997					643,800			
June 1998					66,900			
August 1998						8,131,400		
December 1998						1,613,200		
January 1999						12,700		
May 1999								
August 1999						(13,000)	4,871,800	
December 1999 (CR#42)							624,000	
January 2000 (CR#43)							76,800	
March 2000 (CR#44)								
Total	6,559,200	11,144,900	15,385,000	12,107,400	10,103,900	9,744,300	5,572,600	105,204,900

Schedule of Work Plan Aut ıtions and Other Authorizations

	FFY 92	FFY 93	FFY 96	FFY 97	FFY 98	FFY 99	FFY 00	Total
Other Authorizations								
United States:								
Orca Narrows (6/94)								3,450,000
Eyak Limited Conservation Easement								200,000
Eyak						27,096,850	29,854	27,126,704
Kodiak National Wildlife Refuge (3/95, 9/95 AKI)			7,500,000	7,500,000				36,000,000
Kodiak National Wildlife Refuge (3/95, 9/95 Old Harbor)								11,250,000
Koniag			12,500,000	4,500,000		4,500,000		21,500,000
Small Parcels			379,000	3,740,200	4,464,300	156,300	286,000	9,025,800
Chenega Land Acquisition				24,000,000				24,000,000
Chenega-Area Oiling Reduction			3,600	157,400	182,000			343,000
Tatitlek					24,719,461			24,719,461
English Bay				14,128,074				14,128,074
Total			20,382,600	54,025,674	29,365,761	31,753,150	315,854	171,743,039
State of Alaska:								
Kachemak Bay State Park (1/95)		7,500,000						7,500,000
Alutiiq Repository (11/93)		1,500,000						1,500,000
Seal Bay (11/93,11/94,11/95,11/96)			3,294,667	3,075,625				39,549,334
Shuyak (3/96, 10/96 - 10/02			8,000,000	2,194,266	4,000,000	4,000,000	4,000,000	22,194,266
Afognak Joint Ventures (10/98)						50,357,990		50,357,990
Koniag Subsurface						750,000		750,000
Small Parcels			5,020,500	3,738,000	996,100	770,000	664,800	11,189,400
Alaska SeaLife Center			12,456,000					24,956,000
Chenega-Area Oiling Reduction			0	1,732,000				1,732,000
Alaska SeaLife Center Fish Pass				545,600				545,600
Alaska SeaLife Center Equipment				724,000				724,000
Sound Waste Management Plan				1,167,900		1,857,100		3,025,000
Archaeological Repository							129,400	129,400
Total		9,000,000	28,771,167	13,177,391	4,996,100	57,735,090	4,664,800	164,023,590
Total Other Authorizations	0	9,000,000	49,153,767	67,203,065	34,361,861	89,488,240	4,980,654	335,766,629
Total Work Plan Authorizations	12,879,700	20,294,300	25,560,900	20,427,000	17,773,500	15,684,800	10,715,300	173,919,100
Restoration Reserve			35,996,231	12,449,552	0	0	0	48,445,783
Total Authorized	12,879,700	29,294,300	110,710,897	100,079,617	52,135,361	105,173,040	15,695,954	558,131,512

Exxon Valdez storation Reserve

For the period endinq February 29, 2000

	Matured	Purchase Date	Maturity Date	Unit Cost	Bond Yield	Holding Period	Par Value	Purchase Price	Projected Interest	Daily Accrual	Interest Accrued	Fees Accrued
A1	YES	02/15/96	11/15/97	92.014982	4.820%	639	6,520,000	5,999,376.83	520,623.17	814.75	520,623.17	52,062.32
A2	YES	02/15/96	11/15/98	87.582363	4.885%	1004	6,850,000	5,999,391.87	850,608.13	847.22	850,608.13	85,060.81
A3	YES	02/15/96	11/15/99	82.953778	5.050%	1369	7,232,000	5,999,217.22	1,232,782.78	900.50	1,232,782.78	61,639.14
A4		**02/15/96**	**11/15/00**	**78.462785**	**5.175%**	**1735**	**7,646,000**	**5,999,264.54**	**1,646,735.46**	**949.13**	**1,400,911.55**	**70,045.58**
A5		02/15/96	11/15/01	73.993112	5.310%	2100	8,108,000	5,999,361.52	2,108,638.48	1,004.11	1,482,071.62	74,103.58
A6		02/15/96	11/15/02	69.640845	5.435%	2465	8,615,000	5,999,558.80	2,615,441.20	1,061.03	1,566,081.63	78,304.08
B1	YES	06/19/97	11/15/98	92.238000	5.835%	514	2,245,000	2,070,743.10	174,256.90	339.02	174,256.90	17,425.69
B2	YES	06/19/97	11/15/99	86.555000	6.095%	879	2,397,000	2,074,723.35	322,276.65	366.64	322,276.65	16,113.83
B3		**06/19/97**	**11/15/00**	**81.242000**	**6.195%**	**1245**	**2,554,000**	**2,074,920.68**	**479,079.32**	**384.80**	**379,415.43**	**18,970.77**
B4		06/19/97	11/15/01	76.141000	6.285%	1610	2,725,000	2,074,842.25	650,157.75	403.82	398,171.14	19,908.56
B5		06/19/97	11/15/02	71.628000	6.270%	1975	2,896,000	2,074,346.88	821,653.12	416.03	410,202.52	20,510.13
B6		06/19/97	11/15/03	66.930000	6.360%	2340	3,106,000	2,079,915.79	1,026,084.21	438.50	432,358.56	21,617.93
C1		11/17/97	11/15/04	66.629000	5.890%	2555	9,281,000	6,183,837.49	3,097,162.51	1,212.20	1,012,184.23	50,609.21
											10,181,944.30	586,371.63

Status:

A1 The proceeds were reinvested 11/17/97 (C1).

A2 The proceeds were deposited into the Liquidity Account.

A3 The proceeds were deposited into the Liquidity Account.

B1 The proceeds were deposited into the Liquidity Account.

B2 The proceeds were deposited into the Liquidity Account.

Average CRIS Liquidity Yield 5.35%

Deposits:		FRB
FY 96 (Securities A1-A6)	35,996,170.78	60.00
FY 97 (Securities B1-B6)	12,449,492.05	60.00
FY 98		10.00
Principal	48,445,662.83	
Gross Earnings	10,181,944.30	
Less: 1998/1999 Securities	18,724,011.76 (Par)	
Less: 11/97 Fee	336,150.75	
Book Value	39,567,444.62	
Less: Unpaid Fees	434,967.51	
Net	39,132,477.12	
Pending Deposits	58,125,893.32	
Balance	97,258,370.44	130.00
Prior Period	96,882,784.41	
Net Change	375,586.03	

Fees to Date	Unpaid Fees
151,404.12	434,967.51

	Principal	Adjustment	Interest	Total
FY 1998 Deposit	12,000,000	0	1,475,000	13,475,000
1998/1999 Par Value	18,627,865	284,088	588,940	19,500,893
FY 1999 Deposit	12,000,000	0	875,000	12,875,000
FY 2000 Deposit	12,000,000	0	275,000	12,275,000
Liquidity Account Total	54,627,865	284,088	3,213,940	58,125,893
Fiscal Year 1998 Contribution				
Period Ending	Principal	Interest @ 5%	Total Transfer	
September-97	12,000,000	25,000	12,025,000	
October-97	12,000,000	75,000	12,075,000	
November-97	12,000,000	125,000	12,125,000	
December-97	12,000,000	175,000	12,175,000	
June-99	12,000,000	1,075,000	13,075,000	
July-99	12,000,000	1,125,000	13,125,000	
August-99	12,000,000	1,175,000	13,175,000	
September-99	12,000,000	1,225,000	13,225,000	
October-99	12,000,000	1,275,000	13,275,000	
November-99	12,000,000	1,325,000	13,325,000	
December-99	12,000,000	1,375,000	13,375,000	
January-00	12,000,000	1,425,000	13,425,000	
February-00	12,000,000	1,475,000	13,475,000	
March-00	12,000,000	1,525,000	13,525,000	
April-00	12,000,000	1,575,000	13,575,000	
May-00	12,000,000	1,625,000	13,625,000	
June-00	12,000,000	1,675,000	13,675,000	
July-00	12,000,000	1,725,000	13,725,000	
August-00	12,000,000	1,775,000	13,775,000	
September-00	12,000,000	1,825,000	13,825,000	
Fiscal Year 1999 Contribution				
Period Ending	Principal	Interest @ 5%	Total Transfer	
September-98	12,000,000	25,000	12,025,000	
October-98	12,000,000	75,000	12,075,000	
November-98	12,000,000	125,000	12,125,000	
December-98	12,000,000	175,000	12,175,000	
July-99	12,000,000	525,000	12,525,000	
August-99	12,000,000	575,000	12,575,000	
September-99	12,000,000	625,000	12,625,000	
October-99	12,000,000	675,000	12,675,000	
November-99	12,000,000	725,000	12,725,000	
December-99	12,000,000	775,000	12,775,000	
January-00	12,000,000	825,000	12,825,000	
February-00	12,000,000	875,000	12,875,000	
March-00	12,000,000	925,000	12,925,000	
April-00	12,000,000	975,000	12,975,000	

May-00	12,000,000	1,025,000	13,025,000	
June-00	12,000,000	1,075,000	13,075,000	
July-00	12,000,000	1,125,000	13,125,000	
August-00	12,000,000	1,175,000	13,175,000	
September-00	12,000,000	1,225,000	13,225,000	
Fiscal Year 2000 Contribution				
Period Ending	Principal	Interest @ 5%	Total Transfer	
September-99	12,000,000	25,000	12,025,000	
October-99	12,000,000	75,000	12,075,000	
November-99	12,000,000	125,000	12,125,000	
December-99	12,000,000	175,000	12,175,000	
January-00	12,000,000	225,000	12,225,000	
February-00	12,000,000	275,000	12,275,000	
March-00	12,000,000	325,000	12,325,000	
April-00	12,000,000	375,000	12,375,000	
May-00	12,000,000	425,000	12,425,000	
June-00	12,000,000	475,000	12,475,000	
July-00	12,000,000	525,000	12,525,000	
August-00	12,000,000	575,000	12,575,000	
September-00	12,000,000	625,000	12,625,000	

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

February 10, 2000

Elgee, Rehfeld and Funk
9309 Glacier Highway, Suite B 200
Juneau, Alaska 99801

In connection with your audit of the financial statements of *Exxon Valdez* Oil Spill Trustee Council, (Council) Trust Funds as of and for the year ended September 30, 1999, for the purpose of expressing an opinion as to whether the financial statements present fairly, in all material respects, the cash balances of the Joint Trust Account and NRDA&R and the financial position of the Settlement Trust as of and for the year ended September 30, 1999, and the results of their operations for the year then ended on the basis of accounting described in Note 2 for the Joint Trust Account and NRDA&R, and in conformity with generally accepted accounting principles for the Settlement Trust, we confirm, to the best of our knowledge and belief, the following representations made to you during your audit.

1. We are responsible for the fair presentation in the financial statements of financial position and results of operations of the Trust Funds in conformity with generally accepted accounting principles.

2. We have made available to you all—

   a. Financial records and related data.

   b. Resolutions made at meetings of the Council or summaries of actions of recent meetings for which minutes have not yet been prepared.

3. There have been no—

   a. Instances of fraud involving management or employees who have significant roles in the internal control structure.

   b. Instances of fraud involving other employees that could have a material effect on the financial statements.

   c. Communications from regulatory agencies concerning noncompliance with, or deficiencies in, financial reporting practices that could have a material effect on the financial statements.

4. We have no plans or intentions that may materially affect the carrying value or classification of assets, liabilities, or fund balances.

5. The following have been properly recorded or disclosed in the financial statements:

   a. Related party transactions and related accounts receivable or payable, including revenues, expenditures, and commitments.

6. There are no—

a. Violations or possible violations of laws or regulations (including those pertaining to adopting and amending budgets) whose effects should be considered for disclosure in the financial statements or as a basis for recording a loss contingency.

b. Other material liabilities or gain or loss contingencies that are required to be accrued or disclosed by Statement of Financial Accounting Standards No. 5.

c. Reservations or designations of fund equity that were not properly authorized and approved.

7. There are no unasserted claims or assessments that our lawyer has advised us are probable of assertion and must be disclosed in accordance with Statement of Financial Accounting Standards No. 5.

8. There are no material transactions that have not been properly recorded in the accounting records underlying the financial statements.

9. We are responsible for the Council's compliance with laws and regulations applicable to it; and we have identified, and disclosed to you, all laws and regulations that have a direct and material effect on the determination of financial statement amounts. We have complied with all aspects of laws, regulations, and contractual agreements that would have a material effect on the financial statements in the event of noncompliance.

10. We have identified all accounting estimates that could be material to the financial statements, including the key factors and significant assumptions underlying those estimates, and we believe the estimates are reasonable in the circumstances.

11. No events have occurred subsequent to the balance sheet date that would require adjustments to, or disclosure in, the financial statements.

12. We understand that you plan to disclaim your supplementary opinion with respect to the Schedule of Fiscal 1998 *Work Plan* Status as of September 30, 1999.

Signed: Molly McCammon	Signed: _____
Molly McCammon	Traci Cramer
Title: Executive Director	Title: _____
Executive Director	Administrative Director
Date: 4/25/00	Date: _____

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Restoration Work Force

FROM: Sandra Schubert
Project Coordinator

RE: Additional Items for Binders of FY 00 DPDs and Budgets

DATE: April 24, 2000

Attached are the final two Detailed Project Descriptions and budgets for your FY 00 binders. These items were still outstanding at the time the binders and the subsequent addendum were distributed.

00396/Shark assessment	DPD and budget
00478/Testing satellite tags	DPD and budget

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Revision 3-23-0C
Approved TC 12-16-9

Testing Satellite Tags as a Tool for Identifying Critical Habitat

Project Number:	00478
Restoration Category:	Research
Proposer:	J. Nielsen/USGS-BRD
Lead Trustee Agency:	DOI
Cooperating Agencies:	None
Alaska SeaLife Center:	Yes
New or Continued:	New
Duration:	1st yr. 1 yr. project
Cost FY 00:	$106.1
Cost FY 01:	$0.0
Cost FY 02:	$0.0
Geographic Area:	Prince William Sound, Gulf of Alaska
Injured Resource/Service:	Cutthroat trout, king salmon, halibut, ling cod

ABSTRACT

The definition of critical habitat in the marine environment is essential to the development of reserves or protected areas in relationship to a sustainable commercial or sport fishery. This project will assess and test the application of satellite archive, pop-up tags on marine fishes of the Gulf of Alaska. Software and tag technology will be adapted and developed for geolocation tracking using light, depth, and bathometry data from satellite pop-up tags. Tag application and light-geolocation relationships will be tested on live halibut brought into husbandry at the Alaska SeaLife Center and kept under an accelerated solar-shift regime mimicking standard conditions in the gulf. These data will be compared to light and depth readings taken from tags placed on live fish released into their natural habitat and to an array of tags attached to a stationary buoy in the gulf. The effectiveness of light sensors for geolocation, duration of light measurements, and data sequence design will be determined. These developments will assist in applications of this new tag technology in fisheries-independent habitat assessments for the nearshore and pelagic marine environments in the gulf.

INTRODUCTION

The definition of "critical habitat" in the marine environment for anadromous and pelagic fishes is essential to the development of reserves or protected areas (Anonymous, NOAA, 1999). In Alaska, the relationship of aquatic protected areas to subsistence, commercial, or sport fisheries is a critical factor in considerations of design and implementation of reserves. Resource protection and strategic use are not incompatible concepts when a sound foundation of scientific knowledge on the distribution and abundance of key species is incorporated into reserve planning and resource use, and if local community-based natural resource management is included in the analyses of such data (Getz et al. 1999). This proposal tests the application and sets the foundation for deployment of a new technology, satellite pop-up tags, in investigations into the temporal and spatial distribution of key anadromous and marine fish species in the Gulf of Alaska. Many aquatic species that fall under the jurisdiction of the Trustee Council in their efforts to restore the resources and services injured by the spill may benefit from the development and local adaptation of this technology. Fisheries-independent data on real-time position and monitoring of critical habitat use by Gulf of Alaska fish species will allow the organisms to speak directly to the managers of the resource without relying solely on information dependent on harvest recapture that most tagging technologies currently demand.

For many commercially important anadromous and marine fish species ocean-use and critical habitat remain uninvestigated with little or no scientific evidence to support distribution on temporal or spatial scales. The use of radio telemetry and satellite-linked tracking for studying fishes has experienced a recent exponential growth in the development of technologies and applications (Lucas et al. 1993; Eiler 1995; Sibert 2000). For example, the recent study of the effects of commercial halibut fishing on the Glacier Bay marine ecosystem by P.N. Hooge and S. J. Taggart of the USGS/BRD have shown limited but seasonally predictable movements of halibut within Glacier Bay (P. Hooge, USGS/BRD, personal communications). In addition to critical habitat designation, physiological telemetry can now be used to monitor energy expenditure, life history migrations, stage of life cycle, and environmental conditions critical to improving and validating habitat-use models for pelagic fishes (B. Block, Stanford University, personal communications).

Archival satellite technologies offer the fisheries research community a new technology that is required to resolve movement patterns, spatial and temporal habitat use, and stock structure of many migratory marine species found in the Gulf of Alaska. The critical advantage to this new technology is that it allows documentation of habitat use that is independent of any fisheries harvest. Conventional identification tags have been used since the early 1900s, but individuals must be recaptured before information is obtained. Hydroacoustic tags can provide multi-day records of location, depth, temperature and swimming speed in marine fishes, but their temporal and spatial scale is limited by the range of signal recovery and transmission duration in salt water. In 1996 the first generation of archive satellite "pop-up" tags were developed and deployed on pelagic fish.

The range of signal available at depth, sea water conductivity, required recapture of tagged fish, and/or the temporal scale of signal recoveries limit sonic and radio telemetry tags for fish found in the ocean. New technology involving microwave archive tags and satellite-linked telemetry with temperature, light, and pressure sensors can be used to identify critical habitat in near-shore and pelagic fishes that are unavailable with more conventional technologies. There are several versions of satellite pop-up tags currently developed for fish. One (PTT100) can store location data based on solar angle and a set number of average or instantaneous temperature

points (up to 60). This tag is commercially available from Microwave Telemetry, Inc. A second, the pop-up archival transmitting (PAT) tag, collects and stores data on depth, temperature, and light levels at user set intervals and transmits these data at a preselected time via Argos satellites. The PAT tags are available from Wildlife Computers. In studies of pelagic movements of Atlantic blue fin tuna, pop-up tags developed by both manufacturers gave very similar results following applications by two independent research groups. Recovery rates for PTT pop-up tags deployed by one European research group were low in 1999. It is unclear, however, if these poor recoveries are due to differences in survivorship of the fish, differences in attachment technique, or failure of the tags.

A more technical tag is in development which measures and records light intensity, hourly temperatures, and/or pressure for up to one year and downloads these data remotely to a satellite link from any location. These tags have limited commercial availability at this time, have been field tested on a limited number of deep-sea pelagic fishes (tuna and marlin), but can be made available in limited quantities for this study (P. Howey, Microwave Telemetry, Inc., personal communications). Size restrictions are a problem with the first series of satellite pop-up tags. These tags require large animals (around 70 lbs) for successful attachment. Smaller, more hydrodynamic tags are currently in development by several vendors and may be available for research in the near future.

Data archived by satellite tags include records of ambient and internal body temperature, pressure, and light. It is possible to estimate latitude (geoposition) for tag location at any given time from light intensity, temperature, and accurate temporal measurements of dawn and dusk (Hill 1994). The longitude determination is equally accurate throughout the year and at all locations except those where no dawn and dusk events are recorded. Latitude determinations are most accurate at the solstices and useless at the equinoxes. This is clearly a problem in Alaska waters where long crepuscular periods (winter) are followed by intense solar periods (summer). The accuracy of light-level measurements, duration of crepuscular events, atmospheric aberrations, and individual fish behavior can all impact the accuracy of geoposition estimates. A current error rate of 50-60 miles is not uncommon in the analyses of these data from temperate waters. We should expect a much wider error rate in Alaskan waters unless data collection and processing are adapted to local light conditions. Wildlife Computers is working on new analytical algorithms using time-series analyses of light sensor data for increased accuracy of geoposition estimates from pop-up tags. This approach seems very promising for areas, such as Alaska, where crepuscular light conditions alternate with long solar exposures.

Light sequence data from pop-up tags are downloaded to satellite relays in predetermined data sequences. These sequences can be set as individual records of light/temperature/pressure at set intervals, means of individual sequence data, or as data series sets (such as sets based on time series analyses). Data sequence, architecture, and analyses can be developed for local conditions at different times of the year increasing the effectiveness of geoposition estimates. *In situ* temperature records can be integrated with sea surface temperature (SST) to add rigor to geoposition estimates taken from tags recording near the surface. However, any correlation between SST and actual temperatures at various depths in the Gulf of Alaska remains unclear. A combination of temperature and pressure data can be used to evaluate fish behavior (time at surface, length of dive, time at depth, etc.), but a clear association between ocean bathometry and currents for the Gulf of Alaska and temperature/pressure at depths needs to be evaluated.

Satellite tags are attached externally to fish released back into their natural habitat. Tags release at a preprogrammed time, float to the surface, and transmit their data continuously to available satellites. The data are then available via satellite links to the individual researcher.

These data can be made available in real time to any user group after developed algorithms translate the satellite transmissions into temperature, pressure, and light data. Successful integration of satellite tag data into the EVOS Trustee Council's Gulf Ecosystem Monitoring (GEM) program will allow the development of a unique and continuous information base on natural use of critical marine habitat by migratory fishes due to the fact that tags can be programmed to detach at predetermined intervals and transmit location and other pertinent data over both short and long time intervals. This flexibility in data recovery from natural distributions of organisms will allow research scientists and managers to develop and test hypotheses concerning critical habitat use over temporal and spatial scales unavailable with any other tool.

One additional advantage to satellite tagging technology is the ease of application and data transfer to multiple user groups beyond the research scientist, making these data a potentially important link between fisheries, conservation, and management groups. This proposal suggests that data collected from archive tags deployed in the Gulf of Alaska be made available to local communities and interest groups in real-time through internet web links with a USGS/BRD web site dedicated to this study.

This proposal is intended to test the accuracy and efficiency of archive satellite tags for estimates of geoposition in the Gulf of Alaska. If successful these data can provide an effective database for analyses of critical habitat use in Alaska waters. This technology is clearly universal in its application and testing. A recent 5-day symposium was held in Hawaii on "Tagging and Tracking Marine Fish with Electronic Devices." This symposium had registered participants from 13 countries (Australia, Canada, France, Germany, Iceland, Iran, Italy, Japan, Mexico, New Zealand, Norway, Sweden, United Kingdom, and United States). There were 21 satellite-tracking presentations at the symposium covering case studies on four species of tuna, swordfish, marlin, Atlantic salmon, brown trout, Arctic char, and five species of sharks. Also included were six talks on new hardware and software application developments in satellite tagging technology. The PI for this project is currently editing the proceedings of this symposium. Clearly there are numerous data sets in development that will facilitate the application of satellite tags in Alaska waters. One research project scheduled for funding by EVOS (Alaska Shark Assessment Project #00396) has agreed to cooperate on the analyses of light and temperature data from pop-up tags deployed on sharks (Lee Hulbert, pers. comm.)

There are several developmental issues based on conditions endemic to Alaska that have not yet been addressed to date in the use of satellite tags. Primary is the issue of geolocation estimated from ambient light levels. Studies of satellite tags in the lower 48 states and Europe primarily rely on records of sunrise and sunset recorded by changes in light intensity on the tag data to establish approximate longitude and latitude locations for individual tags (fish). With the long duration of crepuscular light sequences in Alaska waters new light interpretative algorithms need to be developed for the Gulf of Alaska to provide an efficient tool for geolocation using satellite tags. This is critical to studies where we end up tracking animals over time in very shallow or very deep waters where variation in depth and temperature data will not provide collaborative evidence of fish locations. For best results these algorithms need to be developed and tested in conjunction with laboratory experiments of light conditions and sensor data and compared to data collected from an array of tags submerged at different depths on a stationary mooring line in the Gulf of Alaska.

Additional research needs to be undertaken on cost-effective tagging regimes for this area. These analyses would investigate species-specific tagging protocols, size and anchor location of tags as they affect survival rates (for both fish and tags), effects of coastal geology on tag recovery, release mechanisms appropriate for depth and scale of movement by different

species, and the effects of fish mortality and tag mortality on the interpretation of results. We also need to develop some platform for data exchange, crossover studies, and data archive capacity for ecosystem scale marine habitat analyses in the Gulf of Alaska. The latter objectives will require integration of satellite tag data with other significant geological, oceanographic, and climatic databases for this area.

The approach of this study is directed at multiple species, not individuals of any one species. Halibut were selected as the test organism at the Sea Life Center because of their general size in the Gulf of Alaska, their ease of capture and adaptation to captivity that will allow experiments of light intensity, tag sensitivity, and handling (tagging) stress under different natural and artificial conditions available at the Center. This proposal requests funding to initiate satellite telemetry studies incorporating three elements: 1) initiate and monitor satellite telemetry data from tags on captive fish under artificial light regimes that mimic crepuscular conditions in the Gulf of Alaska, on a few tagged fish released into their natural environment, and on a tag array placed *in situ* on a stationary buoy in the Gulf of Alaska; 2) develop data architecture (i.e. duration and sequence of data points) and analytical approaches (sequence mean or time series analysis) for estimates of geoposition from satellite pop-up tags in the Gulf of Alaska; 3) initial studies in captivity of tagging effects, efficiency, and physiological response in individual fish at Alaska Sea Life Center.

NEED FOR THE PROJECT

A. Statement of Problem

The development of marine reserves or protected areas in geographic localities with subsistence, commercial, and sport fisheries depend on sound scientific knowledge of "critical habitat" and ecosystem use at several temporal and spatial scales. Our knowledge of marine habitat use over time for different life stages and fish species in the Gulf of Alaska are currently limited to information from harvest statistics and antidotal information from resource users and managers (Int. Pac. Halibut Comm. 1987; Pelletier and Parma 1994), with the notable exception of recent work done on halibut in Glacier Bay (Chilton et al in press; Hooge and Taggart unpublished data). Knowledge of the distribution of individual fish over time within the Gulf of Alaska ecosystem is needed to make sound management decisions at the inception of reserves or protected areas. Without sound scientific support, initial development of marine reserves can create significant conflict among diverse user groups. Including local community based information in the deployment and recovery of these scientific data will be an effective tool in resource management. Documentation of individual fish behavior in economically and ecologically important species within the reserve will aid in the development of a common-ground database on fish distributions over time and space during the development of reserve boundaries and temporal management units within the reserve where frequent conflict-of-interest problems are expected to arise.

The marine environment imposes severe constraints on the type of electronic tags that can be used to monitor the behavior of fish in their natural environment. Seawater is highly conductive and radio waves do not propagate well in this medium. Recently marine biologists have developed new technologies in an effort to address this problem. Pop-up devices are externally attached to fish and are programmed to detach from the animal at a specific date, surface to the ocean, and transmit data to available satellites. The newest pop-up tags incorporate archive technology and transmit a full suite of data arrays to the satellite. To date this technology has been applied to large pelagic fish spending at least part of their time in temperate waters.

The developmental approach used in the acquisition and analyses of pop-up tag data need to be adapted to local climatic and solar conditions if this technology is to be effectively implemented in the Gulf of Alaska.

There are numerous data sets in development that will facilitate the application of satellite tags in Alaska waters. But there are several developmental issues based on conditions endemic to Alaska that have not yet been addressed. Primary is the issue of geolocation by light levels. Studies of satellite tags in the lower 48 states and Europe primarily rely on records of sunrise and sunset recorded by changes in light intensity on the tag data to establish approximate longitude and latitude locations for individual tags (fish). With the long duration of crepuscular light sequences in Alaska waters new light interpretative algorithms need to be developed for the Gulf of Alaska to provide an efficient tool for geolocation using satellite tags. This is critical to studies where we end up tracking animals over time in very shallow or very deep waters where variation in depth and temperature data will not provide collaborative evidence of fish locations.

Additional research needs to be undertaken on cost-effective tagging regimes for this area. This study would facilitate investigations of species-specific tagging protocols, size and anchor location of tags as they affect survival rates (for both fish and tags), effects of coastal geology on tag recovery, release mechanisms appropriate for depth and scale of movement by different species, and the effects of fish mortality and tag mortality on the interpretation of results. We also need to develop some platform for data exchange, crossover studies, and data archive capacity for ecosystem scale marine habitat analyses in the Gulf of Alaska. I anticipate that this latter objective will require integration of satellite tag data with other significant geological, oceanographic, and climatic databases for this area.

The approach of this study has always been one directed at multiple species found in their natural marine habitats. Halibut were selected as the test organism simply because of their ease of capture and adaptation to captivity that would allow experiments of light intensity, tag sensitivity, and handling (tagging) stress under different natural and artificial conditions we can manipulate at the Sea Life Center. Potential future applications directed at discovery and monitoring of ocean habitat use by critical Trustee fish species are broad. A clear understanding of marine salmonid life history and ocean forage migrations will only be possible with the development of this technology. Understanding temporal and spatial use of marine habitats by species, such as sharks, lingcod, rockfish, halibut, trout, and salmon will contribute significant information to fisheries resource management decisions in the Gulf of Alaska.

B. Rationale/Link to Restoration

Information collected during this study will contribute to our ability to use new technology to assess recovery and impediments to recovery (critical habitat) for economically and ecologically important fish species found in Prince William Sound and the Gulf of Alaska. The proposed work represents a sound initial scientific approach to increase our technological capacity to investigate the factors that affect population dynamics on multiple temporal and spatial scales and if successful, this technology will help in the definition of critical habitat for proposed marine reserves in the Gulf of Alaska. Without an understanding of the general underlying patterns of habitat use that dictate population change and species interaction within marine units or areas, we can not prescribe or limit specific activities within the reserve based on species distribution. Analysis of critical habitat use for different life history stages of key species will allow integration of sustainable use or limited harvest in the conservation and management of these species within the marine reserve. The development of satellite tag technology offers a promising window on this type of information.

Archival satellite technologies offer the fisheries research community a new technology that is required to resolve movement patterns, spatial and temporal habitat use, and stock structure of many migratory marine species found in the Gulf of Alaska. The critical advantage to this new technology is that it allows documentation of habitat use that is independent of any fisheries harvest. Conventional identification tags have been used since the early 1900s, but individuals must be recaptured before information is obtained. Hydroacoustic tags can provide multi-day records of location, depth, temperature and swimming speed in marine fishes, but their temporal and spatial scale is limited by the range of signal recovery and transmission duration. In 1996 the first generation of archive satellite "pop-up" tags were developed and deployed on pelagic fish. The data archived by satellite tags include records of ambient and internal body temperature, pressure, and light. It is possible to estimate latitude and longitude for tag location at any given time from changes in light intensity. Only after crepuscular 24hr light sequence data are developed for local conditions and integrated with the satellite data will the true potential of these tags be available to species in the Gulf of Alaska.

Satellite tags are attached externally to fish, release at a preprogrammed time, float to the surface, and then transmit their data continuously to ARGOS satellites. The data are then available via satellite links to the individual researcher. These data can be made available in real time to any user group after developed algorithms translate the satellite transmissions into temperature, pressure, and light data. Successful integration of satellite tag data into GEM's goals will allow the development of a unique and continuous information base on natural use of critical marine habitat by migratory fishes due to the fact that tags can be programmed to detach at predetermined intervals and transmit location and other pertinent data over both short and long time intervals. This flexibility in data recovery from natural distributions of organisms allows research scientists to develop and test hypotheses concerning critical habitat use over temporal and spatial scales unavailable with any other tool.

One additional advantage to satellite tagging technology is the ease of application and data transfer to multiple user groups beyond the research scientist, making these data a potentially important link between fisheries, conservation, and management groups. This proposal suggests that data collected from archive tags deployed in the Gulf of Alaska be made available to local communities and interest groups in real-time through internet web links with a USGS/BRD web site dedicated to this study.

C. Location

Data to be compiled will come from tags deployed in the Gulf of Alaska and tags in controlled light condition at the Sea Life Center. Initial physiological data concerning tagging effects and efficiencies of light intensity data will be assessed using a limited number of fish (6) in captivity at the Alaska Sea Life Center in Seward, AK. Tagging of four wild fish with satellite pop-up tags will take place in collaboration with the local sport and commercial fishing community. Tag array disposition on a stationary buoy in the Gulf of Alaska will be done in collaboration with the National Weather Service, National Marine Fisheries, and the US Coast Guard. Satellite data recovery, data architecture, data array analysis, and the development of a web-site for real-time data access to tag data will be done by the staff of the USGS/BRD Alaska Biological Science Center, in conjunction with tag vendors.

COMMUNITY INVOLVEMENT AND TRADITIONAL ECOLOGICAL KNOWLEDGE

All efforts will be made throughout the project to incorporate participation in and provide

local involvement in the implementation and development of this project in relation to target populations and tagging localities. Project staff will be available to present information to local communities, internet access to real-time data from satellite tags will be made available at the local level as it becomes available to the PI. All articles, video, or photographs of the tagging study will be made available to the Trustee Council. The nature of the tagging study and the charismatic character of the fish subjects make this a potentially high profile public relations project for the recovery and Trustee Council.

PROJECT DESIGN

A. Objectives

1. Develop critical criteria for satellite telemetry data dedicated to geolocation of organisms in marine habitats within the Gulf of Alaska:

    a. Monitor satellite telemetry data derived from artificial light conditions simulating long crepuscular and intense solar periods on fish maintained in short-term captivity studies at the Alaska Sea Life Center

    b. Deploy pop-up tag array from a stationary buoy in the Gulf of Alaska and develop data sets on light, temperature, and pressure from direct *in situ* studies of tag efficiency and data architecture.

    c. Monitor and plot individual movement and geolocation estimates based on data derived from four tagged fish releases in the Gulf of Alaska

    d. Integrate all available light data bases taken from pop-up tags in the Gulf of Alaska, including NMFS's data on tagged sharks into analyses of geolocation on fish in the Gulf of Alaska

2. Study captivity effects, metabolic compensation, and fish physiology based on tagging efficiency (attachment methods, tag stability, fish response) for Pacific halibut brought into captivity at the Sea life Center

3. Summarize data available for different tag configuration and data architecture accessible via satellite links. Test efficiency of geolocation estimates based on tag studies and publish results in peer-reviewed scientific journals

4. Create a public access internet site for the display and development of study results with real-time deposition of tag recovery data throughout the duration of the project.

B. Methods

A total of 14 pop-up tags will be deployed under various conditions to gather and analyze data on estimates of geolocation in the Gulf of Alaska. Six fish will be collected in FY00 from the halibut sport fishery and transported live to the Alaska Sea Life Center for analyses of tag attachment, tagging efficiencies under different light conditions, and photo sensor precision.

Fish in captivity will be fitted with pop-up tags (3.5 g). Each tag is housed in a composite, positively buoyant, low-drag housing that is towed by the fish via a short "leader" attached to a tagging dart. The PI will monitor tag attachment effects with at least two veterinary scientists with a background in fish, and a representative from the satellite tag vendor. Tests will include attachment location effects, physiological stress during and after tagging, and stability of implantation over time.

Several features of the satellite tags will be tested from an array of tags deployed from a stationary buoy located in the Gulf of Alaska. This tag array will be used to test efficiency of light sensors at latitudes within the Gulf of Alaska, temperature cycles at depth, stability of pressure sensors at depth, and effective deployment of timed-release mechanisms in pop-up tags. The data downloaded from this artificial *in situ* array of tags will be compared to results we obtained from our artificial light experiments for halibut held in captivity under controlled conditions. The relative efficiencies of different data arrays, download capacity, and photo sensors for estimates of geoposition in conditions common to the Gulf of Alaska will be analyzed in these comparisons artificial and natural light conditions.

Estimates of actual fish location will be obtained from data collected from four live fish released with pop-up tags into the Gulf of Alaska and from coordination and data sharing with other research groups working with pop-up tags in the same area (i.e. NMFS's shark project). These data will then be compared and analyzed for rigor of geoposition estimates based of our findings from captivity light studies and the stationary tag array.

Conversion of satellite data to position and movement cycles for individual fish will be made using adaptations of existing conversion algorithms available from the vendor and our initial field trials of tags in the Gulf of Alaska. New approaches to estimating geoposition from light data using time series analyses will be tested in this study (R. Hill, Wildlife Computers, pers. comm.) Data for location and position for individual tags collected in the wild will be plotted by species on digitized maps of the Gulf of Alaska (two dimensional) incorporating any bathymetric data (three dimensional) available for this area using standard telemetry and GIS mapping methods (Swilhard and Slade 1985; Baltz 1990; Cressie 1991; Thompson et al. 1992).

The development of the internet link to tagging studies and results will run parallel to the ongoing field studies and tagging data development. The initial web site will be posted on the USGS/BRD Alaska Biological Science Center's home page.

C. Cooperating Agencies, Contracts, and Other Agency Assistance

This proposal relies on data collected by a number of research collaborators as yet unnamed (i.e. commercial or sport boat captains, fishing volunteers, and community internet links). Known collaborators include: Dan Mulcahy, DVM, USGS/BRD fish and wildlife veterinarian; Riley Wilson, DVM Anchorage Zoo; Roger Hill, Wildlife Computers; Dr. Paul Howey, Microwave Telemetry, Inc.; Philip Hooge and Spencer Taggart, USGS/BRD Glacier Bay; Dr. Barbara Block, Hopkins Marine Station, Stanford University; Dr. Heidi Dewar, the Pfleger Institute of Environmental Research; Dr. Steve McCormick, fish physiologist, NMFS, Conte Anadromous Fish Laboratory; and the staff of the Alaska Sea Life Center. Lee Hulbert of the National Marine Fisheries has volunteered collaboration on the analysis of light data collected from their shark pop-up tag study. All technical and clerical staff will be current employees of USDGS/BRD Alaska Biological Science Center or qualified individuals contracted directly for this project.

SCHEDULE

A. Measurable Project Tasks for FY 00 - 01

April 15 – May15:	Purchase satellite-linked tags, establish download links, develop field collection protocols, and prepare live tanks (3) for halibut at Alaska Sea Life Center. Consult with resource managers and local users on best populations to target for captivity and tagging studies.
May 16 – June 15:	Collect six Pacific halibut and transport to Alaska Sea Life Center. Time depends on availability of vessel.
June 16 – Sept. 15:	Captivity test on light data arrays using artificial lights and UV tank covers. Do analyses of halibut physiology, tagging effects and efficiency, and survival trials in captivity.
July 2000:	Field trials of environmental sensors in satellite tags in Gulf of Alaska. Deploy pop-up tag array on stationary buoy.
July 21 – Aug. 30:	Capture, tag, and release 4 halibut in Gulf of Alaska. Deploy tags to pop-up in 2-3 months.
Sept. 1 - Oct. 31:	Collect and analyze first data sets. Develop Web Page for study results and plot initial data. Consult on tagging applications and data interpretation. Develop oceanic temperature and bathymetry database.
Sept. 29 – Oct. 5:	Presentation of preliminary results at International Marine Biotechnology Conference Tagging Symposium
Nov.1 – Dec. 30:	Analyze final data from tagging recoveries in captivity and in the wild.
Dec. – Jan 2001:	Prepare data presentation and attend restoration meeting.
Feb. – Mar. 2001:	Compile data and write annul reports
April – Sept. 2001:	Integrate analyses from parallel studies of pop-up tags in Gulf of Alaska. Submit final report to EVOS on study results.

B. Project Milestones and Endpoints

All EVOS costs for this project will be billed in FY00.

Due to late implementation of study plan and funding, USGS/BRD data analyses will continue into FY2001.

Project will be completed upon submission of the final report prior to Sept. 30, 2001.

C. Completion Date

All project objectives will be met during FY2000-2001.

PUBLICATIONS AND REPORTS

A final report of activities will be submitted to the Restoration Office on or before 30 September 2001.

Manuscript containing final results and recommendations will be submitted to a peer-reviewed scientific journal for publication in FY01.

Website development and maintenance of our tagging database will be available FY00-01. At the end of the project we will transfer the internet site to a webmaster designated by the Trustee Council.

PROFESSIONAL CONFERENCES

International Marine Biotechnology Conference (IMBC) 2000
American Society of Ichthyologists and Herpetologists FY01
American Fisheries Society FY02

NORMAL AGENCY MANAGEMENT

The work proposed here is not part of normal agency management and is related specifically to research addressing oil spill restoration concerns. No similar work has been conducted, is currently being conducted, or is planned using agency funds.

COORDINATION AND INTEGRATION OF RESTORATION EFFORT

This research provides fundamental information needed for the implementation and development a new technology dedicated to the identification of critical marine reserve areas in Prince William Sound and the Gulf of Alaska. The definition of critical marine habitat for economically and ecologically important fish species will serve as a cornerstone for future Trustee sponsored conservation and use management proposals under the GEM program. The major objectives of this work require interaction with several other investigators and integration of all available data that are relevant to the question of critical marine habitat in the Gulf of Alaska.

PROPOSED PRINCIPAL INVESTIGATOR

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PERSONNEL QUALIFICATIONS

Jennifer Nielsen is Fisheries Supervisor and Research Biologist (GS14) with the Alaska Biological Science Center, USGS Biological Resources Division. She has conducted salmonid and fisheries research throughout the western Pacific for the past 20 years. Dr. Nielsen is a Associate Professor at the University of Alaska, Fairbanks in the School of Fisheries and Ocean Sciences. From 1995 - 1999 she was a visiting scientist at Hopkins Marine Station, Stanford University, where the first experiments on satellite pop-up tags were conducted on blue fin tuna. From 1995 - 1999, she was an Adjunct Professor in Ichthyology and Fisheries at the University of California, Berkeley and Moss Landing Marine Laboratory, and served on the Scientific Review Board for the Monterey Bay Aquarium. Dr. Nielsen has published over 30 peer-reviewed journal publications and book chapters, numerous technical reports, and gives frequent national and international presentations at scientific meetings addressing research issues in fish conservation, behavior, evolution, and genetics. Her work on salmonid fishes is recognized internationally for its contribution and focus in fisheries conservation and management.

Revision 2/00
Approved TC 12-16-99

2000 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET
October 1, 1999 - September 30, 2000

Budget Category:	Actual FY 1999	Proposed FY 2000
Personnel		$15.5
Travel		$1.0
Contractual		$5.5
Commodities		$0.9
Equipment		$51.4
Subtotal		$74.3
General Administration		$2.7
Project Total		$77.0
Full-time Equivalents (FTE)		0.8
Other Resources		

LONG RANGE FUNDING REQUIREMENTS					
		Estimated FY 2001	Estimated FY 2002		
		$0.0	$0.0		

Dollar amounts are shown in thousands of dollars.

USGS/BRD will provide $43.5 support directed to the completion of this study in FY00

FY00

Prepared:4/15/99

Project Number: 00478
Project Title:Testing satellite tags as a tool for idenifying critical habitat
Agency: DOI-BRD

FORM 3A
TRUSTEE
AGENCY
SUMMARY

2000 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET

October 1, 1999 - September 30, 2000

Personnel Costs*:		GS/Range/	Months	Monthly		Proposed
Name	Position Description	Step	Budgeted	Costs	Overtime	FY 2000
J. Nielsen*	Fisheries Supervisor	GS14/01	3.0	7.2		0.0
TBA	Fisheries Project Leader	GS9/01	5.0	3.1		15.5
D. Mulcahy*	Fish/Wild. Veterinarian	GS13/05	0.5	6.8		0.0
D.Douglas*	Fish/Wild Scientists	GS12/05	0.5	6.0		0.0
TBA**	Aquaculture Technician	ASC grade	0.1	3.6		0.0
TBA**	ASC Veterinarian	ASC grade	0.1	6.4		0.0
						0.0
						0.0
*all personnel costs will be covered by USGS/BRD						0.0
** peresonnel costs covered in SeaLife Center bench fees						0.0
						0.0
	Subtotal	[redacted]	9.2	33.1	0.0	[redacted]
					Personnel Total	$15.5

Travel Costs:	Ticket	Round	Total	Daily	Proposed
Description	Price	Trips	Days	Per Diem	FY 2000
Anchorage-Homer for sampling	120.0	3	4	160.0	1.00
PI & Vendor travel at USGS/BRD costs					0.00
					0.00
					0.00
					0.00
					0.00
					0.00
					0.00
					0.00
					0.00
				Travel Total	1.00

FY00

Prepared:4/15/99

Project Number: 00478
Project Title: Testing satellite tags as a tool for identifying critical habitat
Agency: DOI-BRD

FORM 3B
Personnel
& Travel
DETAIL

2000 EXXON VALDEZ TRUST OUNCIL PROJECT BUDGET
October 1, 1999 - September 30, 2000

Contractual Costs:	Proposed
Description	FY 2000
Private longline fishers (R. Wilson)	2.0
Research vessel lease (private) - 2 days	1.9
Satellite link recovery costs	1.6
When a non-trustee organization is used, the form 4A is required. **Contractual Total**	$5.5

Commodities Costs:	Proposed
Description	FY 2000
Materials and supplies - misc.	0.9
Commodities Total	$0.9

FY00

Prepared:4/15/99

Project Number: 00478
Project Title: Testing satellite tags as a tool for idenifying critical habitat
Agency: DOI-BRD

FORM 3B
Contractual & Commodities DETAIL

2000 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET

October 1, 1999 - September 30, 2000

New Equipment Purchases:	Number	Unit	Proposed
Description	of Units	Price	FY 2000
Pop-up tags (light only) (6 @ 2700 ea.)	6	2700.0	16.2
Pop-up light/pressure tags (8 @4400 ea)	8	4400.0	35.2
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
Those purchases associated with replacement equipment should be indicated by placement of an R.		**New Equipment Total**	$51.4

Existing Equipment Usage:	Number	Inventory
Description	of Units	Agency

Revision 4-00
Approved TC 2-29-00

1998 EXXON VALDEZ TRUST COUNCIL PROJECT BUDGET
October 1, 1997 - September 30, 1998

Budget Category:	Authorized FFY 1999	Proposed FFY 2000
Personnel	$0.0	$26.4
Travel	$0.0	$4.0
Contractual	$0.0	$25.3
Commodities	$0.0	$24.6
Equipment	$0.0	$0.0
Subtotal	$0.0	$80.3
General Administration	$0.0	$5.7
Project Total	$0.0	$86.0
Full-time Equivalents (FTE)	0.0	0.5
Other Resources		

LONG RANGE FUNDING REQUIREMENTS

Estimated FFY 2001	Estimated FFY 2002				
$100.0	$0.0				

Dollar amounts are shown in thousands of dollars.

Comments: This project investigates salmon shark abundance indices, movements, demographics, and trophic interactions in the eastern Gulf of Alaska (GOA) and Prince William Sound (PWS). State-of-the-art acoustic telemetry tags and satellite tags will be employed to describe salmon shark movements and migrations, and critical feeding areas and depths.

2000

Project Number: 00396
Project Title: Alaska Shark Assessment Project
Agency: NOAA

FORM 3A
AGENCY
PROJECT
DETAIL

3/14/00

1998 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET
October 1, 1997 - September 30, 1998

Personnel Costs:		GS/Range/ Step	Months Budgeted	Monthly Costs	Overtime	Proposed FFY 2000
Name	Position Description					
L. Hulbert	PI	GS9	6.0	4,400		26.4
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
	Subtotal	[redacted]	6.0	4,400	0	[redacted]
					Personnel Total	$26.4

Travel Costs:	Ticket Price	Round Trips	Total Days	Daily Per Diem	Proposed FFY 2000
Description					
Juneau to Cordova (Lee Hulbert)	374	1	13	225	2.0
Juneau to Cordova (Scott Johnson)	374	1	4	225	1.0
Homer to Cordova (Scott Myers, ADFG invitational travel)	100	1	13	150	1.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$4.0

2000

Project Number: 00396
Project Title: Alaska Shark Assessment Project
Agency: NOAA

FORM 3B
Personnel
& Travel
DETAIL

Contractual Costs:	Proposed FFY 2000
Description	
vessel charter (11 days at $1,575/day)	17.3
fuel charges for vessel	2.0
shipping	2.0
ARGOS platform ($350/tagx3 PAT tags plus 2 SPOT tag charges= $1.5K-5.0K)	3.0
seine net repair	1.0
When a non-trustee organization is used, the form 4A is required. **Contractual Total**	$25.3

Commodities Costs:	Proposed FFY 2000
Description	
Wildlife Computers PAT tag ($4.2k per tag x 3 tags)	12.6
Wildlife Computers SPOT tag ($2.5K per tag x 2 tags)	5.0
VEMCO data loggers (14 @ $500 each)	7.0
Commodities Total	$24.6

2000

Project Number: 00396
Project Title: Alaska Shark Assessment Project
Agency: NOAA

FORM 3B
Contractual
&
Commoditie

New Equipment Purchases: Description	Number of Units	Unit Price	Proposed FFY 2000
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
Those purchases associated with replacement equipment should be indicated by placement of an R.		**New Equipment Total**	$0.0

Existing Equipment Usage: Description	Number of Units	Inventory Agency
ROV		NOAA
scale		NOAA
sonar		NOAA
purse seine		ADFG

2000

Project Number: 00396
Project Title: Alaska Shark Assessment Project
Agency: NOAA

FORM 3B
Equipment
DETAIL

Revision 3/21/00
Approved TC 2/29/00

Alaska Salmon Shark Assessment Project

Project Number:	00396
Restoration Category:	Research
Proposer:	Leland B. Hulbert NMFS, Auke Bay Laboratory
Lead Trustee Agency:	NOAA
Cooperating Agencies:	Alaska Department of Fish and Game, US Geological Survey, Prince William Sound Science Center, University of Washington, University of Alaska Fairbanks, Virginia Institute of Marine Science
Alaska Sea Life Center:	no
Duration:	Year 1 of 2 year project
Cost FY 00:	$86.0K
Geographic Area:	Prince William Sound
Injured Resource/Service:	Pacific salmon, Pacific herring, rockfish, harbor seals

ABSTRACT

This project investigates salmon shark abundance indices, movements, demographics, and trophic interactions in the eastern Gulf of Alaska (GOA) and Prince William Sound (PWS). State-of-the-art satellite tags and data archival tags will be employed to describe salmon shark movements and migrations, and critical feeding areas and depths. The project will construct an index ratio of surface-to-subsurface abundance and apply the ratio to aerial survey counts and methods to estimate the abundance of sharks in PWS. Salmon shark abundance data from various agencies will be incorporated in the assessment of abundance trends. A random line transect sampling design and methodology will be used to calculate an unbiased estimate of salmon shark population in Port Gravina. Salmon shark diet composition from stomach sample analyses will be used to estimate salmon shark consumption biomass of prey species. This research is needed to assess the role of a predominant shark species as sentinels of change in the dynamic ocean climate and trophic structures in PWS and the GOA.

INTRODUCTION

Salmon sharks, *Lamna ditropis,* are one of the predominant shark species in coastal GOA, yet very little is known of its trends in abundance, demographics, ecology, or seasonal movements. Throughout the 1990's shark sightings and bycatch in PWS and the eastern GOA increased dramatically. In regions of high abundance, salmon sharks have the potential to affect the recovery of oil spill damaged species including wild salmon, herring, and rockfish. This proposed study will employ a conventional tagging and sampling effort, aerial survey counts, and the latest advances in marine biotelemetry technology to collect data on salmon shark abundance, a surface-to-subsurface ratio, movements and migrations, and seasonal residency in PWS and the eastern GOA.

Conventional tag-and-recapture programs studying sharks are dependent on fisheries for tag recoveries, and as indicators of movement and behavior have limited resolution. Due to the low exploitation rate of salmon sharks in commercial fishing gear, they are inaccessible to most conventional methods of study. Salmon sharks don't readily lend themselves to observation, they are rarely tagged, and consequently, very little is known about their movements and ecology in Alaska waters. The new technology of satellite telemetry makes it possible for researchers to study effectively for the first time the migratory habits and seasonal residency of large predatory sharks in the GOA and PWS ecosystems. Data collected from conventional tagging efforts and aerial abundance surveys, will be supplemented with data from satellite tags and archival data storage tags. These advanced data-gathering technologies provide state-of-the-art methods to acquire otherwise difficult to collect or unattainable data on the movements and ecology of these apex fish predators in the PWS and GOA ecosystems.

Successful satellite platform transmitter terminal (PTT) applications have been demonstrated recently for monitoring the movements, thermal physiology, feeding habits, and diving behavior of large pelagic vertebrates including pinnipeds (Lowry et al. 1997, Boyd et al. 1998), cetaceans (Mate et al. 1998), tunas (Block et al. 1998), penguins (Culik and Jorquera 1997), and sea turtles (Morreale 1999). The most advanced versions of PTT tags, the pop-up archival transmitting (PAT) tag, and the smart position-only transmitting (SPOT) tag will be commercially available from Wildlife Computers for the first time in 2000.

PAT tags measure and record temperature, depth, and light intensity for up to one year. Data are collected each minute and summarized into 1 to 24 hour blocks of time. Depth and temperature are measured to within 0.5m and 0.05°C resolution. Time blocks, depth and temperature bin ranges are user-defined. The tag releases (pops-up) from the animal on a predetermined date and time, and transmits archived data and position. Location of the tag after pop-up is calculated from Doppler shift in the transmitted signal as the satellite approaches and then moves away from the PTT. Long-term depth and temperature data from PAT-tagged salmon sharks will be supplemented with shorter duration high resolution archival tags.

Utilization of the latest advances in remote sensing technology will yield previously inaccessible data that are necessary to study salmon shark movements and ecology. Combined with aerial surveys counts, conventional tagging efforts, and demographic and diet data the study will yield high quality information on abundance, movements, and predatory interactions of salmon sharks

in PWS and the GOA.

Information on abundance indices, seasonal residency patterns, and food habits are needed to describe shark predator-prey interactions. This information will be of great value in evaluating the ecological role of sharks in the PWS and GOA ecosystems. One of the more cost-effective methods of assessing complex interactions of a food web is diet analysis from stomach contents. Cooperation has been established with commercial and sport fishermen and various agencies to acquire shark stomachs and other lethal samples from salmon sharks in PWS and the GOA.

NEED FOR THE PROJECT

A. Statement of the Problem

We are seeing surface aggregations of salmon sharks in numbers never described before. Evidence collected in 1999 indicates that salmon sharks prefer the depth range between 10 and 50m and the majority of sharks in a given area are well below the surface and therefore not visible from above (Hulbert 1999 unpublished data). This project will construct a standardized index ratio of surface-to-subsurface distribution patterns from data collected in directed studies utilizing satellite and data archival tags, side-scanning sonar, down-sounder, and remote operated vehicle video. The index ratio will be applied to aerial survey counts collected by ADF&G (Dan Sharp), USGS (Jim Bodkin), and UAF (Evelyn Brown) in PWS. Estimates of salmon shark abundance from aerial counts in PWS will be made based on the ratio of surface-to-subsurface abundance from this project and methods in Bodkin and Udevitz 1999.

Salmon sharks have been poorly documented in most fisheries survey and commercial bycatch data. Information on salmon shark abundance, residency patterns, and seasonal movements in PWS and the GOA does not exist. The project PI has already established cooperative salmon shark sampling, data collection, and data sharing among State and Federal agencies, University researchers, and sport fishing charter operators. A short-term objective of the project is to continue to improve cooperative salmon shark data collection and data sharing opportunities.

Salmon shark body temperature averages 26.5^{0}C (80^{0}F) (Goldman 1999 unpublished data) and may be the highest of any shark. Because of this and the cold waters they inhabit in the GOA, salmon sharks likely possess a high metabolism and high daily ration. Eighteen salmon shark stomachs collected in late July during peak pink salmon returns contained as many sablefish as salmon and also contained herring and rockfish (Hulbert 1999 unpublished data). In regions of high abundance salmon sharks have the potential to affect the recovery of oil spill injured species, including Pacific herring, Pacific salmon, rockfish, and harbor seals. The ecological role of sharks in PWS and their affects on the recovery of spill injured resources in the region will vary with temporal and spatial patterns of movement. Salmon shark movement patterns are currently unknown.

Sharks inhabiting Alaskan waters have low fecundity, long life, and slow maturation. Because of this, evidence of changes in their abundance may be important indicators of long-term changes in trophic community structure. Once sharks reach a dominance level in the community they are likely to continue that dominance for a long time.

B. Rationale

This research is needed to address the role of a predominant shark species, salmon shark, in the dynamic ocean climate and trophic structures in PWS and the GOA. The ecological role of sharks in PWS and their affects on the recovery of spill injured resources in the region will vary with temporal and spatial patterns of movement. These movement patterns are currently unknown. This research will provide a valuable contribution to the understanding of shark ecology in the GOA and PWS and will document and help quantify predator/prey interactions in the region.

Shark tissue samples will be collected opportunistically in the field during directed sampling efforts and from various agencies for fatty acids, stable isotopes,and genetic analyses. Archived samples from this work are needed to address a potentially larger scope of future work on salmon sharks and other shark species of interest.

The Alaska Salmon Shark Assessment Project will cooperate with Jennifer Nielsens project: Defining Critical Habitat for Marine Reserves: Spatial and Temporal Distribution of Pacific Halibut in the Gulf of Alaska. We will work with Dr. Nielsen to deploy her PAT tags on sharks and will share all light sensor and depth data recovered from tags. This collaboration will be mutually beneficial to both projects.

University of Washington stock assessment specialist Dr. Vincent Gallucci has volunteered to provide technical consultation on randomized line transect sampling design and data analyses (Vincent Gallucci 2000 pers. comm.).

C. Location

Prince William Sound and Gulf of Alaska

COMMUNITY INVOLVEMENT AND TRADITIONAL KNOWLEDGE

A traditional and local knowledge component will be incorporated in this study. People from Cordova, Chenega, and Tatitlik will be asked to contribute their knowledge of shark temporal abundance and distribution. Community members may also be hired to recover PAT tags if they "pop-up" in PWS.

PROJECT DESIGN

A. Objectives and Hypotheses

The overall objective of the project is to develop salmon shark abundance and consumption estimates in PWS, with an emphasis on data collected from vessel based strip transects in Port Gravina and aerial survey counts from Bodkin and Udevitz (1999 pers. Comm.). Salmon shark

abundance, diet, and movement data collected by the project will be useful in assessing their role in the marine ecosystem. All permits necessary for this work are in place.

Primary Hypotheses

H1: Salmon shark abundances have increased in the GOA in response to a shift in the GOA of their primary prey (salmon) to the north as a result of global warming.

H2: Salmon shark abundances have increased in the GOA in response to changes abundance of high trophic level groundfish which are important salmon shark prey.

Project Objectives

1. *Deploy tags (PAT, SPOT, and data archival tags) and recover tag data for analyses

2. Construct a standardized index ratio of surface-to-subsurface distribution patterns from data collected from tags and hydroacoustic (down-sounder and side-scanning sonar) and ROV observations.

3. Estimate down-sounder and side-scanning sonar salmon shark detection probabilities

4. Estimate salmon shark abundance by analyzing surface-to-subsurface ratios, tag and aerial survey data.

5. Estimate salmon shark abundance in Port Gravina by analyzing directed line transect sampling data collected with real-time coordination of down-sounder, side-scanning sonar, ROV, and visual (surface) observations.

6. Acquire and analyze salmon shark stomachs for diet composition estimates.

7. Estimate whether the salmon shark population in PWS and the GOA is sufficiently large to exert significant influence on any prey fish population.

8. Collect non-lethal tissue samples for stable isotope tracers, send to Dr. Kline for analyses. Stable isotope analyses effectively provide empirical evidence of trophic relationships in marine food webs (Kline 1997).

9. Support salmon shark demographic analyses by collecting, analyzing, and sharing length, weight, sex, and maturity data.

10. Establish and foster improved shark bycatch records, sampling, and data sharing among agencies, universities, and other sources.

***Biotelemetry Data Objectives**:

1. PAT tags: large-scale geographic movement data, time spent at depth, ratios of surface-to-subsurface abundance, seasonal PWS residency patterns

2. SPOT tags: high resolution salmon shark movement data and seasonal PWS residency patterns

3. Archival tags: high resolution (depth and temperature every 1.5 minutes for 8.4 days) salmon shark body temperature, feeding periodicity, foraging depths, time at depth

B. Methods

Directed salmon shark field sampling:
We will use purse seine gear for catching salmon sharks. The sampling protocol for salmon sharks will be largely opportunistic and will target individual sharks seen at the surface.

1. Sharks will be sexed and measured for length, and weight (or estimated from length/girth measurements). After measurement, if a shark is to be released, tissue samples will be collected for stable isotope tracers, fatty acids, and genetic analyses. The shark will then be double tagged and released with a numbered ADF&G spaghetti tag (Floy). Sharks released with internal data loggers will be tagged on the dorsal fin with fluorescent Jumbo Roto tags (cattle ear tags) to facilitate later detection and recovery. If a shark is killed, vertebrae and stomach content samples will be collected and frozen for subsequent laboratory analysis. Maturity state will be recorded and urogenital tract collected and preserved in 10% formalin solution or frozen: presence or absence of eggs or embryos in females, and male clasper length will be recorded. A maximum of ten salmon sharks will be collected. Permits allowing this are in place.

2. Other noteworthy information will be recorded when possible, including: date and location of capture, water depth and surface temperature, feeding behavior, localized seasonal aggregations, predator-prey interactions, proximity to known prey concentrations (i.e. spawning events etc.).

3. Vertebrae samples will be frozen and sent to Ken Goldman at VIMS for age determination. Mr. Goldman will be producing an age-growth relationship and modeling the demographics of salmon sharks in Gulf of Alaska waters.

4. Stomach contents analyses methods will follow "Standardized diet compositions and trophic levels of sharks" (Cortes 1999).

Percentage of time spent at depth from PAT tags deployed on the sharks, and data archival tags deployed in shark stomachs will be used to construct an index ratio of surface-to-subsurface abundance. Down sounder, side-scanning sonar, and ROV underwater video observations of the vertical distribution and abundance of salmon will be collected in the field to support the tag data. Aerial abundance survey and statistical methods will follow the methodology for sea otter abundance estimates detailed in Bodkin and Udevitz (1999). Aerial salmon shark counts used in the analysis will be contributed by cooperating aerial survey projects. Assumptions regarding

detection probabilities will be supported by real-time coordination of aerial and vessel-based observations when possible. Aerial salmon shark data collected in 1999 is being analyzed (James Bodkin and Evelyn Brown 1999 pers. comm.). Analysis of standardized aerial survey counts of salmon sharks will be used to construct an estimate of salmon shark abundance in PWS.

Depth sounder and scanning sonar equipment and data interpretation will be provided by the contracted vessel captain. ABL research biologist Scott Johnson has volunteered to provide and operate a Deep Ocean Engineering ROV for the project.

C. Cooperating Agencies, Contracts, and Other Agency Assistance

Prince William Sound Science Center, via Tom Kline, will perform shark stable isotope analyses.

University of Washington stock assessment specialist Dr. Vincent Gallucci has volunteered to provide technical consultation on data analyses (Vincent Gallucci 2000 pers. comm.). This cooperative effort will enable high quality, low cost analyses of shark abundance indices, demographics, and trophic interactions in PWS and the GOA.

Alaska Department of Fish and Game will provide PWS aerial salmon shark counts, shark spaghetti tags and tagging equipment, oxytetracycline, and salmon shark stomachs and tissue samples.

United States Geological Survey will provide pop-up (PAT) satellite tags (Jennifer Nielsen) and PWS aerial salmon shark counts (Jim Bodkin).

University of Alaska Fairbanks (Evelyn Brown) will provide PWS aerial salmon shark counts.

Virginia Institute of Marine Science (Ken Goldman) will provide salmon shark stomachs.

SCHEDULE

A. Measurable Project Tasks (Milestones) for FY 00 (October 1, 1999-September 30, 2001)

February-March 2000:	Submit Argos System Use Agreement for Alaska shark Argos program; Order PTT's from Wildlife Computers
July 2000:	Conduct field data collections.
August 2000-December 2000:	Organize and analyze data from FY00 field season
January 2001:	Prepare for and attend annual restoration workshop
February- March 2001:	Prepare annual report

B. Completion Date

D. Budget Summary

Budget Category:	FY 00
Personnel	$26.4
Travel	$ 4.0
Contractual	$25.3
Commodities	$24.6
Equipment	$ 0.0
Subtotal	$80.3
General Administration	$ 5.7
Project Total	$86.0

PUBLICATIONS AND REPORTS

An EVOS annual report will describe the results and accomplishments of the research to date.

PROFESSIONAL CONFERENCES

The PI will attend the EVOS Annual Restoration Workshop in the winter of 2001.

NORMAL AGENCY MANAGEMENT

NOAA/NMFS has statutory stewardship for most living marine resources; however, if the oil spill had not occurred, NOAA would not be conducting this project. NOAA/NMFS proposes to make a significant contribution (as stated in the proposed budget) to the operation of this project, making it truly cooperative.

COORDINATION AND INTEGRATION OF RESTORATION EFFORT

The information gathered in this study may be useful to understanding the lack of recovery of some non-recovering species (harbor seals, Pacific herring).

PRINCIPAL INVESTIGATOR

Leland (Lee) B. Hulbert
Auke Bay Laboratory, NMFS
11305 Glacier Highway
Juneau, Alaska 99801-8626
(907)789-6056

FAX (907)789-6094
E-MAIL: Lee.Hulbert@noaa.gov

Lee has been employed as a Fisheries Research Biologist at the Auke Bay Laboratory, NMFS for 3 years and has two years prior work experience in fisheries biology at ABL. He is currently a CO-PI on the EVOS Alaska Predator Ecosystem Experiment (APEX) Forage Fish Assessment Project (163A). He holds a B.S. degree (1992) in Fisheries Biology from Humboldt State University. He has extensive commercial fishing experience in Prince William Sound and has also fished commercially in Bristol Bay, Togiak, Cook Inlet, the Gulf of Alaska, and S.E. Alaska. He has worked on the APEX Forage Fish Component (163C) for over 3 years. He recently presented a paper at the International Pelagic Shark Workshop in Monterey California titled: Shark Abundance following Regime Shifts in the Gulf of Alaska as an Indicator of Trophic Community Restructuring.

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Jeep Rice
NOAA Auke Bay Lab

FROM: Molly McCammon
Executive Director

RE: Extension of Due Dates on Final and Annual Reports

DATE: April 21, 2000

The purpose of this memo is to confirm extended due dates for reports on the following projects underway at the Auke Bay Lab. The reasons for the extensions are outlined in your April 19, 2000 memo to Sandra Schubert.

99090/Mussel Bed Contamination Final report, P. Harris	From April 15, 2000 to August 25, 2000
99195/Pristane Monitoring Annual report, J. Short	From April 15, 2000 to June 1, 2000
99476/Pink Salmon Reproduction Annual report, R. Heintz	From April 15, 2000 to June 1, 2000

cc: Bruce Wright, NOAA Liaison

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

April 21, 2000

Chris Elfring, Director
Polar Research Board (HA 454)
National Research Council
National Academy of Sciences, National Academy of Engineering
2101 Constitution Avenue NW
Washington, DC 20418

Dear Chris:

Enclosed please find 20 copies of the Gulf Ecosystem Monitoring (GEM) Science Program, April 21 NRC Review Draft. Also enclosed is one unbound copy for copying purposes. We have also included for the committee's use a single copy of the following documents:

- *Exxon Valdez* Oil Spill Trustee Council 2000 Status Report
- *Exxon Valdez* Oil Spill Trustee Council 1999 Status Report
- FY 2001 Invitation to Submit Restoration Proposals
- FY 2000 work plan documents – invitation, draft plan, final plan
- March 1999 Update on Injured Resources and Services
- 1994 *Exxon Valdez* Oil Spill Trustee Council Restoration Plan

We would be happy to provide additional copies of these documents upon request.

The draft GEM Science Program document describes a program and process for long-term research and monitoring in the northern Gulf of Alaska as a final legacy of the *Exxon Valdez* Oil Spill Trustee Council's restoration program following the 1989 oil spill. The Trustee Council is looking forward to benefiting from the experience of the National Research Council in its review. We are especially looking forward to guidance in terms of the structure and process of the program, particularly based on the experience of other programs nationwide and the experience of individual committee members. Additionally, a review of the scientific context of the program (Section IV) would be helpful. And finally, guidance in terms of strategies for developing an actual plan for long-term research and monitoring is critical as we begin to develop such a plan.

The GEM program is not itself a research and monitoring plan. In order to implement the GEM program in October 2002, the Trustee Council must begin developing such a plan in advance of the NRC's final recommendations regarding the GEM Science

Program document. Our process requires substantial public and scientific review and comment, as well as final approval by all six Trustees. Our goal is to have a draft plan delivered to the NRC by March 2001. Therefore, any informal guidance in terms of developing that plan would be appreciated as soon as possible.

We look forward to working with the NRC and the review committee in the next two years. Please don't hesitate to contact me with any questions about the document or the Trustee Council's timeline or process.

Sincerely,

Molly McCammon
Executive Director

Enclosures

mm/raw

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Carol Fries
ADNR Liaison

FROM: Molly McCammon
Executive Director

RE: Extension of Due Date: Final Report
Project 99180 / Kenai Habitat Restoration and Recreation Enhancement

DATE: April 13, 2000

This memo is to confirm an extension of the due date from April 15, 2000 to September 30, 2000 for the final report on Project 99180/Kenai Habitat Restoration and Recreation Enhancement. I understand that this additional time is needed due to permitting delays which have delayed on-site implementation of the Slikok Creek component of the project.

cc: Bob Spies, Chief Scientist

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Bill Hauser
ADFG Project Manager

FROM: Molly McCammon
Executive Director

RE: Extension of Due Date: Final Report
Project 99139A2 / Port Dick Creek Tributary Restoration and Development

DATE: April 13, 2000

This memo is to confirm an extended due date of May 1, 2000 for the final report on Project 99139A2/Port Dick Creek Tributary Restoration and Development. I understand this extra time is needed to properly complete the report.

cc: Bob Spies, Chief Scientist

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Dede Bohn
DOI-USGS Liaison

FROM: Molly McCammon
Executive Director

RE: *Extension of Due Date:*
Annual Report, Project 99169/Genetic Study to Aid in Restoration of Murres, Guillemots, and Murrelets in the Gulf of Alaska
Final Report, Project 99306/Ecology and Demographics of Pacific Sand Lance in Lower Cook Inlet
Annual Report, Project 99338/Survival of Adult Murres and Kittiwakes in Relation to Forage Fish Abundance
Annual Report, Project 99479/Effects of Food Stress on Survival and Reproductive Performance of Seabirds

DATE: April 13, 2000

The purpose of this memo is to confirm an extension of the due date from April 15, 2000 to April 30, 2000 for the following project reports:

Annual Report, Project 99169/Genetic Study to Aid in Restoration of Murres, Guillemots, and Murrelets in the Gulf of Alaska

Final Report, Project 99306/Ecology and Demographics of Pacific Sand Lance in Lower Cook Inlet

Annual Report, Project 99338/Survival of Adult Murres and Kittiwakes in Relation to Forage Fish Abundance

Annual Report, Project 99479/Effects of Food Stress on Survival and Reproductive Performance of Seabirds

I understand this extension is needed because the principal investigator has been ill.

cc: Bob Spies, Chief Scientist

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Dede Bohn
DOI-USGS Liaison

FROM: Molly McCammon
Executive Director

RE: Extension of Due Date for Annual Report:
Project 99327 / Pigeon Guillemot Restoration Research at the Alaska SeaLife Center

DATE: April 13, 2000

The purpose of this memo is to confirm an extension of the due date from April 15, 2000 to April 30, 2000 for the annual report on Project 99327/Pigeon Guillemot Restoration Research at the Alaska SeaLife Center. I understand that this additional time is needed to complete internal review of the report.

cc: Bob Spies, Chief Scientist

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Fred Allendorf
PI, Project 99190

FROM: Molly McCammon
Executive Director

RE: Extension of Due Date: FY 99 Annual Report
Project 99190 / Construction of a Linkage Map for the Pink Salmon Genome

DATE: April 11, 2000

This memo is to confirm an extended due date of May 31, 2000 for your annual report on Project 99190/Construction of a Linkage Map for the Pink Salmon Genome. I understand this extra time is needed to properly complete the report.

cc: Bob Spies, Chief Scientist
Claudia Slater, ADF&G Liaison

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Dede Bohn
DOI-USGS Liaison

FROM: Molly McCammon
Executive Director

RE: Authorization -- Project 00478
Testing Satellite Tags as a Tool for Identifying Critical Habitat

DATE: April 11, 2000

The purpose of this memorandum is to formally authorize work to proceed on Project 00478/Testing Satellite Tags as a Tool for Identifying Critical Habitat. The work must be performed consistent with the revised Detailed Project Description dated March 23, 2000 and the revised budget.

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Gail Irvine
PI, Project 99459

FROM: Molly McCammon
Executive Director

RE: Extension of Due Date: Final Report
Project 99459 / Residual Oiling of Armored Beaches and Mussel Beds in the Gulf of Alaska

DATE: April 11, 2000

The purpose of this memo is to confirm an extended due date of April 28, 2000 for the final report on Project 99459/Residual Oiling of Armored Beaches and Mussel Beds in the Gulf of Alaska. I understand this extension is necessary because you have not yet received the final hydrocarbon analyses from the lab performing the work.

cc: Bob Spies, Chief Scientist
Bruce Wright, NOAA Liaison
Claudia Slater, ADF&G Liaison

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Kelly Zeiner
GIS Analyst/Programmer, ADNR

FROM: Molly McCammon
Executive Director

RE: Extension of Due Date: FY 99 Annual Report
Project 99391 / Cook Inlet Information Management & Monitoring System (CIIMMS)

DATE: April 11, 2000

This memo is to confirm an extended due date of May 5, 2000 for your annual report on Project 99391/Cook Inlet Information Management & Monitoring System (CIIMMS). I understand this extension will allow you to prioritize your time to first meet deadlines for grant applications relevant to the CIIMMS project.

cc: Bob Spies, Chief Scientist
Carol Fries, ADNR Liaison

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Lisa Scarbrough, PI
Subsistence Division, ADF&G

FROM: Molly McCammon
Executive Director

RE: Extension of Due Date: FY 99 Annual Report
Project 99247 / Kametolook River Coho Salmon Subsistence Project

DATE: April 10, 2000

This memo is to confirm an extended due date of June 30, 2000 for your annual report on Project 99247/Kametolook River Coho Salmon Subsistence Project. I understand this extension is needed due to your recent absence from the office for family leave.

cc: Bob Spies, Chief Scientist
Claudia Slater, ADF&G Liaison

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Jim Fall, Regional Program Manager
Subsistence Division, ADF&G

FROM: Molly McCammon
Executive Director

RE: Extension of Due Date: FY 99 Annual Report
Project 99245 / Community-Based Harbor Seal Management and Biological Sampling

DATE: April 7, 2000

The purpose of this memo is to confirm an extended due date of June 30, 2000 for the annual report on Project 99245/Community-Based Harbor Seal Management and Biological Sampling. I understand this extension is needed due to other demands on the authors' time, in particular, biosampling training sessions and field assignments.

cc: Bob Spies, Chief Scientist
Claudia Slater, ADF&G Liaison

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Stephen Jewett
Research Professor, UAF

FROM: Molly McCammon
Executive Director

RE: Extension of Due Date: FY 99 Annual Report
Project 99379 / Assessment of Risk Caused by Residual Oil in Prince WIlliam Sound Using P450 Activity in Fishes

DATE: April 7, 2000

This memo is to confirm an extended due date of June 1, 2000 for your final report on Project 99379/Assessment of Risk Caused by Residual Oil in Prince WIlliam Sound Using P450 Activity in Fishes. I understand this extension will allow time for additional bile samples to be processed, based on preliminary findings of high hydrocarbon metabolite values in bile of selected masked greenling.

cc: Bob Spies, Chief Scientist
Claudia Slater, ADFG Liaison

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

To: Trustee Council Members

From: Molly McCammon
Executive Director

Date: April 6, 2000

Subj: Internal Control & Operating Comments

The 1999 financial statements and audit prepared by Elgee Rehfeld and Funk you received late last month had two volumes. Here is the volume II.

If you have any questions or concerns, please don't hesitate to give me a call.

Enclosed

mm/raw

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

April 4, 2000

Rick Foster
Kachemak Bay NERR
202 W. Pioneer Avenue, Suite B
Homer, AK 99603

Dear Rick:

As follow-up to our recent conversation about outreach and education, here is one more item on the Trustee Council's communication efforts that may be of interest to you.

Back in 1995-96, the Trustee Council's Public Advisory Group conducted a review of the Council's communication efforts. The summary of that review is attached. Although some of this information is now out of date, it will still give you an indication of the Council's level of effort and the types of activities undertaken.

Please feel free to give me a call if you have any questions.

Sincerely,

Sandra Schubert

Sandra Schubert
Restoration Director

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

MEMORANDUM

TO: Public Advisory Group

FROM: Molly McCammon, Executive Director

DATE: March 11, 1996

SUBJ: Update on EVOS Information/Communication Efforts

The purpose of this memorandum is to provide the Public Advisory Group with a brief update on Restoration Office information and communication efforts with highlights of some of the most recent efforts.

Background

In June 1995, the Public Advisory Group formed an Ad Hoc Information Subgroup to review the Trustee Council's public information and communication program efforts. To assist in this effort the Restoration Office staff prepared a "Draft EVOS TC Communications Plan" that described various on-going information/communication activities as it related to the three primary "audiences" of the restoration program — the general public, resource managers, and the scientific community. Attachment A.

Review of this initial analysis by the Information Subgroup focused in substantial part on the "general public" audience and further distinguished several subsets of audiences within this category, including:

— oil spill community residents
— user groups (fishing/hunting, recreational, etc.)
— non-spill area Alaskans/others
— students (K-12 as well as college students)
— educators
— media
— tourists/visitors
— library patrons
— other libraries

A further analysis of the Restoration Office information/communication efforts as related to these various subsets of the general public has been prepared. Attachment B. In recognition of the particular interest that the Information Subgroup has expressed in the "general public" as a particular audience, a number of recent and on-going communication efforts by the Restoration Office should be noted:

- Community Involvement Facilitators — Under contract with the Chugach Regional Resources Commission, a Community Facilitator has been hired to enhance communications with the spill area communities as part of Project 96052. Nine local facilitators throughout the spill area have been hired as community based liaisons for the restoration program to both disseminate information as well as help gather community input regarding the restoration program. Attachment C.

- "Alaska Coastal Currents" Radio Shows — A series of thirteen short (approximately three minute) radio programs on restoration projects has been produced by Jodi Seitz as a pilot project for the Restoration Office. These programs are soon to be aired on public radio stations in Prince William Sound, Anchorage, Kodiak and on the Kenai Peninsula. The series is designed to inform audiences of the progress of research and the Trustee Council activities to restore injured resources and services.

  Topics include the mussel bed cleaning effort; the Nearshore Vertebrate Predator project; recovery of *fucus* in the intertidal zone; the contribution of subsistence users to the study of octopus; studies on the health of harbor seals and the involvement of hunters in research efforts; status of killer whale research; forage fish/seabird interactions; impact of oiled gravel on incubating salmon eggs; findings that explain sockeye population fluctuations; the importance of zooplankton as a forage resource for pink salmon; and the otolith marking project. Based on the favorable response to date, the Restoration Office is examining the possibility of continuing the radio programs to address additional topics.

- OSPIC Home Page — On December 7, 1995 the OSPIC posted its home page on the World Wide Web. The OSPIC home page provides information on the oil spill as well as Trustee Council restoration program activities. This includes a summary of the current status of recovery, a listing of annual and final reports, a list of publications available upon request, and links to 32 other related Web sites. Users now have the ability to leave e-mail messages with questions, comments or requests for publications.

Since the initial installation in December, the home page has received increasing attention with a cumulative total of 9,373 "hits" (4,246 of these hits were in February alone). While the home page provides information itself, it can also result in additional inquiries for information. The home page is generating an average of 28 requests per week from individuals who have viewed the home page and seek additional information from OSPIC. Attachment D.

- Geo-bibliography and Restoration Project Database — As part of the FY 1996 Information Management Project, a comprehensive database of information on Trustee Council sponsored restoration projects is under development that will eventually be accessible to the general public through the World Wide Web. This electronically accessible database will allow users to search for information on restoration topics of their choosing using key words (e.g., harbor seal, sea otter, *fucus*, subsistence) and browse information regarding restoration projects at various levels of detail such as listings of project reports, abstracts from final and annual reports, results and findings from reports, and citations of related reports or publication. The database has a geographic component so that other researchers can learn about the availability of previously collected data specific to a particular geographic area.

- Synthesis of Restoration Research for the General Public — In order to make the substantial and growing body of scientific/technical restoration research results more accessible to the lay public, the Restoration Office has initiated an effort to develop brief synthesis reports on the various injured resources and services. These synthesis reports will be presented in a standardized format approximately 3 - 5 pages in length, including attractive graphics (charts, data sets, photographs, etc.). The synthesis reports, which will be developed by key principal investigators with review and assistance from the Chief Scientist and Science Coordinator, will present an overall perspective on the status of knowledge regarding specific injured resources and services. With assistance as needed from a technical writer/editor the synthesis reports will be written for a general lay audience but will also include substantial detail as well as a listing of additional key reports or references.

  As these synthesis reports are prepared they will be available for distribution to the general public through the Restoration Office, OSPIC and Trustee agencies. These synthesis reports will be electronically accessible for review through the OSPIC home page.

As reflected in the "Analysis Matrix: Trustee Council Communications with the General Public" these efforts are just a portion of the Restoration Office communication effort. However, I think they are some of the more innovative efforts we are now undertaking to enhance effective communication of information to the general public regarding the restoration program.

I look forward to further discussions with the PAG regarding our information dissemination and communication efforts.

attachments

Attachment A — "Draft EVOS Communications Plan"
Attachment B — Analysis Matrix: Trustee Council Communications with the General Public
Attachment C — Community Involvement Facilitators
Attachment D — OSPIC Home Page

Attachment A

Draft EVOS TC Communications Analysis 7/19/95

- **The Goal:**

DRAFT

An informed public

- **with the information needed to come to conclusions about the status of resources injured by the spill, and**
- **with the knowledge and understanding necessary to aid the restoration of injured resources and services by providing the Trustee Council with feedback on restoration activities.**

- **Objectives:**

The primary audiences for EVOS information are resource managers, scientists and the general public, including educators and the media. The overall objective is to inform the primary audiences about the restoration program in a timely manner in comprehensible, useful forms so that they are able to understand and form opinions regarding the merit of activities and proposals.

General public

Trustee Council staff will:

- Provide advance notice of public meetings, availability of documents, comment periods, and other aspects of the restoration program so that members of the public are able to participate and provide feedback to the Trustee Council.
- Provide opportunities for public comment at public meetings of the Trustee Council and the Public Advisory Group.
- Prepare and distribute widely documents and informational materials such as the Annual Status Report, newsletters, and draft documents for public review.
- Encourage members of the public to participate in relevant workshops, conferences and technical sessions.
- Invite the general public to submit restoration ideas and projects as part of development of the annual work plan.
- Work cooperatively with journalists to assure that accurate information is made available for dissemination via print and electronic media.

- Respond promptly to queries and requests for information from the public, educators and journalists.

Resource Managers

Trustee Council staff will:

- Work cooperatively with the Restoration Work Force to keep resource managers informed of restoration activities.
- Encourage relevant resource managers and scientists to participate in conferences, workshops and technical sessions to facilitate information exchange, integration of project activities and cooperation among researchers.
- Distribute and/or provide notice of availability of technical reports and other documents relevant and useful to resource managers.
- Invite resource manager review of draft work plans and other documents out for public comment.
- Invite resource managers to submit restoration ideas and projects as part of development of the annual work plan.
- Respond promptly to queries and requests for information from the resource managers.

Scientists

Trustee Council staff will:

- Encourage participation of interested scientists in conferences, workshops and technical sessions to facilitate information exchange, integration of project activities and cooperation among researchers.
- Distribute and/or provide notice of availability of technical reports and other documents relevant and useful to scientists.
- Invite scientific review of draft work plans and other documents out for public comment.
- Invite scientists to submit restoration ideas and projects as part of development of the annual work plan.
- Respond promptly to queries and requests for information from scientists.

Current Communication Activities

The subject matter to be communicated currently includes information about:

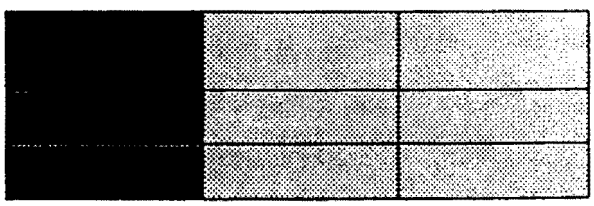
- The *Exxon Valdez* oil spill and its effects in general;
- the progress of recovery of injured resources and services in the spill-affected areas;
- restoration, research and monitoring, and habitat protection actions completed or initiated under the mandate of the civil settlement to restore injured resources and services;
- information gained about injured resources and services in the spill affected area as a result of restoration activities;
- opportunities to provide comments on components of the restoration program; and
- Trustee Council actions.

Opportunities for information exchange with the audience members are currently centered in three main areas:

- Trustee Council Restoration Office, which includes the Public Information Office,
- Oil Spill Public Information Center, and
- Database of Project Information/Geographic Information System (in development).

Primary Audience
Secondary Audience

Current EVOS TC Communication Products or Actions	*General Public*	*Scientists*	*Resource Managers*
• Public Meetings			
Trustee Council meetings (including public testimony)			
PAG meetings (including public testimony)			
Community meetings			
• Conferences, Workshops and Technical Sessions			
Exxon Valdez Oil Spill Symposium (February 1993)			
Annual Restoration Workshop			



Peer Review Workshops & Review Memos

Sockeye

Herring

Genetics

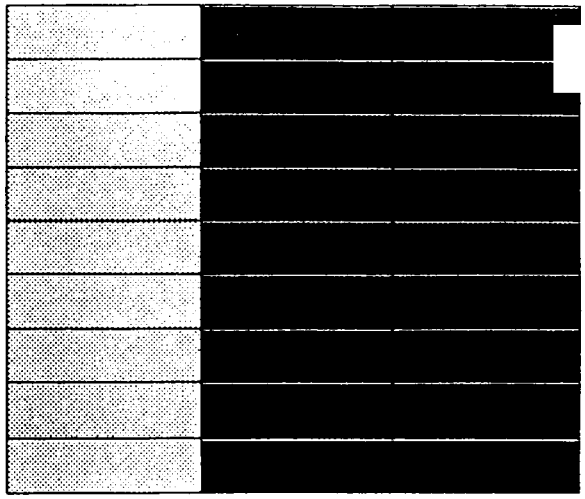
SEA Program

APEX

Hydroacoustics

Geographic Information System[1]

Other workshops



• Reports and Publications

Restoration Plan

Project Reports

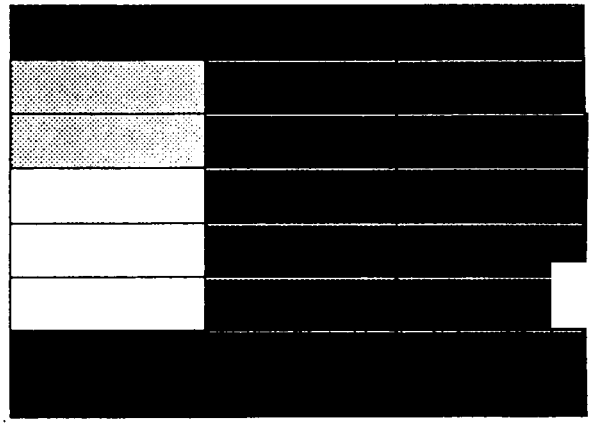
Final/Annual Project Reports

Detailed Project Descriptions

Detailed Budgets

Quarterly Project Status Report

Database of Project Information (In development)[1]

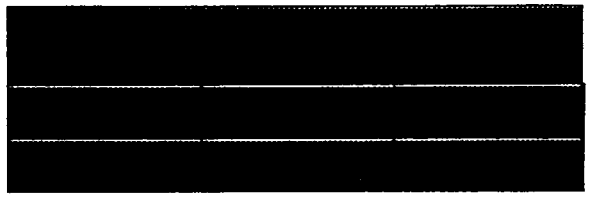


Work Plan Documents

Invitation/Restoration FY96 and Beyond ("raspberry book")

Draft Work Plan

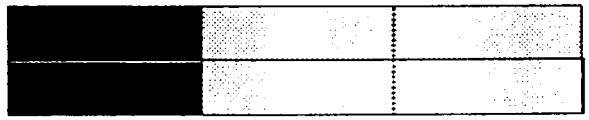
Final Work Plan



Habitat Program Reports

Large Parcel Habitat Report Vol. I and II

Small Parcel Habitat Report Vol. III



Other Reports and Publications

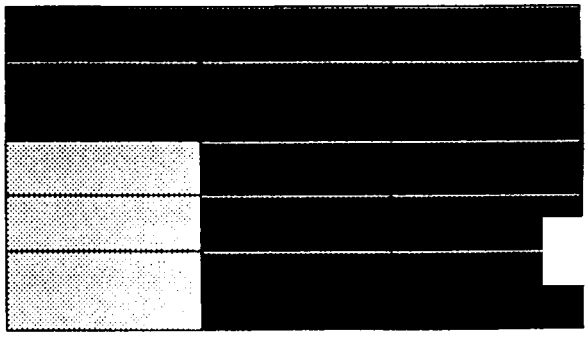
Science for the Restoration Process (April 1994)

Five Years Later: What Have We Learned? (March 1994)

Marine Mammals and the ExxonValdez (1994)

Scientific Journal Publications

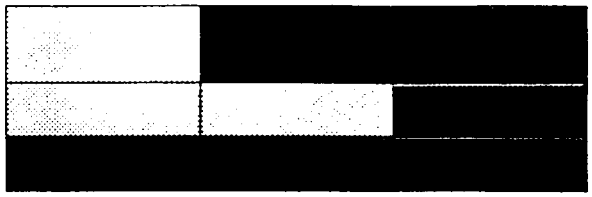
Exxon Valdez Oil Spill Symposium Abstract Book (February 1993)



Exxon Valdez Oil Spill Symposium Proceedings (Publication expected in 1995)

Financial Reports

Annual Status Reports



- **Public Information and Community Involvement**

Public Information Office

Restoration Update newsletter (bi-monthly)

Press contacts

Press Releases and Public Service Announcements

Preparation of Annual Status Report

Response to general inquiries

Oil Spill Public Information Center(OSPIC)

Specialized EVOS library collection

Repository/distribution of final project reports

Maintains Trustee Council administrative record

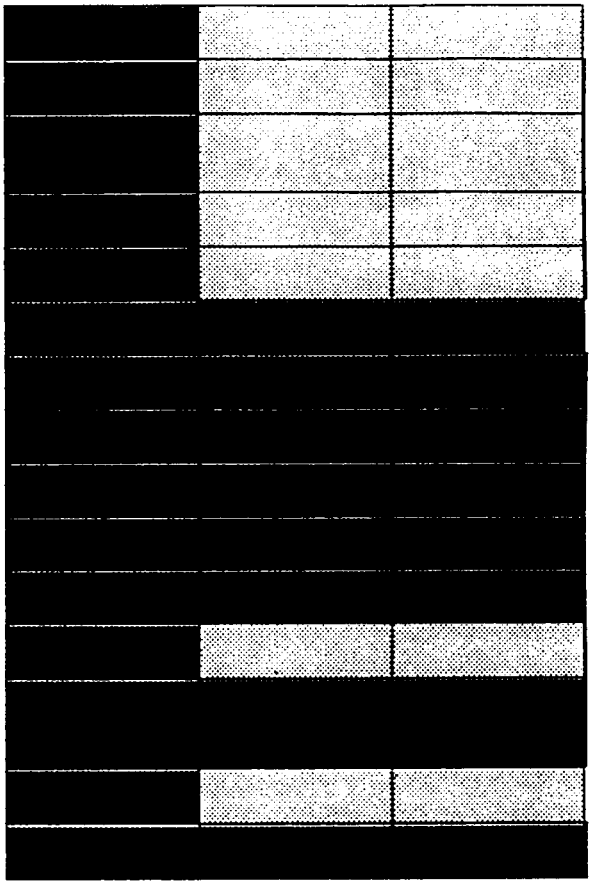
Interlibrary loan requests

Response to general inquiries

Annual Oil Spill Region Community Meetings

Community Involvement/Traditional Knowledge Project[2]

Miscellaneous Correspondence



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[1] Part of the FY 95 Information Management System Project (95089)

[2] FY 95 Project 95052

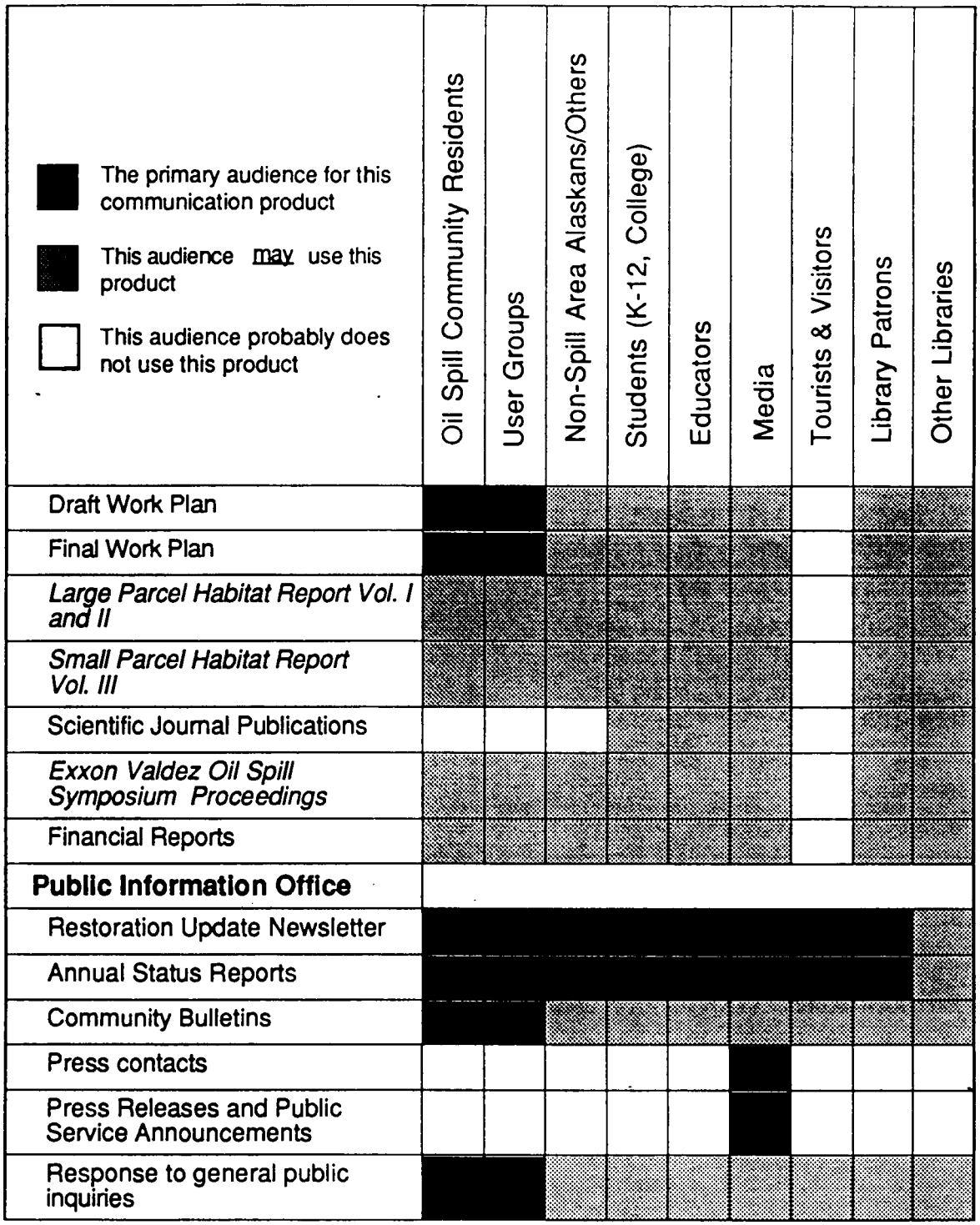
Attachment B

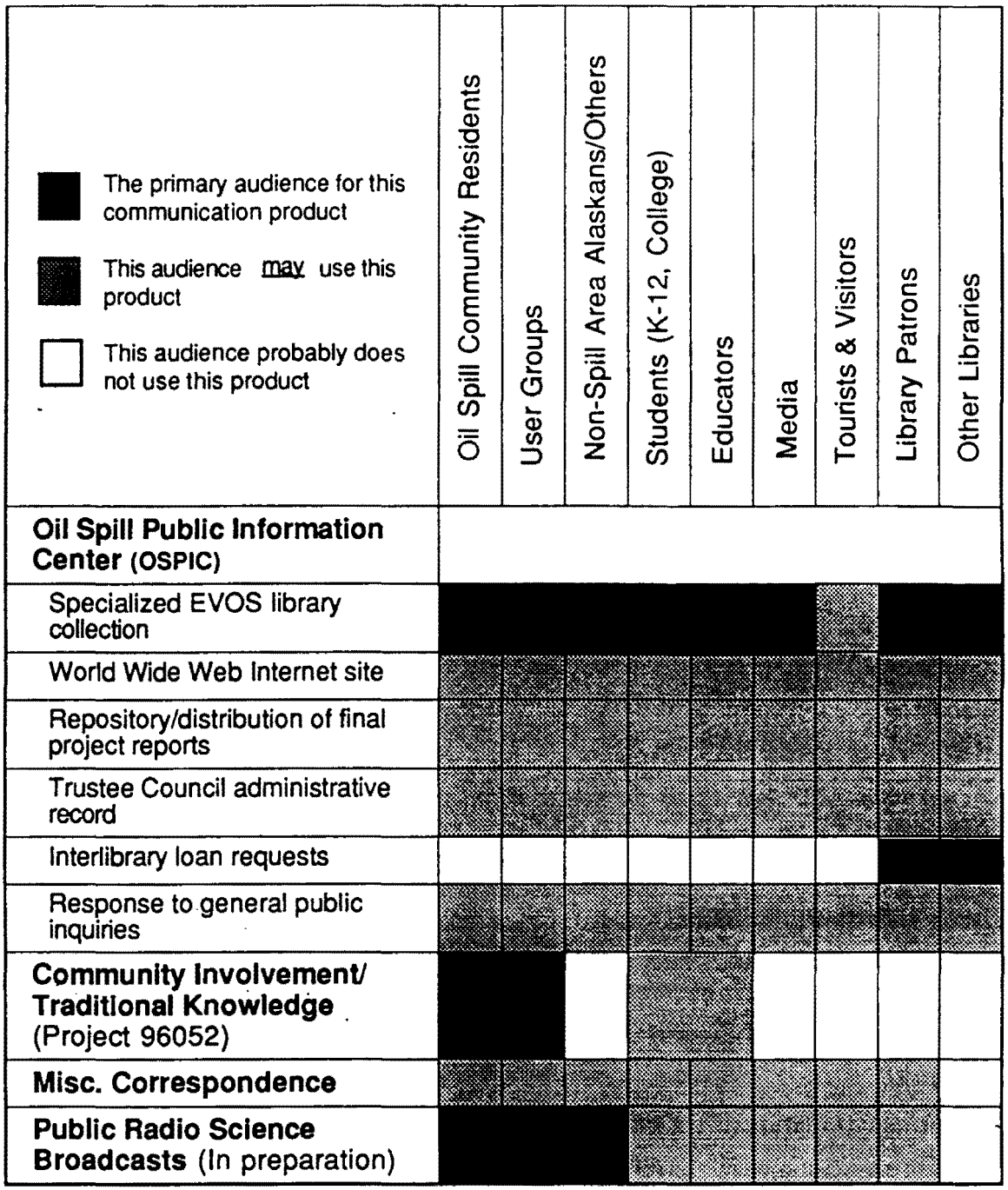
DRAFT

Analysis Matrix: Trustee Council Communications with the General Public

December 6, 1995

	Oil Spill Community Residents	User Groups	Non-Spill Area Alaskans/Others	Students (K-12, College)	Educators	Media	Tourists & Visitors	Library Patrons	Other Libraries
■ The primary audience for this communication product ▒ This audience may use this product □ This audience probably does not use this product									
Public Meetings									
Trustee Council meetings (including public testimony)	▒	▒	▒			▒			
PAG meetings (including public testimony)	▒	▒				▒			
Community meetings	■	■				▒			
Conferences, Workshops and Technical Sessions									
Annual Restoration Workshop	▒	▒	▒	▒	▒	▒		▒	
Peer Review Workshops & Review Memos									
Reports and Publications									
Restoration Plan	■	■	■	▒	▒	▒	▒	▒	▒
Project Reports	▒		▒	▒	▒			▒	▒
Final/Annual Project Reports	▒		▒	▒	▒			▒	▒
Detailed Project Descriptions								▒	▒
Detailed Budgets								▒	▒
Quarterly Project Status Report	▒							▒	▒
Database of Project Information (Project 96052)	▒	▒	▒	▒	▒	▒	▒	▒	▒
Annual Work Plan Invitation	■	■	▒	▒	▒	▒		▒	▒


The primary audience for this communication product
This audience may use this product
This audience probably does not use this product
Oil Spill Community Residents
User Groups
Non-Spill Area Alaskans/Others
Students (K-12, College)
Educators
Media
Tourists & Visitors
Library Patrons
Other Libraries
Draft Work Plan
Final Work Plan
Large Parcel Habitat Report Vol. I and II
Small Parcel Habitat Report Vol. III
Scientific Journal Publications
Exxon Valdez Oil Spill Symposium Proceedings
Financial Reports
Public Information Office
Restoration Update Newsletter
Annual Status Reports
Community Bulletins
Press contacts
Press Releases and Public Service Announcements
Response to general public inquiries


The primary audience for this communication product
This audience may use this product
This audience probably does not use this product
Oil Spill Community Residents
User Groups
Non-Spill Area Alaskans/Others
Students (K-12, College)
Educators
Media
Tourists & Visitors
Library Patrons
Other Libraries
Oil Spill Public Information Center (OSPIC)
Specialized EVOS library collection
World Wide Web Internet site
Repository/distribution of final project reports
Trustee Council administrative record
Interlibrary loan requests
Response to general public inquiries
Community Involvement/ Traditional Knowledge (Project 96052)
Misc. Correspondence
Public Radio Science Broadcasts (In preparation)

Attachment C

Community Involvement

Residents of communities affected by the spill have asked the Trustee Council to be more aware of local concerns and issues, and local and traditional knowledge when planning, implementing and evaluating restoration projects. In response to these requests, the Council is making a concerted effort to increase the involvement of spill area residents, including subsistence users, in the restoration process.

Principal investigators are asked to assist the Trustee Council in its community involvement efforts. This is particularly true for investigators whose projects involve work in or near a community or resources and services that are of particular interest to community residents. The instructions for writing FY 97 Detailed Project Descriptions in Appendix A ask investigators to include a description of their plans to involve local residents in their proposal.

To improve the community involvement process, the Trustee Council funded the Community Involvement Project (\052). The project coordinates a network of local facilitators that may be helpful to you in preparing your project. The facilitators are creating local directories of persons with traditional knowledge, vessels and other equipment available for research projects, and persons for hire as technicians or observers. The facilitators also relay to the Council concerns about injured resources and help generate project proposals related to research and restoration of subsistence resources.

Nine local facilitators will be hired through this project; seven are from Prince William Sound/lower Cook Inlet communities, and the other two represent the Alaska Peninsula and Kodiak regions. The local facilitators hired so far are:

Gary Kompkoff	Tatitlek	325-2311
Don Kompkoff	Chenega Bay	573-5132
Walter Meganack	Port Graham	284-2227
Helmer Olsen	Valdez Native Tribe	835-5589
Charles Moonin	Nanwalek	281-2225
Kenny Blatchford	Qutekcak (Seward)	224-3118
Bob Henrich	Eyak Tribal Council (Cordova)	424-7739
Hank Eaton	Kodiak Tribal Council	486-4449

Martha Vlasoff has been contracted by Chugach Regional Resources Commission (CRRC) to serve as the Spill Area-Wide Coordinator for Project \052. CRRC is a non-profit organization serving the Chugach region in the areas of natural resource stewardship and economic development. Contact Ms. Vlasoff at the Anchorage Restoration Office (phone: 907-278-8012; e-mail: marthav@evro.usa.com) if you would like more information or assistance in developing a community involvement component for your project, or if you would like the name of the Alaska Peninsula facilitator.

The Trustee Council sponsored a Community Conference on Subsistence and the Oil Spill in September 1995 (Project 95138). Representatives from 20 communities met in

Anchorage to discuss mutual concerns about restoration. A Community Conference Steering Committee, comprised of participants from the conference, was formed to follow up on the issues raised at the conference. The Steering Committee and the local facilitators met during the Trustee Council's 1996 Restoration Workshop and made the following recommendations regarding community involvement:

- Increase communications with the communities on research findings in non-technical language either through the Trustee Council newsletter, the bi-monthly Community Involvement Report (prepared by the Spill Area-Wide Coordinator), a radio program, school presentations, posters, or some other form of communication.

- Create a forum for local traditional knowledge bearers and principal investigators to increase the exchange between culturally diverse groups in an effort to plan, implement and evaluate future restoration projects.

- Develop protocols to assist principal investigators and local communities in regard to contact with the communities and collection of traditional ecological knowledge, including methodology, data ownership, compensation and data coordination.

Other projects funded by the Council that involve communities are described in the Subsistence section (page 43).

Attachment D

Now superseded by Trustee Council's web page:

www.oilspill.state.ak.us

Oil Spill Public Information Center

The OSPIC began construction of this Home Page in April 1995. The goal of this Library is to provide information about the Exxon Valdez Oil Spill.

About the Library
What Happened on March 24, 1989
Map of the Spill Area
Trustee Council and Restoration Office
What is the current status of the spill area
Scenes from the Exxon Valdez Oil Spill
Natural Resource Damage Assessment and Restoration Project Final Reports
Other Sites worth visiting
Great Search Engines to Register with
Sample of Documents that can be requested (at no charge)

1993 ASTM Symposium Abstracts

Exxon Company USA conducted research on the environmental impact of the Exxon Valdez oil spill and presented the results at the 1993 ASTM Symposium in Atlanta, Georgia. This link contains abstracts of papers presented at this symposium. The results of this research may differ from research funded by the Exxon Valdez Oil Spill Trustee Council and does not represent the viewpoint of the Trustee Council.

Tell us what you think

These topics will soon be available for browsing:

OSPIC Newsletter
New books, periodicals, videos, etc.
Trustee Council announcements

Please Note:

When requesting documents from the Oil Spill Public Information Center, please include your mailing address.

Oil Spill Public Information Center
645 G Street

Anchorage, AK 99501-3451
1-800-283-7745 (outside Alaska) , 1-800-478-7745 (in State) or 1-907-278-8008
ospic@calvino.alaska.net (email)

You are visitor #9400
Web Counter was installed on this Web Page on 12/7/95.

Last modified: March 8, 1996 By Jeff Lawrence

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Dan Rosenberg
ADFG

FROM: Molly McCammon
Executive Director

RE: Extension of Due Date: FY 99 Annual Report
Project 99273 / Surf Scoter Life History and Ecology: Linking Satellite Technology with Traditional Knowledge to Conserve the Resource

DATE: April 3, 2000

This memo is to confirm an extended due date of June 15, 2000 for your annual report on Project 99273/Surf Scoter Life History and Ecology: Linking Satellite Technology with Traditional Knowledge to Conserve the Resource. I understand this extension is made necessary by your field work schedule.

cc: Bob Spies, Chief Scientist
Claudia Slater, ADFG Liaison

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Evelyn Brown
Research Associate, UAF

FROM: Molly McCammon
Executive Director

RE: Extension of Due Date: FY 99 Annual Report
Project 99375 / Effect of Herring Egg Distribution and Ecology on Year-Class Strength and Adult Distribution

DATE: April 3, 2000

This memo is to confirm an extended due date of September 30, 2000 for your final report (manuscript and appendices) on Project 99375/Effect of Herring Egg Distribution and Ecology on Year-Class Strength and Adult Distribution. I understand this extension is made necessary by a delay, on the part of your contractor, in delivering the physical data needed for the analysis.

cc: Bob Spies, Chief Scientist
Claudia Slater, ADFG Liaison

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Bruce Wright
NOAA Liaison

FROM: Molly McCammon
Executive Director

RE: Additional Authorization -- Project 00567 / Monitoring Environmental Contaminants in the Northern Gulf of Alaska

DATE: April 3, 2000

The purpose of this memorandum is to formally authorize NOAA to spend the $13,300 transferred from ADEC to NOAA in the Fourth 2000 Court Request (CR #44, March 2000) under Project 00567/Monitoring Environmental Contaminants in the Northern Gulf of Alaska. Funds transferred are for the literature compilation component of the project, which now will be conducted by NOAA personnel rather than by an ADEC contractor as originally envisioned.

cc: Marianne See, ADEC Liaison

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

Restoration Office Tentative Meeting Schedule

April 2000
7 Trustee Council meeting (teleconference), GEM
TBD Trustee Council meeting, Investments

May 2000
21-24 Peer Reviewers Meeting on FY 2001 Detailed Project Descriptions
TBD Trustee Council meeting, Investments

June 2000
7 RWF finalize draft recommendation on Draft FY01 Work Plan
TBD Trustee Council meeting, investments

July 2000
19 Public meeting on Draft FY01 Work Plan, 7 p.m.
20 Public Advisory Group - Draft FY01 Work Plan
21 RWF, Draft FY01 Work Plan

August 2000
3 Trustee Council meeting on Draft FY01 Work Plan

September 2000

October 2000

November 2000

December 2000

January 2001
16-26 Two days will be Annual Workshop

* tentative meeting dates

For more information on any of the above meetings, please contact the Restoration Office.

4/4/00 F:\MOLLY\MTGSCHED.RWF

Exxon Valdez Oil Spill Trustee Council

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FAX COVER SHEET

To: **Restoration Work Force** Date: 4-4-2000

From: Molly McCammon Total Pages: 2

Comments: Corrected schedule. Please toss the one you received this morning.

Thanks

RESTORATION WORK FORCE MEMBERS INCLUDE:

Bruce Wright	Bill Hauser	Dede Bohn
Carol Fries	Claudia Slater	Marianne See
Catherine Berg	Bob Spies	
Bonnie MacElmurry	Bud Rice	

HARD COPY TO FOLLOW no FAX SENT BY: Rebecca

9/29/99pdb

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FAX COVER SHEET

To: **Restoration Work Force** Date: 4/4/2000

From: Molly McCammon Total Pages: 2

Comments: Pls distribute to those listed below. Thx.

RESTORATION WORK FORCE MEMBERS INCLUDE:

Bruce Wright
Carol Fries
Catherine Berg
Bonnie MacElmurry
Bill Hauser
Claudia Slater
Bob Spies
Bud Rice
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Marianne See

HARD COPY TO FOLLOW no FAX SENT BY: Rebecca

9/29/99pdb

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*** MULTI TRANSACTION REPORT ***
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	[15] 2698918	CAROL FRIES
	[16] 2672450	RITA MIRAGLIA
	[17] 2713992	GIBBONS/HOLBROOK
	[20] 7863350	C.BERG
	[21] 2572517	B.RICE
	[26] 2697508	MARIANNE SEE
	[35] 19253737834	B.SPIES
ERROR	[22] 7863636	D.BOHN

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