

13.08.01 – Reading File

May 2005

Exxon Valdez Oil Spill Trustee Council

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



May 23, 2005

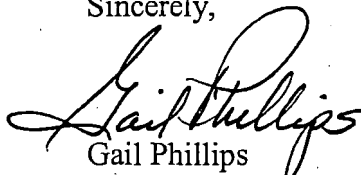
Bob Patterson
Bob Patterson's Fine Arts Gallery
245 West 5th Avenue, Suite 110
Anchorage, AK 99501

Dear Bob:

Please contact me at the *Exxon Valdez* Oil Spill Trustee Council office at (907)278-8012, or via email at gail_phillips@evostc.state.ak.us with your current contact information. I have tried unsuccessfully to contact you by phone (not in service) and email (mailbox is full).

If you are unable fulfill your appointment to the Public Advisory Committee (PAC) please let me know by letter of resignation so the Trustee Council can solicit to fill the public-at-large seat you currently occupy. The Trustee Council relies on the PAC member's review and informed comments when they make their funding decisions.

Sincerely,


Gail Phillips
Executive Director

Federal Trustees

U.S. Department of the Interior
U.S. Department of Agriculture
National Oceanic and Atmospheric Administration

State Trustees

Alaska Department of Fish and Game
Alaska Department of Environmental Conservation
Alaska Department of Law

Reading file

Exxon Valdez Oil Spill Trustee Council

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



MEMORANDUM

TO: Kevin Buckland, Finance Officer, ADF&G
Bruce Nessler, Budget Officer, DOI
Divina Pelayo, Accountant, ADF&G
Sue Bump, Investment Officer, DOR

THRU: Gail Phillips
Executive Director *Gail*

FROM: Paula Banks *Paula Banks*
Administrative Manager

RE: Court Notice Errata #12
Authorization to Transfer Funds
Authorization to Transfer funds to Trustee Agencies

DATE: May 23, 2005

Per the attached documents, this memo authorizes the transfer of funds from the EVOS Research Investment Sub-Account, to the State of Alaska (GeFONSI Fund), and from the United States Natural Resource Damage Assessment and Restoration Fund (NRDAR), to NOAA for Project 050794 (Herring Synthesis – Rice/Quinn et al.) a multi year project. The Alaska Department of Law and the United States Department of Justice notified the United States District Court on March 20, 2005 of our intent to expend \$50,000.00 for funding a synthesis study of Pacific herring in Prince William Sound. The RFP did not result in the award of a proposal. A second call for proposals was circulated which resulted in funding approval for

Page 1

(Court notice Errata #12)

Paula/court Notice
E-12/FY05/fax
memo authorization

Project 050794 (Rice/Quinn). On May 12, 2005, the Alaska Department of Law and the United States Department of Justice notified the United States District Court of our intent to expend an additional \$82,024.10 (\$101,240.54 in 2005 and \$30,783.56 in 2006) the FY 2005 funds are to be disbursed as follows; \$28,755.54 is to be transferred from the EVOS Investment Fund, to the Alaska Department of Fish and Game (ADFG), and \$72,485.00 is to be transferred from the United States Natural Resource Damage Assessment and Restoration Fund, to the National Oceanic and Atmospheric Administration.

\$28,755.54 in funds, are to be transferred from the Restoration Sub-account to GeFONSI by May 24, 2005.

Description		From Research Sub-Account	From NRDAR Account
FY 2005		\$28,755.54	\$72,485.00
Subtotal United States	\$72,485.00		
Subtotal State of Alaska	\$ 28,755.54		
Total	\$ 101,240.54		
TOTAL \$ 101,240.54		\$28,755.54	\$72,485.00
Subtotal United States	\$ 72,485.00	To be disbursed as follows: United States \$ 0 State of Alaska \$ 28,755.54	To be disbursed as follows: United States \$72,485.00 State of Alaska \$ 0
Subtotal State of Alaska	\$ 28,755.54		
Total	\$ 101,240.54		

There has been one Trustee Council meeting (May 3, 2005), since the last court notice March 18, 2005.

The following documents are attached:

- Draft meeting notes for May 3, 2005.
- Resolution 05-03.

If you have any questions or need additional materials, please let me know.

Court Notice Errata #12
May 20, 2005
Resolutions 0501-0502-0503
TC meeting
December 10, 2004 - February 4, 2005

PROJECT NUMBER	PI - TITLE	Fund determination	FY05	FY06	FY07	AGENCY AFFILIATION	TC Approval	Date Funds Transferred
50794	Rice/Quinn - PWS Herring - An updated Synthesis of the population decline and lack of Recovery	Research Account	\$ 28,755.54	30,783.56	\$0	ADFG/NOAA	5/3/2005	May 23 2005
40666	Konar AK Natural Geography in Shore Areas	GeFonsi	\$ 17,713.00	-	\$0	ADFG	2/4/2005	March 22 2005
50749	Hoover Miller - Harbor Seal Monitoring	GeFonsi	\$ 4,500.00			ADFG	12/10/2004	March 22 2005
50455	EVOS Data Management	GeFonsi	\$ 2,377.53			ADFG	12/10/2004	March 22 2005
50100	EVOS TC - Public Information Administration	GeFonsi	\$ 12,598.63			ADFG	12/10/2004	March 22 2005
50630	EVOS Science Management	GeFonsi	\$ 6,807.31			ADFG	12/10/2004	March 22 2005
50550	EVOS ARLIS	GeFonsi	\$ 3,565.75			ADFG	12/10/2004	March 22 2005
	TOTAL ADFG		76,317.76	30,783.56	\$0	Subtotal ADFG		
50794	Rice/Quinn - PWS Herring - An updated Synthesis of the population decline and lack of Recovery	NRDAR	72,485.00			NOAA/ADFG	5/3/2005	May 23 2005
50778	Michel - Identify and Evaluate Oil Remediation Technologies Applicable to Lingering Oil in PWS	Research Account	49,100.00	-	\$0	NOAA	2/4/2005	March 22 2005
	TOTAL NOAA		121,585.00	-	\$0	Total funding - NOAA		
50777	Esler - Harlequin Duck P450 Reanalysis	Research Account	39,000.00			USGS/DOI	2/4/2005	March 22 2005
40775	Ballachey Bodkin - Lingering Oil and Sea Otters: Critical Needs	Research Account	79,800.00	34,900.00		USGS/DOI	2/4/2005	March 22 2005
	TOTAL USGS/DOI		118,800.00	34,900.00	\$0	Subtotal USGS		
	TOTAL ADFG		76,317.76	30,783.56	-	ADFG		
	TOTAL DOI		118,800.00	34,900.00	\$0	DOI/USGS		
	TOTAL NOAA		121,585.00	-	-			
	TOTAL FUNDING AMOUNT - COURT NOTICE Errata #12		316,702.76	65,683.56	-	Total		

March 22, 2005 Transfer	Research Fund	GeFONSI	NRDAR Fund	Total
United States	\$ 167,900.00			\$ 167,900.00
State of Alaska		\$ 47,562.22		\$ 47,562.22
Total	\$ 167,900.00	\$ 47,562.22	\$ -	\$ 215,462.22

May 23 2005 Transfer	GeFONSI	NRDAR	Research Fund	Total
United States		\$ 72,485.00		\$ 72,485.00
State of Alaska			\$ 28,755.54	\$ 28,755.54
Total		72,485.00	28,755.54	\$ 101,240.54

Reading file



Exxon Valdez Oil Spill Trustee Council

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

MEMORANDUM

TO: Craig Tillery, Alaska Department of Law
Regina Belt, U.S. Department of Justice

FROM: Paula Banks *Paula Banks*
Administrative Manager

DATE: May 17, 2005

RE: Amendment of Amounts to Be Expended for Certain Lingered Oil Projects
Authorized by Trustee Council Resolution 05-02 and Correction of the
Identity of the Accounts from Which Monies for Those Projects should be
withdrawn

The purpose of this memorandum is to request that the Alaska Department of Law and the United States Department of Justice notify the United States District Court of certain Trustee Council and Executive Director actions that amend the Governments' Twelfth Joint Notice of Expenditures From the Investment Fund and From Monies Previously Disbursed (Twelfth Joint Notice), filed March 17, 2005. That Notice accurately reflects the Trustee Council's adoption on February 4, 2005 of Resolution 05-02, authorizing the expenditure of \$50,000.00 for an oil remediation technologies project and \$50,000.00 for a synthesis of herring studies (as well as other expenditures not affected by the subsequent actions of the Trustee Council that are the subject of this memorandum).

Since the filing of the Twelfth Joint Notice, action taken at the Trustee Council's May 3, 2005 meeting reduced the amount to be expended for the oil remediation technologies project to \$49,100.00, an amount which you asked the Department of Revenue to transfer, by March 22, 2005, from the Research Investment Sub-Account of the Exxon Valdez Oil Spill Investment Fund to the NRDA-R Fund managed by the

Department of the Interior. Additional action at the Trustee Council's May 3, 2005 meeting increased the amount authorized by the Trustee Council for a synthesis of herring studies by \$82,024.10, for a total of \$132,025.10, of which, \$101,240.54 is to be disbursed in FY 2005 and \$30,783.56 is to be disbursed in FY 2006. Resolution 05-03 (attached) reflects these actions.

The Twelfth Joint Notice identified the source of funds for the oil remediation and herring synthesis projects as the Research sub-account of the Investment Fund. Upon further reflection, the Executive Director has determined that the accounts from which monies for all of the projects for which notification was made to the Court in the Twelfth Joint Notice expenditures are as follows:

FY 2005

Errata #12	Research Fund	GeFONSI	NRDAR Fund	Total
United States	\$ 167,900.00 *		\$ 72,485.00**	\$ 240,385.00
State of Alaska	\$ 28,755.54**	\$ 47,562.22 *		\$ 76,317.76
Total	\$ 196,655.54	\$ 47,562.22	\$ 72,485.00	\$ 316,702.76

- * Funds Transferred March 22, 2005. Total transferred that date: \$215,462.22
- ** Funds to be transferred May 23, 2005 - \$101,240.54

FY 2006

Errata #12	Research Fund	GeFONSI	NRDAR Fund	Total
United States	\$			
State of Alaska	\$ 30,783.56			\$ 30,783.56
Total	\$ 30,783.56	\$ 0	\$ 0	\$ 30,783.56

Please take whatever action you deem appropriate to notify the court of the amendments to the notification made in the Twelfth Joint Notice. There has been one Trustee Council meeting (May 3, 2005) since the Twelfth Joint Notice. The draft meeting notes for that meeting are attached.

If you have any questions or need additional materials, please let me know.

Attachments:

- Draft meeting notes for May 3, 2005
- Resolution 05-03

TRUSTEE COUNCIL MEETING NOTES

May 3, 2005

DRAFT

Trustee Council Members Present:

McKie Campbell, ADF&G
•Kurt Fredriksson, ADEC
Scott Nordstrand, ADOL

- APPROVED MOTION: Motion to adopt Resolution 05-03 Regarding FY 05 Funds for Herring Synthesis Project to Rice et al, for a total of \$132,024.10, with \$101,240.54 conveyed to NOAA and ADF&G in FY 05 and \$30,783.56 to ADF&G in FY 06

Motion by Nordstrand, second by Toohey

4. FY 05 Lingerig Oil Proposal

APPROVED MOTION: Motion to acknowledge receipt from the Executive Director of the identity of the contractor, Jacqueline Michel, for the Lingerig Oil project that was approved by the Council in February 2005

Motion by Nordstrand, second by Toohey

Meeting adjourned at 1:55 p.m. Motion by Campbell, second by Meade

**RESOLUTION 05-03 OF THE
EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
REGARDING FUNDS FOR HERRING SYNTHESIS PROJECT**

WHEREAS, at its February 4, 2005 meeting, the Exxon Valdez Oil Spill Trustee Council (Trustee Council) voted unanimously to expend \$50,000 in FY 2005 for a synthesis of existing information concerning Pacific herring in Prince William Sound to ascertain the reason for the decline of that population and directed its staff to solicit proposals for such a synthesis;

WHEREAS the Trustee Council staff issued a request for proposals for such a synthesis, and that request produced no proposals that could be recommended for action by the Trustee Council;

WHEREAS the Trustee Council staff issued a second request for proposals for such a synthesis, which prompted the submission of one or more proposals that could be recommended for action by the Trustee Council;

WHEREAS the costs associated with the implementation of the proposal recommended to the Trustee Council exceed the \$50,000 that the Trustee Council originally agreed to expend for this purpose;

We, the undersigned, duly authorized members of the *Exxon Valdez* Oil Spill Trustee Council, do hereby certify that, in accordance with the Memorandum of Agreement and Consent Decree entered as settlement of United States of America v. State of Alaska, No. A91-081 Civil, U.S. District Court for the District of Alaska, and after public meetings, we have reached unanimous agreement to expend an additional

\$51,240.54 in FY 2005, and \$30,783.56 in FY 2006, from the funds received in settlement of State of Alaska v. Exxon Corporation, et al., No. A91-083 CIV, and United States of America v. Exxon Corporation, et al., No. A91-082 CIV, U.S. District Court for the District of Alaska for the purpose of implementing Project 050794 (Herring Synthesis – Rice/Quinn *et al.*). The monies for this multi year project -- both those that are the subject of Trustee Council Resolution 05-02 and the supplemental funds that are the subject of this Resolution -- are to be distributed according to the following schedule:

FY 2005 Fund Distribution:

Alaska Department of Fish & Game	\$ 28,755.54
SUBTOTAL TO STATE OF ALASKA	\$ 28,755.54
National Oceanic & Atmospheric Administration	\$ 72,485.00
SUBTOTAL TO UNITED STATES OF AMERICA	\$ 72,485.00
TOTAL APPROVED (FY 2005)	\$101,240.54

FY 2006 Fund Distribution:

Alaska Department of Fish & Game	\$ 30,783.56
SUBTOTAL TO STATE OF ALASKA	\$ 30,783.56
National Oceanic & Atmospheric Administration	\$ 0.00
SUBTOTAL TO UNITED STATES OF AMERICA	\$ 0.00
TOTAL APPROVED (FY 2006)	\$30,783.56

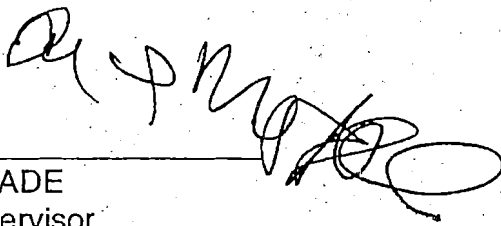
Funds shall be spent in accordance with Attachment A, with the following conditions: (1) If a Principal Investigator (PI) has an overdue report or manuscript from a previous year, no funds may be expended on a project involving the PI unless the

report is submitted or a schedule for submission is approved by the Executive Director;

(2) a project's lead agency must demonstrate to the Executive Director that requirements of the National Environmental Policy Act (NEPA) are met before any project funds may be expended (with the exception of funds spent to prepare NEPA documentation); and (3) a PI for each project must submit a signed form to the Executive Director indicating their agreement to abide by the Trustee Council's data and report requirements before any project funds may be expended.

By unanimous consent, we hereby request the Alaska Department of Law and the Assistant Attorney General of the Environmental and Natural Resources Division of the United States Department of Justice to take such steps as may be necessary to make , \$132,024.10 total funds available for Project 050794 (Herring Synthesis), \$101,240.54 during FY 2005 and \$30,783.56 during FY 2006 from the appropriate account designated by the Executive Director.

Approved by the Trustee Council at its meeting of May 3, 2005 held by teleconference call initiated in Anchorage, Alaska, as affirmed by our signatures affixed below.



JOE L. MEADE
Forest Supervisor
Forest Service Alaska Region
U.S. Department of Agriculture

SCOTT NORDSTRAND
Deputy Attorney General
Alaska Department of Law

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

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

McKIE CAMPBELL
Commissioner
Alaska Department of Fish and Game

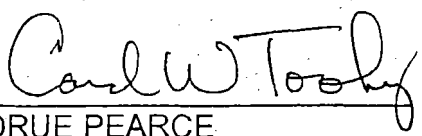
KURT FREDRIKSSON
Acting Commissioner
Alaska Department of Environmental
Conservation

Attachment A (Project Budget – Herring Synthesis)

Approved by the Trustee Council at its meeting of May 3, 2005 held by
teleconference call initiated in Anchorage, Alaska, as affirmed by our signatures affixed
below.

JOE L. MEADE
Forest Supervisor
Forest Service Alaska Region
U.S. Department of Agriculture

SCOTT NORDSTRAND
Deputy Attorney General
Alaska Department of Law

FOR 

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

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

McKIE CAMPBELL
Commissioner
Alaska Department of Fish and Game

KURT FREDRIKSSON
Acting Commissioner
Alaska Department of Environmental
Conservation

Attachment A (Project Budget – Herring Synthesis)

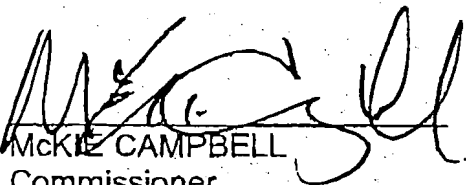
Approved by the Trustee Council at its meeting of May 3, 2005 held by teleconference call initiated in Anchorage, Alaska, as affirmed by our signatures affixed below.

JOE L. MEADE
Forest Supervisor
Forest Service Alaska Region
U.S. Department of Agriculture

SCOTT NORDSTRAND
Deputy Attorney General
Alaska Department of Law

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

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



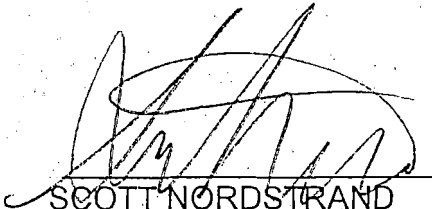
McKIE CAMPBELL
Commissioner
Alaska Department of Fish and Game

KURT FREDRIKSSON
Acting Commissioner
Alaska Department of Environmental
Conservation

Attachment A (Project Budget – Herring Synthesis)

Approved by the Trustee Council at its meeting of May 3, 2005 held by
teleconference call initiated in Anchorage, Alaska, as affirmed by our signatures affixed
below.

JOE L. MEADE
Forest Supervisor
Forest Service Alaska Region
U.S. Department of Agriculture



SCOTT NORDSTRAND
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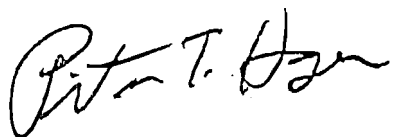
Attachment A (Project Budget – Herring Synthesis)

Approved by the Trustee Council at its meeting of May 3, 2005 held by teleconference call initiated in Anchorage, Alaska, as affirmed by our signatures affixed below.

JOE L. MEADE
Forest Supervisor
Forest Service Alaska Region
U.S. Department of Agriculture

SCOTT NORDSTRAND
Deputy Attorney General
Alaska Department of Law

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


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

McKIE CAMPBELL
Commissioner
Alaska Department of Fish and Game

KURT FREDRIKSSON
Acting Commissioner
Alaska Department of Environmental
Conservation

Attachment A (Project Budget – Herring Synthesis)

Approved by the Trustee Council at its meeting of May 3, 2005 held by
teleconference call initiated in Anchorage, Alaska, as affirmed by our signatures affixed
below.

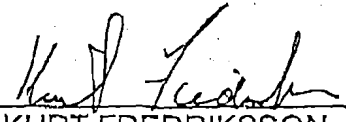
JOE L. MEADE
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National Marine Fisheries Service
U.S. Department of Commerce

McKIE CAMPBELL
Commissioner
Alaska Department of Fish and Game



KURT FREDRIKSSON
~~Acting~~ Commissioner
Alaska Department of Environmental
Conservation

Attachment A (Project Budget – Herring Synthesis)

2005 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET

October 1, 2004 - September 30, 2005

Budget Category:	Proposed FY 2005	Proposed FY 2006	PROPOSED FY 2005 TRUSTEE AGENCIES TOTALS					
			ADEC	ADF&G	ADNR	USFS	DOI	NOAA
				\$28,755.54				\$72,485.00
Personnel	11,058.30	\$1,228.20						
Travel	12,500.00	\$705.00						
Contractual	54,562.18	\$15,675.74						
Commodities	9,484.50	\$4,984.50						
Equipment	0.00	\$0.00	PROPOSED FY 2006 TRUSTEE AGENCIES TOTALS					
Indirect UAF 25%	5,276.25	\$5,648.36						
Subtotal	92,881.23	\$28,241.80		ADF&G				NOAA
General Administration	8,359.31	\$2,541.76		\$30,783.56				\$0.00
Project Total	101,240.54	\$30,783.56						
Full-time Equivalents (FTE)	0.0	0.1						
Other Resources	\$0.0	\$0.0				\$0.0		
Comments:								
Total Project Cost (FY05 + FY06) = \$132,024.10								

FY05

Prepared:

Project Number: 050794
 Project Title: Herring Synthesis
 PI: Rice/Quinn
 Lead Agency: NOAA/ NMFS Auke Bay Lab/ADFG

FORM 2A
 MULTI-TRUSTEE
 AGENCY
 SUMMARY

2005 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET
 October 1, 2004 - September 30, 2005

Budget Category:	Authorized FY 2004	Proposed FY 2005						
Personnel		\$0.00						
Travel		\$12,500.00						
Contractual		\$51,000.00						
Commodities		\$3,000.00						
Equipment		\$0.00						
Subtotal	\$0.0	\$66,500.00	LONG RANGE FUNDING REQUIREMENTS					
General Administration		\$5,985.00						
Project Total	\$0.0	\$72,485.00						
Full-time Equivalents (FTE)		0.0						
Other Resources								
Comments: NOAA in kind services: M. Carls = 1 month A. Moles = 1 month J. Rice = 1 month								

FY05

Project Number: 050794
 Project Title: Herring Synthesis
 PI: Rice
 Agency: NOAA/ NMFS Auke Bay Laboratory

FORM 3A
 TRUSTEE
 AGENCY
 SUMMARY

Prepared:

October 1, 2004 - September 30, 2005

Project Number: 050794
Project Title: Herring Synthesis
PI: Rice
Agency: NOAA/ NMFS Auke Bay Laboratory

FORM 3B
Personnel
& Travel
DETAIL

Rice_250794_FY05-06_Budget.xls

2005 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET

October 1, 2004 - September 30, 2005

Contractual Costs:		Proposed
Description		FY 2006
Gary D. Marty - Report (UC Davis) [objective 4]		8,000.00
JoEllen Hose - Report (Oxidental Univ., CA) [objective 5]		8,000.00
Fritz C. Funk - Report (private contract) [objective 2]	Co- Principal Investigator	10,000.00
Unnamed contract - analysis and report (private contract) [objective 3]		10,000.00
noaa contract labor [support for objective 1]		15,000.00
When a non-trustee organization is used, the form 4A is required.		
Contractual Total		51,000.00
Commodities Costs:		Proposed
Description		FY 2006
Publication costs: \$1K per publication; 3 publications		3,000.00
Commodities Total		3,000.00

FY05

Prepared:

Project Number: 050794
 Project Title: Herring Synthesis
 PI: Rice
 Agency: NOAA/ NMFS Auke Bay Laboratory

FORM 3B
 Contractual &
 Commodities
 DETAIL

October 1, 2004 - September 30, 2005

FY05-06

FORM 3B
Equipment
DETAIL

Rice_050794_FY05-06_Budget.xls

2005 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET
October 1, 2004 - September 30, 2005

Budget Category:	Proposed FY 2005	Proposed FY 2006						
Personnel	11,058.30	1,228.20						
Travel	0.00	705.00						
Contractual	3,562.18	15,675.74						
Commodities	6,484.50	4,984.50						
Equipment	0.00	0.00	LONG RANGE FUNDING REQUIREMENTS					
Subtotal	21,104.98	22,593.44						
Indirect (UAF 25%)	5,276.25	5,648.36						
Project Subtotal	26,381.23	28,241.80						
Agency GA	2,374.31	2,541.76						
Project Total	28,755.54	30,783.56						
FTE	0.0	0.1						
Other Resources								
Comments: Total GA = ADF&G (9%)+ UAF (25%)								

FY05

Project Number: 050794
Project Title: Herring Synthesis
PI: Quinn
Agency: ADF&G - UAF/IMS

FORM 3A
TRUSTEE
AGENCY
SUMMARY

Prepared:

October 1, 2004 - September 30, 2005

<p>FY05</p>	<p>Project Number: 050794 Project Title: Herring Synthesis PI: Quinn Agency: ADF&G - UAF/IMS</p>	<p>FORM 3B Personnel & Travel DETAIL</p>
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Prepared:

Project Number: 050794
Project Title: Herring Synthesis
PI: Quinn
Agency: ADF&G - UAF/IMS

FORM 3B
Personnel
& Travel
DETAIL

2005 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET
 October 1, 2004 - September 30, 2005

Contractual Costs:					Proposed FY 2005
Description					
MS grad students					
Wages	\$12.90/hr	87 hrs/mo	3 mos		3,562.18
Leave Rate		0			
Benefit Rate		0			
When a non-trustee organization is used, the form 4A is required.					
Contractual Total					3,562.18
Commodities Costs:					Proposed FY 2005
Description					
1 laptop computer					2,000.00
Out of state Tuition					4,484.50
Commodities Total					6,484.50

FY05

Prepared:

Project Number: 050794
 Project Title: Herring Synthesis
 PI: Quinn
 Agency: ADF&G - UAF/IMS

FORM 3B
 Contractual &
 Commodities
 DETAIL

October 1, 2004 - September 30, 2005

FY05

Project Number: 050794
Project Title: Herring Synthesis
PI: Quinn
Agency: ADF&G - UAF/IMS

FORM 3B
Equipment
DETAIL

Rice_050794_FY05-06_Budget.xls

October 1, 2004 - September 30, 2005

[illegible]

FY06

Project Number: 050794
Project Title: Herring Synthesis
PI: Quinn
Agency: ADF&G - UAF/IMS

FORM 3B
Personnel
& Travel
DETAIL

Prepared:

2005 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET

October 1, 2004 - September 30, 2005

Contractual Costs:				Proposed
Description				FY 2006
MS grad students				
Wages	\$12.90/hr	174 hrs/mo	9mos	15,175.74
Leave Rate		0		
Benefit Rate 8.7%				
computer repair				500.00
When a non-trustee organization is used, the form 4A is required.				
Contractual Total				15,675.74
Commodities Costs:				Proposed
Description				FY 2006
project related supplies				500.00
Out of state Tuition				4,484.50
Commodities Total				4,984.50

FY06

Project Number: 050794
 Project Title: Herring Synthesis
 PI: Quinn
 Agency: ADF&G - UAF/IMS

FORM 3B
 Contractual &
 Commodities
 DETAIL

Prepared:

2005 EXXON VALDEZ TANKER TRAGEDY COUNCIL PROJECT BUDGET

October 1, 2004 - September 30, 2005

New Equipment Purchases:		Number of Units	Unit Price	Proposed FY 2006
Description				
				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:		Number of Units	Inventory Agency	
Description				

FY06

Project Number: 050794
Project Title: Herring Synthesis
PI: Quinn
Agency: ADF&G - UAF/IMS

FORM 3B
Equipment
DETAIL

Prepared:

PROPOSAL SIGNATURE FORM

THIS FORM MUST BE SIGNED BY THE PROPOSED PRINCIPAL INVESTIGATOR AND SUBMITTED ALONG WITH THE PROPOSAL. If the proposal has more than one investigator, this form must be signed by at least one of the investigators and that investigator will ensure that Trustee Council requirements are followed. Proposals will not be reviewed until this signed form is received by the Trustee Council Office.

By submission of this proposal, I agree to abide by the Trustee Council's data policy

(*Trustee Council Data Policy**, adopted July 9, 2002) and reporting requirements

(*Procedures for the Preparation and Distribution of Reports***, adopted July 9, 2002).

PROJECT TITLE: **PWS Herring populations: updated synthesis on the causes and lack of recovery**

Printed Name of PI: Dr. Stanley D. Rice, NOAA

Signature of PI: _____ Date _____

Printed Name of co-PI: Dr. Terry Quinn, UAF

Signature of co-PI: _____ Date _____

Printed Name of co-PI: Fritz Funk

Signature of co-PI: _____ Date _____

* Available at <http://www.evostc.state.ak.us/pdf/admin/datapolicy.pdf>

** Available at <http://www.evostc.state.ak.us/pdf/admin/reportguidelines.pdf>



SFOG 05/193



University of Alaska Fairbanks Proposal

TO: Dr. Richard Dworsky, Science Coordinator
 Exxon Valdez Oil Spill Trustee Council
 441 West 5th Avenue, Suite 500
 Anchorage, AK 99501
 907-275-8012 phone/907-275-7178 fax

FROM: Fisheries Division
 School of Fisheries and Ocean Sciences
 University of Alaska Fairbanks
 Fairbanks, AK 99775-7220

CONTACT: Grant and Contract Services, PO Box 757880,
 100 Administrative Services Center, Fairbanks, AK
 99775-7580

TITLE: PWS Herring populations: updated synthesis on the
 collapse and lack of recovery

PRINCIPAL INVESTIGATOR: Terrance Quinn II

NEW/CONTINUATION: New

DURATION: 1 Year

PROPOSED START DATE: May 1, 2005

AMOUNT REQUESTED: \$54,625

Terrance Quinn II

4/15/05

Terrance Quinn II
 Principal Investigator
 907-465-6389
 Terry.Quinn@ua.edu

/Date

William W. Smoker

William W. Smoker
 Director
 Fisheries Division

/Date

Denis Wiesenburg

4/20/05

Denis Wiesenburg
 Dean
 School of Fisheries and Ocean Sciences

/Date

John Blake

John Blake
 Interim Director
 Office of Sponsored Programs

/Date

April 2005

Trustee Council Use Only																
Project No:	<u>050794</u>															
Date Received:	_____															
PROPOSAL SUMMARY PAGE (To be filled in by proposer)																
Project Title:	Prince William Sound Herring: An updated synthesis of the population declines and lack of recovery															
Project Period:	May 1, 2005 through September 30, 2006 (FY 05 and FY 06)															
Proposer(s):	Stanley Rice, Auke Bay Laboratory, 11305 Glacier Highway, Juneau Ak 99801 jeep.rice@noaa.gov Terry Quinn, UAF Fritz Funk															
Project Location:	Synthesis; no field work, but populations from Alaska to California will be used.															
Abstract:	This project will update the synthesis by Carls et al. (2002), from an oil/herring interaction perspective, but also from the perspective of "uniqueness". Are the PWS herring unique in their population collapse and lack of recovery? This synthesis will conduct comparison population dynamics modeling of PWS and Alaska herring stocks, as well as other stocks throughout the West Coast, including some stressed stocks. Disease information will be updated, and will include 2 years of data not previously published. The synthesis will focus on uniqueness of the PWS herring stocks (or not) relative to oil, disease, recruitment success, and will also examine the ability of the stock to be resilient through genetic diversity. The potential of different restoration or mitigation strategies will be investigated.															
Funding:	<table> <tr> <td>EVOS Funding Requested:</td> <td>FY 05</td> <td>\$ 101,240.54</td> </tr> <tr> <td></td> <td>FY 06</td> <td>\$ 30,783.56</td> </tr> <tr> <td colspan="2">(must include 9%GA)</td> <td></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: right;">TOTAL: \$ 132,024.10</td> </tr> <tr> <td colspan="3">Non-EVOS Funds to be Used: FY 05 \$</td> </tr> </table>	EVOS Funding Requested:	FY 05	\$ 101,240.54		FY 06	\$ 30,783.56	(must include 9%GA)					TOTAL: \$ 132,024.10	Non-EVOS Funds to be Used: FY 05 \$		
EVOS Funding Requested:	FY 05	\$ 101,240.54														
	FY 06	\$ 30,783.56														
(must include 9%GA)																
		TOTAL: \$ 132,024.10														
Non-EVOS Funds to be Used: FY 05 \$																
TOTAL:	\$132,024.10															
Date:	14 April 2005															

PROJECT PLAN

I. NEED FOR THE PROJECT

A. Statement of Problem

PWS Pacific Herring populations remain depressed, and may be unique in remaining vulnerable to disease and demonstrating a general lack of recovery for the past 15 years. This stock is not behaving in concert with other Alaskan populations. A previous synthesis suggested oil related effects contributed to the poor recruitment of the 1989 year class, and that disease was a major contributing factor to the 1993 stock collapse (Carls et al. 2002). The PWS stock continues to show poor recovery, and continues to be out of sync with other stocks. This synthesis would take a holistic population dynamics modeling approach to see just how unique this population trend is, and to look at possible causes for the continuing trends.

B. Relevance to the RFP

This project will directly examine hypotheses advanced to address the dramatic changes in the size of the Prince William Sound herring stock, and why the stock has not recovered. We will particularly address the question of the underlying variability in the frequency of stock recruitment to assess what role oil might have played in reducing the herring populations in the years following the spill, what factors account for the continued depression of the stocks, and what, if any, restoration strategies would allow the populations to return to historical levels.

II. PROJECT DESIGN

A. Objectives

This project will depend on 5 primary products that will form the foundation of the synthesis (Objectives 1 to 5). We are confident that three of these are publishable in the scientific literature (Obj. 2, 3, 4), and the other three of the other four have a high probability of publication as well. To meet the objectives of the Trustees, a preliminary synthesis will be conducted via a progress meeting in Oct 05 (to review progress and determine preliminary conclusions), and a final meeting about late February 06 to establish and review our final conclusions in preparation of the synthesis.

Organizing Hypothesis: PWS herring are unique in their depressed state and lack of recovery

Phase I: Production of 5 foundation pieces of review

Objective 1.

Review oil effects literature relative to herring and update the previous synthesis (Carls et al. 2002). The new pieces of relevant literature from PWS or other contaminated environments (including laboratory) would be reviewed. The conclusions relative to oil and herring interactions would be reviewed to determine if the conclusion warrant changes.

Lead: Mark Carls

Objective 2.

Update the time series population dynamics analyses of the PWS stock, other comparative Alaskan stocks, and stocks further down the coast. This effort would extend the analyses of Williams and Quinn 2000 a & b with population data up through 2004. Recruitment success, average weight at age, and population trends will be examined, where data are available. This will address the question of just how unique the lack of recruitment is in the PWS stock.

For the preliminary conclusions, due in Oct, only the existing stock data in Alaska would be used (e.g. PWS, Sitka). This would be primarily a temporal extension (update) of the Williams and Quinn papers. For the synthesis, geographical extensions would be attempted where data are available, such as stressed Cherry Point, Washington and San Francisco Bay, California stocks. This would be a valuable contribution to the literature.

Lead: Terry Quinn/ Fritz Funk, with graduate student help

Objective. 3.

Life history approach as causative factors affecting herring recruitment. Data from Norcross and Brown (2001) will be examined, updated, and entered into a sensitivity model. The goal would be to assess the relative contributions of various ecological factors operating at each life stage on herring recruitment in Prince William Sound.

Lead: Contractor (To be determined)/Quinn

Objective 4.

Re-evaluate disease as a limiting factor in herring recruitment in Prince William Sound. This effort would update the Marty et al. 2003 paper that modeled PWS herring population data with disease prevalence through 2000. Additional disease data were gathered through 2002 and stock assessment data are available through 2004, but an updated model has not been published. The significance of VHSV and Ichthyophonus would be discussed. .

Lead: Gary Marty (contract)

Objective 5.

Genetic bottleneck theory evaluation: Because of over fishing in the early 20th century coupled with possible genetic isolation of the PWS stock, PWS herring may exhibit unusually low genetic diversity to cope with the sudden stressors of the oil spill and the subsequent disease challenges. This effort would examine the theory whether this might be the case for PWS herring and would review the information available on genetic diversity in PWS compared to any other stock with genetic information. Is there any support for this theory, or not? If the data are not available, what would it take experimentally to acquire the information?

Lead: Jo Ellen Hose (contract)

Objective 6.

Preliminary conclusions, Oct 2005. Progress on the component parts would be reviewed, along with the various lines of inquiry. Contribution of oil and other factors would be evaluated, through a meeting of the lead researchers.

Lead: Stanley Rice

Objective 7.

Final synthesis, Feb/Mar 2006. In a meeting with the lead researchers, the contributions of various factors would be examined, and final conclusions would be reached. Progress on the 5 foundation objectives will be mostly complete at that time. In addition, an evaluation of restoration strategies and definitions would be conducted, in preparation for the final report.

Lead: Mark Carls

B/C. Procedural, Scientific, and Statistical Methods

Objective 1. A literature search found 8 papers that examined the effects of crude oil on herring that were not available when the initial evaluation of toxicological effects of the Exxon Valdez oil spill on Prince William Sound herring synthesis was published in 2002. Several of these papers were done using Puget Sound stocks of herring. The Carls et al. (2002) paper will be re-evaluated in light of subsequent findings and a summary of the best current scientific information on the effects of the Exxon Valdez oil spill on Prince William Sound herring will be produced. It will directly address the question of whether fluctuations in PWS herring stocks can be attributed either directly or indirectly to oil effects. The synthesis conducted by Pearson et al. 1999 that conflicts with some EVOS papers will be re-evaluated.

Objective 2. Modeling of historical geographical and time series data on PWS and other stocks will be conducted, based in part on the Williams and Quinn (2000a) paper.

Williams and Quinn (2000a) constructed long time series of Pacific herring recruitment and average weight-at-age from the Bering Sea and Northeast Pacific Ocean. The available herring data span seven decades until 1993 and two fishery types. Catch-age composition and weight-at-age from the reduction fishery (for meal and oil) were available from years 1920-1966 for populations in Kodiak, Prince William Sound, and Southeast Alaska (Reid 1971). Inclusion of the reduction fishery data was undertaken to extend the time series backward in time. To obtain recruitment and spawning biomass estimates for the reduction fisheries, the age composition data were analyzed using cohort analysis (Quinn and Deriso 1999).

Modern sac-roe fishery data were used thereafter. Recruitment and spawning biomass estimates were obtained from age-structured analyses constructed by ADF&G and DFO assessment scientists for populations shown in Table 1 (the main herring stocks in Alaska and British Columbia. Recruitment estimates are for age 3 fish for all the populations except for Togiak, which are for age 4 fish. Weight-at-age data span ages 3-8 for each herring population and date back to the 1920's. Individual whole fish weights from the reduction and sac-roe fisheries were sampled during pre- and post-spawning times.

Temporal and spatial relationships of Pacific herring populations were determined through correlation and multivariate analyses. Correlation analysis was used to measure the association between two random variables. Multivariate clustering analyses were used to determine interrelationships of herring populations based on their recruitment and weight-at-age time series. Multidimensional scaling (MDS) was used for dimension reduction of multivariate data. Lastly, a divisive hierarchical clustering method was applied to the Pacific herring data.

In Williams and Quinn (2000b), the historical time series were correlated with environmental data. Candidate models for forecasting herring recruitment were selected by the ordinary and

recent cross-validation prediction errors. Results indicated that forecasting models using air and sea surface temperature data lagged to the year of spawning generally produced the best forecasting models. Multiple environmental variables showed marked improvements in prediction compared single environmental variable models.

We propose to update the study of Williams and Quinn (2000a) to include more recent data from 1994 and later. This should be a straightforward exercise in obtaining recent stock assessment data and finding the time points at which they can be joined to the previously reconstructed series. If there is not a good correspondence for some series, it may be necessary to rerun the cohort analysis to obtain updated historical information. Depending on the consistency of the results, it may be desirable to reexamine the correlations with environmental variables, as in Williams and Quinn (2000b). This will depend on the ease with which environmental time series can be updated.

Secondly we propose to extend the geographic coverage of herring to include populations in BC, Washington and California. This will necessarily involve travel to those areas to meet with assessment scientists, in order to determine if it is feasible to include Cherry Point in Washington and San Francisco Bay in California.

Table 1. Populations of Pacific herring studied in Williams and Quinn (2000a).

NOR	Norton Sound
TOG	Togiak
KOD	Kodiak/Kamishak Bay
PWS	Prince William Sound
SEY	Seymour Canal
SIT	Sitka
SEAK	Southeast
CRG	Craig
KAH	Kah-Shakes
PR	Prince Rupert
QCI	Queen Charlotte Islands
CC	Central Coast
VCI	W. Vancouver Island
SOG	Strait of Georgia

Objective 3

Survival of Pacific herring may be affected at various life history stages. Stages that have been identified as particularly vulnerable are spawning, egg, larvae, juveniles in fall, juveniles over winter, and age -4 spawners. Of these, only the last adult stage is affected by the fisheries. Norcross and Brown (2001) used literature to that date to extract stage-specific estimates of survival of Pacific herring from spawning through age-0 in Prince William Sound (PWS),

Alaska. From those estimates they calculated potential cumulative upper and lower limits of survival through the first year of juvenile life. Cumulating these stage-specific survival estimates yielded a range in survival estimates of 1 – 6,500 juveniles per 1 million eggs, i.e., three orders of magnitude. This compilation identified the late larval and early juvenile stages as having the lowest survival estimates. Furthermore, the wide range of survival estimates for the winter juveniles was related to specific nursery areas.

The Norcross and Brown (2001) review calculated only the extremes of survival at each life stage based on the best and worst case estimates, however any combination of survival estimates for each life stage is possible. Factors that were identified to affect survival of herring are numbers of adults, waves, currents, predation, food, temperature, and disease. Their modeling effort cannot be used to “predict” survival, but it does suggest a mechanism to examine long-term trends in year-class strength. The precision of estimated survival produced by Norcross and Brown (2001) is not meaningful for management, but with refinement could provide estimates of increasing or decreasing trends of herring year classes 2 –3 years before they enter the fishery.

Objective 3 of this proposal is to use the previous life-stage approach with refinements of variability of effects of factors and more sophisticated modeling approaches. These refinements will be examined in a sensitivity model. The sensitivity model will allow the influence of individual factors to be examined separately and in conjunction with other factors. The sensitivity model itself will be a tool to identify the relative strength of influence of each factor on the survival of herring. We also expect the sensitivity model to contribute knowledge about the interaction of factors, e.g., high waves negatively affect survival of eggs and warm winter temperatures negatively affect the over-winter survival of juveniles. The result will not be a predictive model, but it will integrate knowledge gained over the course of previous EVOS-funded research. The results of this assessment will then be included with those from the other objectives of the proposals in the overall synthesis.

Objective 4. Age-structured assessment of Prince William Sound herring

Quinn et al. (2001) and Marty et al. (2003) developed age-structured assessment models for Prince William Sound that included disease information for modeling survival of adults. Subsequently, ADF&G has used this methodology in its annual assessment of herring in 2004 (S. Moffitt, ADF&G, personal communication). Recent work by Marty and Quinn (assisted by S. Miller, SFOS graduate student) has resulted in the development of age-structured prevalence indices of two disease sources, VHSV and Ichthyophonus, for inclusion into the model. Preliminary results suggest that VHSV has its strongest effect at younger ages (under age 5), while Ichthyophonus has its largest effect on older ages (ages 5 and above). Furthermore, it appears that VHSV played a major role in mortality during 1992-1993 and 1997-1998, but that Ichthyophonus may play a role in keeping the population low during the 2000's.

A standard version of an age-structured assessment model (Quinn and Deriso 1999, section 8.2.5) was modified to evaluate the impact of disease on population abundance. The basic model provides an estimation framework to integrate the various sources of information about Pacific herring in Prince William Sound from 1980 – 2000, including age compositions from the purse-seine fishery and spawning surveys, egg production estimates, and mile-days of milt from aerial surveys (Quinn et al. 2001, Marty et al. 2003). These observations are compared to comparable

model quantities in a least squares setting to obtain parameter estimates of recruitment, abundance, and biomass.

The major assumption is that disease increases the natural mortality M for all adult ages (ages 3 and older), or equivalently, that disease lowers the corresponding natural survival S . For simplicity, S_t in year t is assumed to decrease linearly as a function of disease prevalence variables $\{x_{it}\}$, where natural survival S_0 from sources other than disease is constant.

The age-structured assessment model contains information about the fisheries on PWS herring, which include purse-seine, gillnet, and pound fisheries in the spring (mainly for roe), and a food and bait fishery in the summer and fall. Recruitment occurs at age 3 and there are parameters for recruit abundance, $\{N_{3,t}\}$, for all years (and for all abundances in the first year, 1980). From these parameters and the survival model (1), abundance at each subsequent age and year is estimated.

We propose to use this model as the basis of intuiting the principal factors affecting PWS herring dynamics. Recruitment estimates at age 3 will be related to auxiliary variables related to disease, the environment, and spawning stock. Factors thought to be important in the dynamics will be examined in conjunction with model outputs of abundance and survival for consistency. Finally the model will be perturbed as needed to determine whether particular factors have a major effect on herring population statistics. For example, it is a simple matter to use the model as a simulation framework, in which alternative harvest and recruitment scenarios are developed. An example of a question to be addressed would be: If the fishery had not been reopened for two years in 1997 and 1998, would the population have rebounded more so than what really occurred

Objective 5. Genetic diversity will be examined using available information from Alaska and other west coast stocks. The expectation is that the data available are limited in volume and in comparable methods. Particular attention will be paid to the genetic methods used, as the methods used have recently evolved in the last decade, probably after most of the genetic diversity information has been gathered. If enough data are available, conclusions can be drawn. If data volume and quality are not available, then this sub-project will detail out a scientific plan and cost that it would take so that this concept can be evaluated.

D. Description of Project Area

This is a synthesis with no field work, but the population data used will include most Alaskan stocks and will likely include stocks as far south as San Francisco Bay if the quality of the data are good enough. Stocks to be studied will depend on the available data but will probably include those in Table 1 as well as the Cherry Point stock in Washington and San Francisco Bay stock.

E. Coordination and Collaboration with Other Efforts (If available)

This project is dependent on the coordination and collaboration of an expert team. Dr. Stanley Rice will lead the team as project manager, but will need the contributions of several experts on the work team to accomplish the tasks. Dr. Adam Moles and Mark Carls from ABL will interact with the other experts on oil related issues, track the project, and review portions of the various products.

Drs. Quinn and Funk will lead the modeling efforts. They will rely on the active participation of a graduate student, working under Dr. Quinn's guidance. Dr. Funk will spearhead the acquisition of various data sets with his contacts in Alaska, British Columbia, Washington and California. He will participate in some of the analyses.

Dr. Gary Marty (contract) will have the lead on various disease issues, including the leading of one critical updating paper as one of the four fundamental products.

Dr. Jo Ellen Hose (contract) will have the lead on reviewing genetic data and evaluating the "genetic bottleneck theory" and determining if PWS stock is uniquely narrow in genetic variability.

As we proceed through the various efforts, other collaborators and reviewers may be used. We will have independent peer review, including the invitation of 2-3 outside scientists at two review meetings (one for preliminary conclusions in Oct 05, and in Feb 06).

References

- Carls, M.G., G.D. Marty, and J.E. Hose. 2002. Synthesis of the toxicological impacts of the Exxon Valdez oil spill on Pacific herring (*Clupea pallasii*) in Prince William Sound, Alaska, U.S.A. *Can. J. Fish. Aquat. Sci.* 59: 153-172.
- Marty, G.D., Quinn, T.J., II, Carpenter, G., Meyers, T.R., and Willits, N.H. 2003. Role of disease in abundance of a Pacific herring (*Clupea pallasii*) population. *Can. J. Fish. Aquat. Sci.* 60: 1258-1265.
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- Quinn, T.J., II, Marty, G.D., Wilcock, J., and Willette, M. 2001. Disease and population assessment of Pacific herring in Prince William Sound, Alaska. In *Herring: Expectations for a new millennium*. Edited by F. Funk, J. Blackburn, D. Hay, A.J. Paul, R. Stephenson, R. Toreson and D. Witherell. University of Alaska Sea Grant, AK-SG-01-04, Fairbanks. pp. 363-379.
- Quinn, T.J., II, and Deriso, R.B. 1999. *Quantitative Fish Dynamics*. Oxford Univ. Press, New York, 542 pp.
- Reid, G.M. 1971. Age composition, weight, length, and sex of herring, *Clupea pallasii*, used for reduction in Alaska, 1929-66. NOAA Technical Report, NMFS, SSRF 634, 25 pp.
- Williams, E.H., and Quinn, T.J., II. 2000a. Pacific herring, *Clupea pallasii*, recruitment in the Bering Sea and Northeast Pacific Ocean, II: Relationships to environmental variables and implications for forecasting. *Fish. Ocean.* 9: 300-315.
- Williams, E.H., and Quinn, T.J., II. 2000b. Pacific herring, *Clupea pallasii*, recruitment in the Bering Sea and Northeast Pacific Ocean: I. Relationships among different populations. *Fish. Ocean.* 9: 285-299.

III. SCHEDULE

March 25, 2005	RFP issued
April 22, 2005	Proposals due
April 22 - 29, 2005	Peer review, STAC and PAC review conducted
May 2, 2005	Proposal selected and notified
August 2005 - April 2006	Quarterly reports due
October 24, 2005	Semi-annual report and preliminary conclusions
February 20, 2006	Preliminary draft report
March, 2006	Peer Review
1 May, 2006	Final Report

A. Project Milestones

June 1, 2005: All contracts issued

August 2005: Complete initial assessment of data

October 2005: Project team meeting; Complete first cut of data analysis, review progress and problems, and generate preliminary report on conclusions

Feb 1, 2006. Project team meeting; review progress and problems, discuss competing hypotheses, discuss restoration strategies, draft final conclusions.

March 1, 2006. Submit draft final report for review.

May 1, 2006: Complete final report

B. Completion Date

Final Report will be submitted May 1, 2006

Publications and Reports

Final Report

3 Peer-reviewed Manuscripts submitted as part of the final report, will be published.

CURRICULUM VITAE

Stanley D. Rice

Manager for Habitat and Exxon Valdez Oil Spill Programs
Auke Bay Fisheries Laboratory, Alaska Fisheries Science Center
National Oceanic and Atmospheric Administration
Juneau AK 99801
Ph. 907-789-6020
FAX 907-789-6094
E-mail: Jeep.Rice@noaa.gov

EDUCATION

Ph.D., Toxicology and Comparative Physiology, 1971, Kent State University
M.S., Biology, 1968, California State University Chico
B.A., Biology, 1966, California State University Chico

EXPERIENCE

1987- Program Manager, Habitat and Oil Spill Programs
 NOAA, AFSC, Auke Bay Laboratory
1971-1986 Physiologist
 NOAA, AFSC, Auke Bay Laboratory

Over 127 peer reviewed publications; over 100 in toxicology.

Herring Articles

- Peterson, C. H., S. D. Rice, J. W. Short, D. Esler, J. L. Bodkin, B. E. Ballachey, and D. B. Irons. 2003. Long-term ecosystem response to the Exxon Valdez oil spill. *Science* 302: 2082-2086.
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- Rice, S.D., M.M. Babcock, C.C. Brodersen, J.A. Gharrett, and S. Korn. 1987. Uptake and depuration of aromatic hydrocarbons by reproductively ripe pacific herring and the subsequent effect of residues on egg hatching and survival. *In Pollution and Physiology of Estuarine Organisms* (Edited by W.B. Vernberg, A. Calabrese, F.P. Thurberg, and F.J. Vernberg), pp. 139-154. *Belle W. Baruch Libr. Mar. Sci.* 17, University of South Carolina Press, Columbia.

Collaborators: Malin Babcock, Mark Carls, Pat Harris, Ron Heintz, Larry Holland, Marie Larsen, Margo Lindeberg, Jacek Maseko, Jerome Pella and Jeffrey Short: NOAA
Mace Barron (EPA), Brenda Ballachey, James Bodkin, Gail Irvine (USGS), J. Cusick (NPS), David Irons (USFWS)
Daniel Esler (Simon Fraser), Gary Marty, Diane Naydan (UC Davis), Charles Peterson (UNC Chapel Hill), Robert Thomas (CSU Chico), William Driskell, Michael Lilly, and James Payne (private contractors)

Curriculum Vitae

Terrance J. Quinn II

Professor of Fish Population Dynamics

Juneau Center, School of Fisheries and Ocean Sciences

University of Alaska Fairbanks

Juneau AK 99801-8677

Ph. 907-465-5389

FAX 907-465-8461

E-mail: Terry.Quinn@uaf.edu

Birthdate: October 27, 1952

EDUCATION

Ph.D., Biomathematics, 1980, University of Washington, Seattle WA

M.S., Fisheries, 1977, University of Washington, Seattle WA

B.A., Mathematics, 1973, University of Colorado, Boulder CO

EXPERIENCE

- 1998- Professor of Fish Population Dynamics, Juneau Center, School of Fisheries and Ocean Sciences, University of Alaska Fairbanks
- 1985-1997 Associate Professor of Fish Population Dynamics, Juneau Center, School of Fisheries and Ocean Sciences, University of Alaska Fairbanks
- 1978-1985 Biometrician, International Pacific Halibut Commission

Books

- Funk, F., T.J. Quinn II, J. Heifetz, J.N. Ianelli, J.E. Powers, J.F. Schweigert, P.J. Sullivan, and C.-I. Zhang (editors). 1998. Fishery Stock Assessment Models. Proc. Symp. Fishery Stock Assess. Models 21st Cent. Alaska Sea Grant College Program, Fairbanks AK, AK-SG-98-01. 1054 p.
- National Research Council. 1998a. Improving Fish Stock Assessments. National Academy Press, Washington DC. 177 p. (co-chair and co-author)
- National Research Council. 1998b. Review of Northeast Fishery Stock Assessments. National Academy Press, Washington DC. 128 p. (chair and co-author)
- Quinn, T.J., II, and R.B. Deriso. 1999. Quantitative Fish Dynamics. Oxford University Press, New York. 542 pp.

Herring Articles

- Marty, G.D., Quinn, T.J., II, Carpenter, G., Meyers, T.R., and Willits, N.H. 2003. Role of disease in abundance of a Pacific herring population. Can. J. Fish. Aquat. Sci. 60: 1258-1265.
- Quinn, T.J., II, Marty, G.D., Wilcock, J., and Willette, M. 2001. Disease and population assessment of Pacific herring in Prince William Sound, Alaska. University of Alaska Sea Grant, AK-SG-01-04, Fairbanks. pp. 363-379.
- Rooper, C.N., Haldorson, L.J., and Quinn, T.J., II. 1998. An egg-loss correction for estimating spawning biomass of Pacific herring in Prince William Sound, Alaska. Alaska Fishery Research Bulletin 5: 137-142.
- Rooper, C.N., Haldorson, L.J., and Quinn, T.J., II. 1999. Habitat factors controlling Pacific herring (*Clupea pallasii*) egg loss in Prince William Sound, Alaska. Canadian Journal of Fisheries and Aquatic Sciences 56: 1113-1142.
- Williams, E.H., and Quinn, T.J., II. 1997. Age-structured analysis of Pacific herring from Norton Sound, Alaska. Alaska Fish. Res. Bull. 4: 87-109.
- Williams, E.H., and Quinn, T.J., II. 1998. A parametric bootstrap of catch-age compositions using the Dirichlet distribution. Proc. Fishery Stock Assess. Models 21st Century, AK Sea Grant College Program, Fairbanks, AK: 371-384.
- Williams, E.H., and Quinn, T.J., II. 2000a. Pacific herring, *Clupea pallasii*, recruitment in the Bering Sea and Northeast Pacific Ocean: I. Relationships among different populations. Fisheries Oceanography 9: 285-299.
- Williams, E.H., and Quinn, T.J., II. 2000b. Pacific herring, *Clupea pallasii*, recruitment in the Bering Sea and Northeast Pacific Ocean: I. Relationships to environmental variables and implications for forecasting. Fisheries Oceanography 9: 300-315.

Collaborators : Ram Myers, Paul Fanning, Robert Mohn, Paul Radomski, Jim Bence, Richard Deriso, Hal Geiger, Clive Turnbull, Vidar Wespestad, Gordon Kruse, John Calambokidis, Chris Gabriele, Jan Straley, Sally Mizroch, Joe Niebauer, Steve Hare, Paul Spencer, Jeremy Collie, Jim Ianelli, Martin Dorn, Anne Hollowed, Richard Marasco, Reg Watson, Fritz Funk, Lewis Haldorson, William Smoker, Gary Marty, John Wilcock, Lev Zhivotovsky, Tony Gharrett, Doug McBride, Peggy Merritt, Richard Gates, Jeff Fujioka, Ben van Alen, Pat Livingston, Graeme Parks, Milo Adkison, Robert Small, Carl Safina, Andy Rosenberg, Steve Moffitt

Students

Bonita Nelson, Jack Turnock, Scott Johnson, Bob Lafferty, Scott MacPherson, Nicole Szarzi, Robert Marshall, Lowell Fair, Daniel Bosch, Edgar Jones, Jon Heifetz, Peter Hagen, Randy Ericksen, Lewis Coggins, Erik Williams, Caihong Fu, Matthew Foster, Dana Hanselman, James Savereide, Brian Battaile, Colin Schmitz, Ben Williams, Briana Witteveen. (Not chaired but significant involvement: Jie Zheng, Mike Sigler, Peggy Merritt, Ed Farley, Chris Rooper, Michio Fukushima, William Templin)

Curriculum Vitae

Frederick C. (Fritz) Funk

Consultant

6017 Sunset Street

Juneau AK 99801

Ph. 907-780-4261

E-mail: fritzf@alaska.net

Birthdate: December 31, 1952

EDUCATION

M.S., Fisheries, 1982, University of Washington, Seattle WA

B.A., Zoology, 1975, University of Wisconsin, Madison WI

EXPERIENCE

1980-2003 Statewide Supervisory Herring Biologist
Commercial Fisheries Division, Alaska Dept. of Fish and Game
Juneau, Alaska

Professional Organizations: American Statistical Association
American Fisheries Society (Associate Editor, North American Journal of Fisheries Management (1998-2001))

Research Interests: Fishery stock assessment models and harvest policy, remote sensing applications for fisheries management, Pacific herring biology, ecology and fisheries.

SELECTED PUBLICATIONS

- Funk, F. C., L.C. Byrne, and W. Pichel. 2001. Satellite Radar applications to Alaskan crab fisheries. Crabs in Cold Water Regions. 19th Lowell Wakefield Symposium, Alaska Sea Grant, January 17-20, 2001.
- Funk, F. J., Blackburn, D. Hay, A.J. Paul, R. Stephenson, R. Toreson, and D. Witherell (eds.). Herring: Expectations for a new millennium. University of Alaska Sea Grant, AK-SG-01-04, Fairbanks, Alaska. 800 pp.
- Kruse, G.H., L.C. Byrne, F.C. Funk, S.C. Matulich, and J. Zheng. 2000. Analysis of minimum size limit for the red king crab fishery in Bristol Bay, Alaska. North American Journal of Fisheries Management 20: 307-319.
- Funk, F., T. J. Quinn II, J. Heifetz, J. N. Ianelli, J. E. Powers, J. F. Schweigert, P. J. Sullivan, and C.-I. Zhang. (Eds.) 1998. Fishery Stock Assessment Models. Proceedings of the International Symposium on Fishery Stock Assessment Models for the 21st Century. Alaska Sea Grant Program Report No. 98-01. University of Alaska, Fairbanks. 1037 pp.
- Funk, F. and K. A. Rowell. 1996. Population model suggests new threshold for managing Alaska's Togiak fishery for Pacific herring in Bristol Bay. Alaska Fishery Research Bulletin 2(2):125-136.
- Funk, F., G.A. Borstad, and S.A. Akenhead. 1995. Imaging spectrometer detects and measures the surface area of Pacific herring schools in the Bering Sea. Pp 833-843 in: Proceedings of the third thematic conference on remote sensing for marine and coastal environments, 18-20 Sept. 1995, Seattle, Vol. II. Environmental Research Institute of Michigan, Ann Arbor.
- Zheng, J., F.C. Funk, G.H. Kruse, and R. Fagen. 1993. Evaluation of threshold management strategies for Pacific herring in Alaska. p 141-166 in: G. Kruse, D.M. Eggers, R. J. Marasco, C. Pautzke, and T.J. Quinn II (eds.): Proceedings of the International Symposium on Management Strategies for Exploited Fish Populations. Alaska Sea Grant College Program Report No. 92-02, University of Alaska, Fairbanks.

Curriculum Vitae

Mark G. Carls

National Marine Fisheries Service, Auke Bay Laboratory email: mark.carls@noaa.gov
11305 Glacier Highway Phone: (907) 789-6019
Juneau, AK 99801 FAX: (907) 789-6094

Education

M.Sc., 1978, biological oceanography, Dalhousie University, Halifax, Nova Scotia.
B.A., 1975, biology, Gustavus Adolphus College, St. Peter, Minnesota.

Professional Experience

Fisheries Biologist, 1979-present, Auke Bay Laboratory.

Principal Investigator for Exxon Valdez Oil Spill Trustee Council

- Pink salmon habitat & toxicity
- Herring Synthesis
- Mussel Beds
- Herring toxicity & field research

Served as a member of a Biological Review Team; status of Pacific herring in Puget Sound, Washington.

Recent Publications (lead author only)

- Carls, M.G., S.D. Rice, G.D. Marty, and D.K. Naydan. 2004. Pink salmon spawning habitat is recovering a decade after the *Exxon Valdez* oil spill. *Trans Am Fish Soc* 133:834-844.
- Carls MG, Thedinga JF, Thomas RE. 2004. Observer classification of live, mechanically damaged, and dead pink salmon eggs. *Trans Am Fish Soc* 133:245-251.
- Carls, M.G., L.G. Holland, J.W. Short, R. A. Heintz, and S. D. Rice. 2004. Monitoring polynuclear aromatic hydrocarbons in aqueous environments with passive low-density polyethylene membrane devices. *Environ Toxicol Chem* 23:1416-1424.
- Carls, M.G., Thomas, R.E. Rice, S.D. 2003. Mechanism for transport of oil-contaminated water into pink salmon redds. *Mar. Ecol. Prog. Ser.* 248:245-255.
- Carls, M.G., G.D. Marty, J.E. Hose. 2002. Synthesis of the toxicological impacts of the *Exxon Valdez* oil spill on Pacific herring (*Clupea pallasii*) in Prince William Sound, Alaska, U.S.A. *Can. J. Fish. Aquat. Sci.* 59:1-20.
- Carls, M.G., M.M. Babcock, P.M. Harris, G.V. Irvine, J.A. Cusick, and S.D. Rice. 2001. Persistence of Oiling in Mussel Beds after the *Exxon Valdez* Oil Spill. *Marine Environmental Research* 51:167-190.
- Carls, M. G., J. E. Hose, R. E. Thomas, and S.D. Rice. 2000. Exposure of Pacific herring to weathered crude oil: assessing effects on ova. *Environ. Toxicol. Chem.* 19:1649-1659.
- Carls, M. G., S. D. Rice, and J. E. Hose. 1999. Sensitivity of fish embryos to weathered crude oil: Part 1. Low level exposure during incubation causes malformations and genetic damage in larval Pacific herring (*Clupea pallasii*). *Environmental Toxicology and Chemistry* 18:481-493

Other Personnel:

Dr. Gary Marty of the University of California Davis has been the leading pathologist examining the role of VHS virus on Prince William Sound herring, culminating in the publication of Marty et al. (2003) "Role of disease in abundance of a Pacific herring (*Clupea pallasii*) population" in the Canadian Journal of Fisheries and Aquatic Sciences. Dr. Marty has authored or coauthored 12 other papers on diseases in Pacific herring, primarily in relation to the Exxon Valdez oil spill and Prince William Sound. He is a board-certified veterinary pathologist, and a licensed veterinarian with the State of Alaska.

Herring Papers

- Marty, G. D., Quinn, T. J., II, Carpenter, G., Meyers, T. R., & Willits, N. H. (2003). Role of disease in abundance of a Pacific herring (*Clupea pallasii*) population. *Canadian Journal of Fisheries and Aquatic Sciences*, 60(10): 1258-1265.
- Carls, M. G., Marty, G. D., & Hose, J. E. (2002). Synthesis of the toxicological impacts of the Exxon Valdez oil spill on Pacific herring (*Clupea pallasii*) in Prince William Sound, Alaska, U.S.A. *Canadian Journal of Fisheries and Aquatic Sciences*, 59(1): 153-172.
- Hershberger, P. K., Kocan, R. M., Elder, N. E., Marty, G. D., & Johnson, J. (2001). Management of Pacific herring spawn-on-kelp fisheries to optimize fish health and product quality. *North American Journal of Fisheries Management*, 21(4): 976-981
- Marty, G. D., Okihiro, M. S., Brown, E. D., Hanes, D., & Hinton, D. E. (1999). Histopathology of adult Pacific herring in Prince William Sound, Alaska, after the Exxon Valdez oil spill. *Can.J.Fish.Aquat.Sci./J.Can.Sci.Halieu.Aquat*, 56(3): 419-426
- Davis, C. R., Marty, G. D., Adkison, M. A., Freiberg, E. F., & Hedrick, R. P. (1999). Association of plasma IgM with body size, histopathologic changes, and plasma chemistries in adult Pacific herring *Clupea pallasii*. *Diseases of aquatic organisms*, 38(2): 125-133
- Carls, M. G., Marty, G. D., Meyers, T. R., Thomas, S. J., & Rice, S. D. (1998). Expression of viral hemorrhagic septicemia virus in prespawning Pacific herring (*Clupea pallasii*) exposed to weathered crude oil. *Canadian Journal of Fisheries and Aquatic Sciences*, 55(10): 2300-2309
- Marty, G. D., Freiburg, E. F., Meyers, T. R., Wilcock, J., Farver, T. B., & Hinton, D. E. (1998). Viral hemorrhagic septicemia virus, *Ichthyophonus hoferi*, and other causes of morbidity in Pacific herring *Clupea pallasii* spawning in Prince William Sound, Alaska, USA. *Diseases of Aquatic Organisms*, 32(1), 15-40.
- Marty, G. D., Hose, J. E., McGurk, M. D., Brown, E. D., & Hinton, D. E. (1997). Histopathology and cytogenetic evaluation of Pacific herring larvae exposed to petroleum hydrocarbons in the laboratory or in Prince William Sound, Alaska, after the Exxon Valdez oil spill. *Canadian Journal of Fisheries and Aquatic Sciences* 54(8): 1846-1857.
- Hose, J. E., McGurk, M. D., Marty, G. D., Hinton, D. E., Brown, E. D., & Baker, T. T. (1996). Sublethal effects of the Exxon Valdez oil spill on herring embryos and larvae: Morphological, cytogenic, and histopathological assessments, 1989-1991. *Canadian Journal of Fisheries and Aquatic Sciences* 53: 2355-2365.
- Kocan, R. M., Marty, G. D., Okihiro, M. S., Brown, E. D., & Baker, T. T. (1996). Reproductive success and histopathology of individual Prince William Sound Pacific herring 3 years after the Exxon Valdez oil spill. *Canadian Journal of Fisheries and Aquatic Sciences* 53(10): 2388-2393. .

Dr. Jo Ellen Hose at Occidental University, California, is a world expert in genetics and has considerable experience with Pacific herring. Research and consulting experience includes affiliation with the Alaska Department of Fish and Game (sublethal effects of the Exxon Valdez oil spill on fish), Lawrence Berkeley Laboratory (biological toxicity evaluation of San Francisco Bay, genetic effects of ozone depletion in Antarctica), National Oceanic and Atmospheric Administration (effects of the Exxon Valdez oil spill on Pacific herring, reproductive impairment of southern California fish, and evaluation of genotoxicity measurements), National Science Foundation (crustacean physiology and immunology) and Southern California Edison (biological effects of power plant discharges). Her research interests include aquatic toxicology, pollution impacts to wetlands and marine environments, genotoxicity methods development, and pathology and physiology of marine organisms. Dr. Jo Ellen has published 53 papers, including 9 specific to Pacific herring and crude oil (1996 to 2002).

Herring Papers

- Carls, M. G., Marty, G. D., & Hose, J. E. (2002). Synthesis of the toxicological impacts of the Exxon Valdez oil spill on Pacific herring (*Clupea pallasii*) in Prince William Sound, Alaska, U.S.A. *Canadian Journal of Fisheries and Aquatic Sciences*, 59(1), 153-172.
- Carls, M. G., Hose, J. E., Thomas, R. E., & Rice, S. D. (2000). Exposure of Pacific herring to weathered crude oil: Assessing effects on ova. *Environmental Toxicology and Chemistry*, 19(6), 1649-1659.
- Carls, M. G., Rice, S. D., & Hose, J. E. (1999). Sensitivity of fish embryos to weathered crude oil: Part I. low-level exposure during incubation causes malformations, genetic damage, and mortality in larval Pacific herring (*Clupea pallasii*). *Environmental Toxicology and Chemistry*, 18(3), 481-493.
- Hose, J. E., & Brown, E. D. (1998). Field applications of the piscine anaphase aberration test: Lessons from the Exxon Valdez oil spill. *Mutation research*, 399(2), 167-178.
- Marty, G. D., Hose, J. E., McGurk, M. D., Brown, E. D., & Hinton, D. E. (1997). Histopathology and cytogenetic evaluation of Pacific herring larvae exposed to petroleum hydrocarbons in the laboratory or in Prince William Sound, Alaska, after the Exxon Valdez oil spill. *Canadian Journal of Fisheries and Aquatic Science* 54(8), 1846-1857.
- Brown, E., Baker, T., Hose, J., Kocan, R., Marty, G., & McGurk, M. et al. (1996). In Rice S. D., Spies R. B., Wolfe D. A. and Wright B. A. (Eds.), *Injury to the early life history stages of Pacific herring in Prince William Sound after the Exxon Valdez oil spill*. American Fisheries Society Symposium 18: 448-462.
- Hose, J. E., McGurk, M. D., Marty, G. D., Hinton, D. E., Brown, E. D., & Baker, T. T. (1996). Sublethal effects of the Exxon Valdez oil spill on herring embryos and larvae: Morphological, cytogenetic, and histopathological assessments, 1989-1991. *Canadian Journal of Fisheries and Aquatic Science*, 53(10), 2355-2365.
- Kocan, R. M., Hose, J. E., Brown, E. D., & Baker, T. T. (1996). Pacific herring (*Clupea pallasii*) embryo sensitivity to Prudhoe Bay petroleum hydrocarbons: Laboratory evaluation and in situ exposure at oiled and unoled sites in Prince William Sound. *Canadian Journal of Fisheries and Aquatic Sciences* 53(10), 2366-2375.
- Norcross, B. L., Hose, J. E., Frandsen, M., & Brown, E. D. (1996). Distribution, abundance, morphological condition, and cytogenetic abnormalities of larval herring in Prince William Sound, Alaska, following the Exxon Valdez oil spill. *Canadian Journal of Fisheries and Aquatic Sciences* 53(10), 2376-2387

IV. RESPONSIVENESS TO KEY TRUSTEE COUNCIL STRATEGIES

A. Community Involvement and Traditional Ecological Knowledge (TEK)

Briefings to communities can be provided if invited.

B. Resource Management Applications

Resource managers in the State of Alaska, as well as other managers with distressed populations, will likely find the modeling comparisons of recruitment success over time for west coast populations of interest. The discussion on restoration strategies may also have significant management applications. The Principal Investigators have direct access to these managers.

V. PUBLICATIONS AND REPORTS

We expect a minimum of three of the foundation objectives to be published in peer reviewed publications.

Marty, G.D., S. Miller, T.J. Quinn II, and S.D. Moffitt. Effect of *Ichthyophonus hoferi* on population biomass of Pacific herring in Prince William Sound, Alaska. Can. J. Fish. Aquat. Sci.

Quinn, T.J., F.C. Funk, G.D. Marty, J.E. Hose, M.G. Carls, and S.D. Rice. Are Prince William Sound herring unique in their depressed state and lack of recovery?

Quinn, T.J., II, and F.C. Funk. Pacific herring, *Clupea pallasii*, recruitment in the Northeast Pacific Ocean: inter-relations of environmental variables and populations.

Rice, S.D., M.G. Carls, F.C. Funk and T.J. Quinn. Are Prince William Sound herring (*Clupea pallasii*) still affected by the Exxon Valdez oil spill?

VI. BUDGET JUSTIFICATION

Addressing issues of population dynamics and modeling, life history, toxicology, and genetics of Prince William Sound herring at the level requested in the RFP has meant assembling a team of experts. There are several institutions or individuals who could submit a synthesis that would address Trustee concerns but would lack the rigor and comprehensiveness of the synthesis this team of world experts will create. To do the extensive modeling required, we needed an expert (Quinn), and he needed a graduate student. The justification of these particular costs are attached below. The rest of the costs are mostly on the contracts for the additional experts, and for the travel to get 2 of the team members to Juneau for two meetings. We require the two meetings in Juneau in order to meet the deadline in the RFP for the Preliminary conclusions. The only practical way to accomplish that specific task is to have a joint meeting, review the progress and come to consensus on the preliminary conclusions. The second trip will be needed to discuss and arrive at final conclusions, particularly the discussions about restoration strategies, and if any would affect any of the component parts of the synthesis. Travel costs include attendance at the annual EVOS Symposium to present the results (your requirement). In addition, we are anticipating that one trip to acquire data from Washington and California stocks will be needed. The addition of these stocks to the west coast may be particularly revealing as each of these states has stressed stocks, along with other stocks that are not. At this time, we do not know the quality of their data and if it can be used. We will need to get our experts (Quinn or Funk) together with the specific biologists/biometricians in those areas, and we expect that one trip will be the most efficient way to quality assure the data to see if it is worth using in our teams models.

UAF Budget Specifics

This proposal is a collaborative effort between Auke Bay Lab, UAF-SFOS, Fritz Funk, and other herring researchers to provide a synthesis of existing information about Prince William Sound herring and the factors contributing to its lack of recovery. As detailed in the attached proposal, Quinn and his graduate student will have primary responsibility for Task 2 (updating an analysis by Quinn's former graduate student Erik Williams). The UAF portion of the budget will be a subcontract through an RSA transferred from Auke Bay Lab. The budget includes 1 month of funding for Quinn, 1 year of stipend, tuition, and a computer for the graduate student, and travel to EVOS annual meeting, as required by the RFP. Minimal project supply costs are included, as well as cost of computer repair/upgrades.

For each budget category (personnel, travel, contractual, commodities and equipment), this section lists the total amount requested.

Personnel:

Quinn, T., 1.00 month (174 hours per month). Hrly rate: \$51.55. Hrly rate * Leave rate of 1.1% = \$9,068

B. Other Personnel: MS grad student. 8 months (87 hours per month) at \$12.90 hr. Leave rate of 0.0% = \$8,978. MS Grad Student in summer (4 months, 174 hours per month). Hrly rate = \$12.90. Leave rate of 0.0% = 0.0% = \$8,978. total = \$17,956

Total Salaries and Wages = \$27,024.

Fringe Benefits. Faculty Benefits of 35.5% = \$3,219. Grad Student Benefits (summer only) of 8.7% = \$781

Total Fringe Benefits = \$4,000. Total Salaries and Benefits = \$31,024

Travel

Domestic to EVOS annual symposium (R/T Juneau to Anchorage). airfare: \$300.00. 3 days lodging \$95; per diem 3 days \$40 = \$405

Total Travel = \$705

Other/Contractual/Services. Computer repair costs associated with proper upgrades/maintenance of laptop computer = \$500

Commodities. Laptop computer: \$2,000.

Project-related supplies (field, lab, project related materials necessary for completion of project: \$500

Total Commodities: \$2,500

Other costs also includes: Out-Of-State Tuition: \$8,969.

Total Direct Costs. \$43,698

Base: \$43,698

Total Indirect Costs (F&A). EVOS TDC. Current Rate: 25.0% = \$10,925.

Total Direct & Indirect: \$54,623

CURRENT AND PENDING SUPPORT FORM

Any current and pending financial resources that are intended to support research related or similar to that included in the proposal, or that would consume the time of the proposer(s), must be identified for each principal investigator and other senior personnel involved in the proposal.

<i>The following information must be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.</i>			
Investigator: Dr. Stanley Rice	Other agencies to which this proposal has been/will be submitted: None		
Support: <input checked="" type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support			
Project/Proposal Title: Lingering Project 3620			
Source of Support: Exxon Valdez Trustee Council Total Award Amount: \$150,000 Total Award Period Covered: FY04-06 Location of Project: Prince William Sound Months of Your Time Committed to the Project: 0 FY05: Sumr:			
Support: <input checked="" type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support			
Project/Proposal Title: Program Manager, NOAA			
Source of Support: United States Government Total Award Amount: \$ Total Award Period Covered: Location of Project: Months of Your Time Committed to the Project: FY05: Sumr:			
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support			
Project/Proposal Title:			
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Months of Your Time Committed to the Project: FY05: Sumr:			
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support			
Project/Proposal Title:			
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Months of Your Time Committed to the Project: FY05: Sumr:			

*If this project has previously been funded by another entity, please list and furnish information for immediately preceding funding period.

CURRENT AND PENDING SUPPORT FORM

The following information must be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.

Investigator: Terrance Quinn	Other agencies to which this proposal has been/will be submitted: None
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Support:	<input checked="" type="checkbox"/> Current	<input type="checkbox"/> Pending	<input type="checkbox"/> Submission Planned in Near Future	<input type="checkbox"/> *Transfer of Support
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Project/Proposal Title:
Deployment of an Acoustic data logger on Commercial Fishing Vessels to Evaluate the Potential of Fishing-Induced declines in Local Pollock Abundance
SFOS 05-056R, S1643, G1611
Source of Support: PCCRC
Total Award Amount: \$117,512 Total Award Period Covered: 01-MAR-2004 to 28-FEB-2006
Location of Project: Alaska
Months of Your Time Committed to 0.00 1.00 FY 0.00 FY Sumr:

Support:	<input checked="" type="checkbox"/> Current	<input type="checkbox"/> Pending	<input type="checkbox"/> Submission Planned in Near Future	<input type="checkbox"/> *Transfer of Support
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Project/Proposal Title:
Multi Species Assessment Models for Fisheries Management
SFOS 03-213R2, S4173, G0460
Source of Support: Alaska Sea Grant College Program
Total Award Amount: \$60,793 Total Award Period Covered: 01-FEB-2004 to 31-JAN-2006
Location of Project: Alaska
Months of Your Time Committed to 0.00 1.00 FY 1.00 FY Sumr:

Support:	<input checked="" type="checkbox"/> Current	<input type="checkbox"/> Pending	<input type="checkbox"/> Submission Planned in Near Future	<input type="checkbox"/> *Transfer of Support
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Project/Proposal Title:
University of Alaska Fairbanks Graduate Student Stipend for Stock Assessment Training and Improvement
SFOS 02-232R2, S4472, G0191
Source of Support: CIFAR
Total Award Amount: \$190,500 Total Award Period Covered: 01-JUL-2003 to 30-JUN-2006
Location of Project: Alaska
Months of Your Time Committed to 0.00 0.00 FY 0.00 FY Sumr:

Support:	<input type="checkbox"/> Current	<input checked="" type="checkbox"/> Pending	<input type="checkbox"/> Submission Planned in Near Future	<input type="checkbox"/> *Transfer of Support
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Project/Proposal Title:
Feasibility of estimating movement within a spatially-explicit stock assessment model of eastern Bering Sea walleye pollock
SFOS 05-084, S6185
Source of Support: NPRB
Total Award Amount: \$60,589 Total Award Period Covered: 01-MAY-2005 to 30-APR-2006
Location of Project: Alaska
Months of Your Time Committed to 0.00 0.86 FY 0.00 FY Sumr:

*If this project has previously been funded by another entity, please list and furnish information for immediately preceding funding period.

CURRENT AND PENDING SUPPORT FORM

The following information must be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.

Investigator: Terrance Quinn	Other agencies to which this proposal has been/will be submitted: None
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Support:	<input type="checkbox"/> Current	<input checked="" type="checkbox"/> Pending	<input type="checkbox"/> Submission Planned in Near Future	<input type="checkbox"/> *Transfer of Support
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Project/Proposal Title:
Subcontract to Iowa State University fishery management and stock assessment issues
SFOS 05-154, S6508
Source of Support: Iowa State University
Total Award Amount: \$29,038 Total Award Period Covered: 01-JAN-2006 to 31-DEC-2007
Location of Project: Alaska
Months of Your Time Committed to the Project: 0.00 0.75 FY 0.75 FY Sumr:

Support:	<input type="checkbox"/> Current	<input checked="" type="checkbox"/> Pending	<input type="checkbox"/> Submission Planned in Near Future	<input type="checkbox"/> *Transfer of Support
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Project/Proposal Title:
Assessment of the Southeast Alaska Geoduck (*Panopea abrupta*) Survey Methodologies
SFOS 05-158, S6520
Source of Support: ADFG
Total Award Amount: \$20,000 Total Award Period Covered: 15-MAR-2005 to 15-OCT-2005
Location of Project: Alaska
Months of Your Time Committed to the Project: 0.00 0.00 FY 0.00 FY Sumr:

Support:	<input type="checkbox"/> Current	<input checked="" type="checkbox"/> Pending	<input type="checkbox"/> Submission Planned in Near Future	<input type="checkbox"/> *Transfer of Support
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Project/Proposal Title:
Field Evaluation of Geoduck (*Panopea Abrupta*) Survey Methodology and Community Effects of Geoduck Fishing in Southeast Alaska SFOS 05-172, S6593
Source of Support: Alaska Sea Grant College Program
Total Award Amount: \$145,637 Total Award Period Covered: 01-FEB-2006 to 31-JAN-2008
Location of Project: Alaska
Months of Your Time Committed to the Project: 0.00 0.10 FY 0.10 FY Sumr:

*If this project has previously been funded by another entity, please list and furnish information for immediately preceding funding period.

Support:	<input type="checkbox"/> Current	<input checked="" type="checkbox"/> Pending	<input type="checkbox"/> Submission Planned in Near Future	<input type="checkbox"/> *Transfer of Support
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Project/Proposal Title:
Multispecies Fisheries Models for Ecosystem Decision Support
SFOS 05-168, S6595
Source of Support: Alaska Sea Grant College Program
Total Award Amount: \$138,672 Total Award Period Covered: 01-FEB-2006 to 31-JAN-2008

Location of Project: Alaska

Months of Your Time Committed to the Project: 0.00 1.00 FY 1.00 FY Sumr:

*If this project has previously been funded by another entity, please list and furnish information for immediately preceding funding period.

CURRENT AND PENDING SUPPORT FORM

*The following information must be provided for each investigator and other senior personnel.
Failure to provide this information may delay consideration of this proposal.*

Investigator: Terrance Quinn

Other agencies to which this proposal has been/will be

Support: ☐ Current ☒ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title:

PWS Herring populations: updated synthesis on the causes and lack of recovery SFOS
05-193

THIS PROPOSAL

Source of Support: NOAA, NMFS, Auke Bay (EVOS)

Total Award Amount: \$54,623 Total Award Period Covered: May1, 2005 to September 30,

Location of Project: Alaska

1.0 FY 07 FY 08 Sumr:

Support: ☐ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title:

Source of Support:

Total Award Amount: \$

Total Award Period Covered:

Location of Project:

Months of Your Time Committed to FY 07 FY 08 Sumr:

Support: ☐ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title:

Source of Support:

Total Award Amount: \$

Total Award Period Covered:

Location of Project:

Months of Your Time Committed to FY 07 FY 08 Sumr:

Support: ☐ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title:

Source of Support:

Total Award Amount: \$

Total Award Period Covered:

Location of Project:

Months of Your Time Committed to	FY 07	FY 08	Sumr:
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*If this project has previously been funded by another entity, please list and furnish information for immediately preceding funding period.

CURRENT AND PENDING SUPPORT FORM

The following information must be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal

Investigator: Frederick Funk	Other agencies to which this proposal has been/will be None
------------------------------	--

Support: ☐ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: Biometrician (part-time)

Source of Support: Alaska Department of Fish and Game

Total Award Amount: Total Award Period Covered:

Location of Project:

Months of Your Time Committed to the	FY05:	Sumr:
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Support: X ☐ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title:

Source of Support:

Total Award Amount: \$ Total Award Period Covered:

Location of Project:

Months of Your Time Committed to the	FY05:	Sumr:
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Support: ☐ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title:

Source of Support:

Total Award Amount: \$ Total Award Period Covered:

Location of Project:

Months of Your Time Committed to the	FY05:	Sumr:
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Support: ☐ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title:

Source of Support:

Total Award Amount: \$ Total Award Period Covered:

Location of Project:

Months of Your Time Committed to the	FY05:	Sumr:
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*If this project has previously been funded by another entity, please list and furnish information for immediately preceding funding period.



Exxon Valdez Oil Spill Trustee Council

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

May 16, 2005



The African-American Resource Guide
Dr. Avery Jones
1125 East Broadway #301
Glendale, California 91205

Dear Dr. Avery Jones,

This letter is in response to the recent discussion regarding the support to your organization by displaying a message in your Resource Guide. Unfortunately the State of Alaska Governors office has ordered the cancellation of all memberships in order to reduce spending. I apologize for any inconvenience this may have caused your organization. We are not able to contribute this year.

Thank you,

Gail Phillips,
Executive Director

P.D.B.

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Exxon Valdez Oil Spill Trustee Council

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



July 1, 2005

Ms. Susan Fischetti
Director, Boards & Commissions
State of Alaska
P.O. Box 110001
Juneau, Alaska 99811-0001

Dear Ms. Fischetti:

Susan

The Exxon Valdez Oil Spill Trustee Council (EVOS), through the Department of Fish and Game, requests permission to recruit for the position of Science Director, PCN #117003, Range 26, Step E, located in Anchorage, Alaska. The position is funded through the EVOS Administrative Budget. The Science Director's position has been vacant since January 2005. I would like to start recruitment July 15, 2005.

The Science Director will manage the science program, assist in program development/institutional planning, support the overall operation of the EVOS Trustee Council office and provide in-house scientific and technical expertise. Primary responsibility will be to manage, review and evaluate research, monitoring and general restoration project proposals submitted to the Trustee Council for funding. The position assists in the implementation of the long-term science-based restoration program at EVOS and in the annual work plan.

Thank you for your consideration of this request. If you have any questions or require additional information, please contact me.

Sincerely,

Gail

Gail Phillips
Executive Director

*Thanks for your attention
to this.*

Happy 4th of July!

Cc: Cherri Womac, EVOSTC
Tom Lawson, ADF&G

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Exxon Valdez Oil Spill Trustee Council

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



MEMORANDUM

TO: Judith E. Bittner
State Historic Preservation Officer
Alaska Department of Natural Resources *Judy*

FROM: Gail Phillips
Executive Director *Gail*

RE: Project 99154: Authorization to Proceed with Construction of a
Local Display Facility in Valdez

DATE: May 13, 2005

In accordance with Appendix B, Section 2.2.1, of the grant agreement between the Alaska Department of Natural Resources and the Valdez Museum, executed on 2/20/04, I authorize you to proceed with construction of the Valdez Local Display Facility, provided the design is consistent with the Valdez Museum Revitalization Project plans prepared by Livingston Slone, Inc. dated January 10, 2005 and submitted for review.

For the following reasons, I find that all requirements for this approval have been met:

1. The proposed local display facility satisfies the requirements of the National Environmental Policy Act (NEPA) according to a letter from Joe L. Meade, U.S. Forest Service, to Gail Phillips dated March 29, 2005.
2. The design plans have been reviewed by the Office of History and Archaeology and appear to satisfy applicable federal regulations (36 C.F.R., Part 79)
3. The business plan adequately addresses the budgetary and operation needs to assure completion of the local display facility and its successful operation for not less than 20 years.
4. The financial statement submitted is current and satisfactory.

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*** TX REPORT ***

TRANSMISSION OK

TX/RX NO 2205
CONNECTION TEL 2698908
SUBADDRESS
CONNECTION ID
ST. TIME 05/22 23:42
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PGS. SENT 1
RESULT OK

Exxon Valdez Oil Spill Trustee Council

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

MEMORANDUM



TO: Judith E. Bittner
State Historic Preservation Officer
Alaska Department of Natural Resources *Judy*

FROM: Gail Phillips
Executive Director *Gail*

RE: Project 99154: Authorization to Proceed with Construction of a
Local Display Facility in Valdez

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1. The proposed local display facility satisfies the requirements of the National Environmental Policy Act (NEPA) according to a letter from Joe L. Meade, U.S. Forest Service, to Gail Phillips dated March 29, 2005.

Cherri Womac

From: Gail Phillips
Sent: Monday, May 23, 2005 10:18 AM
To: Cherri Womac
Subject: FW: Valdez grant authorization request



LDFAuthValCon
ucGP.doc (20 K

Cherri - did we respond to this? Gail

-----Original Message-----

From: Judy Bittner [mailto:judy_bittner@dnr.state.ak.us]
Sent: Friday, May 13, 2005 9:17 AM
To: Gail Phillips
Cc: Paula Banks
Subject: Valdez grant authorization request

Gail - Attached is a dsraft authorization memo for the Valdez Local Display Faciltiy grant to proceed to construction phase. All the required plans and documentation have been received. After careful review of the documents, I recommend you authorize Valdez to start construction. Let me know if you have questions. Thank you Judy Bittner