11.18.08

Exxon Valdez Oil Spill Trustee Council

Teleconference

November 9, 2007

Agenda

Exxon Valdez Oil Spill Trustee Council

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

DRAFT AGENDA
EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
Teleconference
November 9, 2007 9:00 a.m.
Anchorage, Alaska

DRAFT 11/7/07 **DRAFT**

Trustee Council Members:

TALIS COLBERG
Attorney General
Alaska Department of Law

JAMES BALSIGER
Administrator, Alaska Region
National Marine Fisheries Service

LARRY HARTIG
Commissioner
Alaska Department of
Environmental Conservation

RANDALL LUTHI
Deputy Director
U.S. Fish and Wildlife Service

DENBY S. LLOYD
Commissioner
Alaska Department of Fish
and Game

JOE MEADE
Forest Supervisor
U.S. Department of Agriculture
Forest Service

Teleconference Meeting in Anchorage, Trustee Council Office, 441 West 5th Avenue, Suite 500
Teleconference number: 800.315.6338 (contact EVOS for code)

Federal Chair

1. Call to Order – 9:00 a.m.

2. Consent Agenda

- Approval of Agenda*
- Approval of Meeting Notes*
  October 12, 2007

3. Public comment (no reopener comments accepted) – 9:10 a.m. (3 minute per person)

4. Development of Culture Technology to Support Restoration of Herring in PWS, Project 080821 * — Michael Baffrey

5. Adjourn

* Indicates action items

Oct 12, 2007 Meeting
Notes

Exxon Valdez Oil Spill Trustee Council

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TRUSTEE COUNCIL MEETING NOTES

Anchorage, Alaska

October 12, 2007

DRAFT DRAFT

Chaired by: Talis Colberg
Trustee Council Member

Trustee Council Members Present:

Joe Meade, USFS
Randall Luthi, USDOI
Craig O'Connor, NOAA **
• Talis Colberg, ADOL *
Denby Lloyd, ADF&G
Larry Hartig, ADEC

- • Chair
- * Craig Tillery alternate for Talis Colberg at 10:00
- ** Craig O'Connor alternate for James Balsiger

The meeting convened at 9:00 a.m., October 12, 2007 in Anchorage at the EVOS Conference Room.

1. Approval of the Agenda

APPROVED MOTION: Motion to approve the draft agenda dated October 12, 2007, distributed on September 27, 2007.

Motion by Hartig, second by Lloyd

2. Approval of September 13, 2007 meeting notes

APPROVED MOTION: Motion to approve the September 13, 2007 meeting notes

Motion by O'Connor, second by Hartig

Public Advisory Committee (PAC) comments were offered by: Stacy Studebaker, Ed Zeine, Pat Lavin and RJ Kopchak

Public comment period began at 9:15 a.m.

Eleven public comments were received.

Public comment closed at 10:50 a.m.

Off the record 10:50 a.m.
On the record 11:00 a.m.

3. FY 08 Draft Work Plan

APPROVED MOTION: Motion to approve projects 080814 – Bishop, 080817 – Gay, 080811 – Kline, 080742 – Matkin, 080834 – Meuret-Woody, 080290 – Nelson, 080806 – Vollenweider and with respect to project 080821 – Linley direct the Executive Director to work with the PI's to determine if some lesser project could be put together to make sure this project is available for funding in '09 or can go forward in '09

Motion by Luthi, second by Meade

4. FY 08 – Project Management Fees

APPROVED MOTION: Motion to approve adding project manager's one month salary as management fee to the appropriate agency for projects 080814, 080817, 080811, 080742, 080834, 080290, and 080806

Motion by Lloyd, second by O'Connor

5. Executive Session

APPROVED MOTION: Motion to go into executive session to discuss personnel and legal issues

Motion by Luthi, second by O'Connor

Off the record: 12:45 p.m.
On the record: 2:00 p.m.

6. FY 08 Draft Work Plan

APPROVED MOTION: Motion to approve funding for 080751 – Irons, 080822 – Moffitt, 080804 – Rice, and 080759 – Rosenberg

Motion by O'Connor, second by Luthi

Off the record: 3:57 p.m.
On the record: 4:09 p.m.

7. FY 08 – Project 080100 Program Development & Implementation Budget – AFE Budget Item

APPROVED MOTION: Motion to approve $10,000 for participation at the Alaska Forum on the Environment

Motion by Luthi, second by Meade

8. FY 08 – Project Management Fees

APPROVED MOTION: Motion to approve adding project manager's one month salary as management fee to the appropriate agency for projects 080751, 080822, 080804, and 080759

Motion by O'Connor, second by Luthi

Meeting adjourned at 5:05 p.m.

APPROVED MOTION: Motion to adjourn Luthi, second by Hartig

October 30, 2007

Mr. Michael Baffrey
Executive Director
Exxon Valdez Trustee Council
441 West 5th Avenue, Suite 500
Anchorage, AK 99501-2340

Dear Mr. Baffrey:

We are writing to you in response to the decision made by the EVOS Trustee Council at the October 12, 2007 meeting that we participated in regarding the partial funding of our FY 2008 proposal, *Development of Culture Technology to Support Restoration of Herring in Prince William Sound: Use of In Vitro Studies to Validate and Optimize Restoration Actions.* As you recall, discussions by the Trustee Council emphasized the importance of maintaining our established collaboration with the Japanese scientists because of their expertise in the field of herring culture techniques. According to our understanding of the directive provided by the Trustee Council at the meeting, you, as the Director, have been given the discretion to develop and fund a 1 yr modified proposal with MariCal and the Alaska SeaLife Center to further this collaboration with these Japanese researchers and provide EVOS the option to expand this collaboration should herring culture techniques be pursued to help restore herring in Prince William Sound.

In lieu of the Trustee Council's decision to defer funding on the specific aspects of our project involving herring culture techniques until completion of a herring restoration plan, we are respectfully submitting the following amended proposal that is specifically designed to maintain our previously established collaboration with the Japanese herring researchers and foster their further involvement to address critical questions regarding factors that may be limiting recovery of herring in Prince William Sound. Please note that the two Objectives we have proposed are focused on scientific topics that were encompassed by our original proposal and thus should not require any additional scientific or technical review.

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Objective 1: Plan and coordinate travel for Dr. Takahiro Matsubara and an associate or designee to travel to Alaska to attend the Marine Science Symposium in January 2008, participate in an EVOS Trustee Council sponsored workshop on herring stock restoration, visit the fish culture facilities at the ASLC, the Seward Shellfish Hatchery and USGS Marrowstone Field Lab (Nordland, WA), tour potential stock restoration rearing and release sites in PWS (e.g. Tatitlik), and meet with scientists and interested parties involved in the Prince William Sound herring restoration effort. Dr. Matsubara is an internationally recognized expert in the field of fish endocrinology with a specific focus in the area of reproduction. He had authored over 50 peer reviewed papers and has collaborated on multiple occasions with fish physiology researchers in the U.S. As the Section Chief for the Resources Enhancement Section of the Hokkaido National Fisheries Research Institute, he directs all aspects of fish culture investigations at the Akkeshi Field Station, including those for Pacific herring.

For Objective 1, we propose to have Dr. Matsubara and an associate make a presentation at and EVOS TC sponsored herring restoration workshop to be held in conjunction with the Marine Science Symposium in January 2008. The goal of the workshop will be to provide a forum for the exchange of information related to past, present and future efforts to restore herring stocks in Japan and PWS. Dr. Matsubara and his colleague(s) will describe the research, development and implementation of herring culture techniques for stock supplementation that has taken place in Japan during the last 20 years. The presentation will focus on the technical problems encountered during the early phases of the program, the economic bottlenecks in scaling up production from the laboratory to large-scale releases for stock supplementation, and post-release evaluation to determine thee contribution to recruitment.

In conjunction with this trip, we will arrange for Dr. Matsubara and his colleague(s) to travel to Seward to tour the ASLC and Seward Shellfish Hatcheries where they will be able to view and assess these facilities as to their potential use for conducting culture related research for herring. This visit will include a review of the ASLC – MariCal program progress to date and discussions to guide future research efforts and topics. We will also attempt to include in these collective discussions with Dr. Matsubara a preliminary assessment of the likely costs of scaling a hatchery-based herring culture effort into a larger pilot-study project for releasing juvenile herring in PWS. As part of this workshop, we are also planning a meeting between Dr. Matsubara and Dr. Shannon Atkinson, UAF faculty member and director of the UAF Endocrinology Laboratory which is located at the ASLC. The purpose of this meeting and laboratory tour will be to foster further linkages between Alaska based endocrinology researchers and determine the availability and adequacy of the laboratory to conduct specific analyses for the research described below.

In addition to the proposed travel to Seward, we will also make arrangements for Dr. Matsubara and his colleague(s) to get a short (half day) tour of PWS and visit the community and a potential field site for a pilot-scale herring rearing and release project at Tatitlik. The purpose of this visit will be to broaden the interaction between scientists involved in herring stock restoration and PWS community stakeholders. Such interaction will help provide a foundation for community participation in the recovery efforts in PWS, much as they have for in Japan where community based enhancement projects play a major role in supplementing wild herring stock production.

Finally, we will coordinate with Dr. Paul Hershberger of the USGS for Dr. Matusbara and his colleague(s) to visit the Marrowstone Field Station in Nordland, WA before or after travel to Alaska. The endocrine studies proposed as part of Objective 2 are directly linked to environmental stress and disease expression in PWS herring (e.g. VHS) and this meeting will be used to develop hypotheses regarding the role of disease on reproductive function in herring, and the potential implications for stock restoration in PWS. It will also give the Japanese the opportunity to view and assess the culture techniques employed at one of major herring research facilities in the U.S.

Objective 2: Conduct an assessment (survey) of yolk proteins and products in female herring that affect gamete quality and potential larval recruitment during the spawning cycle in PWS during 2008. This second Objective is an extension of our initial sampling work in Prince William Sound and focuses on the characterization of the egg quality from spawning females and collected from roe-on-kelp sources. Data gathered from this effort will provide important insights into how spawning stress experienced by herring may affect gamete quality and larval production in the wild as well as under culture conditions. These proposed studies will focus on analysis of yolk proteins within collected eggs. Such studies will directly benefit from the collaboration of Dr. Matsubara and his colleagues as a result of his expertise in fish reproductive endocrinology.

Yolk formation in oocytes (developing eggs) of pelagic marine fish occurs through the accumulation of vitellogenin and its structural proteins, lipovitellin and phosvitin, that are synthesized by the liver in response to ovarian-derived estrogen (Hiramatsu et al. 2002). These proteins supply the amino acids necessary for embryonic development, as well as bind and deliver lipids and minerals (e.g. calcium) used for energy and structural synthesis by developing embryo. Studies have shown that stress (measured as or directly induced by cortisol) interferes with the production of vitellogenin (Berg et al. 2004), possibly through down regulation of estrogen-mediated estrogen receptor transcription (Lethimonier et al. 2000). The documented expression and incidence of viral hemorrhagic septicemia (VHS) and other pathogens in PWS herring suggest that these fish experience stress at the time of spawning which could potentially affect gamete quality and larval production. These effects may be manifest as reduced

levels of amino acids, lipids or essential minerals. Understanding time-related changes in these proteins during the spawning cycle will have direct benefit for gamete as well as roe-on-kelp collection for stock supplementation projects.

In this study, we propose to sample, measure and characterize changes in yolk proteins, amino acids and bound calcium levels in the blood and (developing) eggs of pre-spawning and spawning herring during the early, middle and late part of the spawning cycle within Matthews Bay (site of our 2007 gamete and roe-on-kelp collections), or an alternate spawning site as determined by the ADF&G. Our objective is to measure these changes in visibility healthy as well as stressed (diseased) fish identified on the basis of external symptoms (hemorrhagic tissue). Analyses of yolk proteins will be conducted at the UAF Endocrinology Lab at the ASLC and follow the method described by Ohkubo et al. (2006) and Sawaguchi et al. (2006). Analyses of amino acid content and bound calcium in eggs will be conducted at the MariCal molecular biology lab in Portland, ME. Tissue samples will be sent to the ADF&G pathology lab to determine the presence of VHS or other documented PWS herring pathogens.

Budget Request: As indicated on the attached budget, we are requesting a total of $80,600, (not including G&A), to conduct this work that will directly maintain and foster our established collaboration with the Hokkaido National Fisheries Research Institute scientists. Our request includes 2 months of personnel time for the P.I. and one month for the co-P.I. They will personally arrange for Dr. Matsubara's visit and coordinate all site visit and workshop activities. Travel in the amount of $20,000 is requested to bring Dr. Matsubara and a colleague to Alaska for 10 days each and for the P.I. and co P.I. to accompany them during their meetings, presentation and site visits. A consulting contract of $5000 is also included for Dr. Matsubara to review in detail the data obtained from our first year of effort, other data presented to him as part of any workshop proceedings, and to help establish and interact in efforts to characterize yolk protein synthesis and utilization in Pacific herring. An additional $11,000 is requested for contractual analyses of yolk and stress proteins at the ASLC, and $1,500 for supplies..

Lastly, we would like to call to your attention the need for your prompt action on our request for possible EVOS funding of our amended proposal as detailed above. We are very interested in securing a place for Dr. Matsubara as a featured speaker for the Marine Science Symposium that occurs in January 2008 as a key part of Objective #1. In order for us to proceed in this effort, we would very much like to receive a reply from your office as soon as possible. To this end, we have already secured an appointment with you this Friday, October 26th where we can address any questions or concerns that you or your staff might have after review of the proposal. We thank you for your consideration of furthering the collaboration we have established with the herring researchers from the Hokkaido National Fisheries Research Institute. We believe the

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contribution of these scientists to the recovery effort for herring in PWS will be significant and that the funds requested are vital to help us ensure their continuing participation.

Sincerely,

Tim Linley, Ph.D.
Senior Research Scientist

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Herring Japanese Collaboration Budget

Single Year Budget - November 1, 2007 - October 31, 2008

				FY 08
Personnel (includes fringe)		**Mos**	**Rate/mo**	
Howard Ferren	Co-PI	1	7.5	7.5
Subtotal Personnel				**7.5**
Travel		**Quantity**	**Cost each**	
Annual EVOS Meeting (Ferren, Scientist)				
Mileage		1	0.1	0.1
Per diem		5	0.2	1.0
Subtotal Travel				**1.1**
Contractual: vessel charters, equipment rental or lease, professional services, communications, printing				
MariCal				46.4
UAF - Endocrinology Lab				
Cortisol ELISA (n=60) @ $75 per sample		60	0.07	4.2
Vitellogenin ELISA (n=60) @ $75 per sample		60	0.07	4.2
Subtotal Contractual				**54.8**
Commodities: expendable supplies w/ estimated life of less than one year and a unit value <$1,000				
Subtotal Commodities				**0.0**
Equipment: non-expendable items w/ estimated life of more than one year and a unit value >$1,000				
Subtotal Equipment				**0.0**
Subtotal Direct Costs All Categories				**63.4**
Modified Total Direct Costs (exclude Equipment)				63.4
ASLC indirect rate 27.08% of MTDC (modified total direct cost)			27.08%	17.2
TOTAL COSTS w/o G&A				**80.6**
TOTAL COSTS including G&A				**87.9**

Herring Japanese Collaboration Budget
Single Year Budget - November 1, 2007 - October 31, 2008

				FY 08
Personnel		**Mos**	**Rate/mo**	
Tim Linley	Principal Investigator	2	7.1	14.2
Subtotal Personnel				**14.2**
Travel		**Quantity**	**Cost each**	
Annual EVOS Meeting (Linley)				
Airfare		1	1.1	1.1
Per diem		10	0.2	2.0
Scientific Meeting - AFS (Linley)				
Airfare		1	0.7	0.7
Per diem		5	0.3	1.5
Japan-US travel (Matsubara)				
Airfare		2	2.6	5.2
Per diem		20	0.3	6.0
PWS site tour		1	2.5	2.5
Collections, field work PWS (TBD)				
Airfare		3	0.5	1.5
Per diem		6	0.2	1.2
Subtotal Travel				**21.7**
Contractual: vessel charters, equipment rental or lease, professional services, communications, printing				
T. Matsubara (HNFRI) consulting contract				5.0
Vessel charter - fish collection		3	1	3.0
Communications				1.0
Subtotal Contractual				**9.0**
Commodities: expendable supplies w/ estimated life of less than one year and a unit value <$1,000				
Chemicals, reagents				
HPLC (amino acids)				0.5
Spectrophotometry (calcium)				0.5
Freight/postage				0.5
Subtotal Commodities				**1.5**
Equipment: non-expendable items w/ estimated life of more than one year and a unit value >$1,000				
Subtotal All Categories				**46.4**

Womac, Cherri G (EVOSTC)

From: Vince Patrick [vince@isr.umd.edu]
Sent: Friday, November 09, 2007 8:26 AM
To: Baffrey, Michael (DFG sponsored); martazunga@gci.net; Womac, Cherri G (EVOSTC)
Cc: Peter.Hagen@Noaa.gov; rmullins@gci.net; howard_ferren@alaskasealife.org; spies@amarine.com
Subject: pls add to public comment

Michael and Martha,

I hope this gets to you in time to be included.

I did not get notice of the meeting until late last evening and will not be able to participate in person.

To the extent you think the remarks helpful, and if the only way to communicate them is verbally, either of you have my permission state them, in whole or in part.

best regards, vince patrick

Statement for the Record to the Exxon Valdez Oil Spill Trustee Council.
November 9, 2007

Presented for inclusion as the public comment/statement on the action item before the Council --
'Culture Technology to Support Herring Restoration' (080821)

Vince Patrick
PO Box 1991, Cordova

I offer my support for approval of the continued development and adaptation of contemporary culture technologies for Pacific herring in Prince William Sound in parallel with the present development and evolution of the specific ways in which those technologies will be applied.

I wish also to respond to a query by one of you regarding findings and conclusions from the Herring Steering Committee Workshop, October 18 and 19.

As a participant and relative to my needs as a contributor to the herring modeling project, I want to first report that the Workshop was fully successful, in fact, successful significantly beyond expectations.

The issue today illustrates one of the contributions of the workshop.
Because of the workshop, I had the opportunity to confer at length with the PI for the project before you and to see the results and plans for this project in the contexts of both other current projects and the planning process. The Workshop significantly advanced the integration of the culture project with that of my own and, I believe, conversely.

Almost surely, culture technologies, in one form or another, will have an important role in untangling and addressing herring in Prince William Sound. An affirmative vote today will provide the progress and expertise needed to construct a competent and optimal restoration plan.

But the effective adaptation and incorporation of culture technologies is a task that is outside the scope of that technology itself. That task is a matter of integration across all of the current projects.
The strong success of the recent Steering Committee Workshop indicates that this forum, the Committee and your staff have in hand the ability to carry out the necessary integration.

My support for the project at hand and my support for an active integration effort by Executive Director Baffrey and the Steering Committe are inseparable. With, and only with, your commitment to and emphasis on the latter can the former be successful and productive.