

EVOS ANNUAL PROJECT REPORT

All recipients of funds from the *Exxon Valdez* Oil Spill Trustee Council must submit an annual project report in the following format by September 1 of each fiscal year for which project funding is received, with the exception of the final funding year in which a final report must be submitted. Satisfactory review of the annual report is necessary for continuation of multi-year projects. Failure to submit an annual report by September 1 of each year, or unsatisfactory review of an annual report, will result in withholding of additional project funds and may result in cancellation of the project or denial of funding for future projects.

PLEASE NOTE: Significant changes in a project's objectives, methods, schedule, or budget require submittal of a new proposal that will be subject to the standard process of proposal submittal, technical review, and Trustee Council approval.

Project Number: G-050769

Project Title: Temporal stability of fatty acids used to discriminate Pacific herring in Alaska

PI Name(s): Ted Otis (ADF&G-CF, Homer) and Ron Heintz (NMFS-Auke Bay Lab)

Time Period Covered by Report: September 1, 2005- August 31, 2006

Date of Report: August 31, 2006

1. Summary of Work Performed:

A total of 865 Pacific herring (*Clupea pallasii*) were collected from six locations during Winter 2005 and Spring/Summer 2006. Sampling efforts during this reporting period began in December 2005 in Uganik Bay, Kodiak Island. This location represents the area traditionally fished during the Kodiak Fall/Winter food bait fishery. Sampling of spawning herring began March 24, 2006 in Sitka and ended June 9, 2006 in Kangirlvar Bay, Nelson Island. Seventy-five fish were sampled at each of 12 sites within these six areas (e.g., Sitka, Kodiak, Dutch Harbor, Kamishak, Togiak, Bering Sea), except for Dutch Harbor, where 40 samples were collected. Along with the heart tissues needed for this study, the Principal Investigators also collected and preserved additional tissues (e.g., fin clips and otoliths) from all fish sampled in 2006 so future genetic and otolith chemical analyses could potentially be performed to corroborate the results of this study. Otis and Bickford submitted a proposal for FY07 EVOS funding to conduct the otolith work. The genetic samples will be held until techniques capable of discriminating marine forage fish at fine spatial scales are further developed.

As was the case in 2005, we continued to encounter logistical challenges shipping frozen samples from remote areas of Alaska. Stringent liquid nitrogen (LN) transportation restrictions enacted following 9/11 make it very difficult to ship samples preserved at -80° C. The "dry-ship" LN containers that meet the new "Non-Hazmat" shipping guidelines are only viable for 7-10 days, which leaves very little room for sample collection/shipping delays (e.g., fish are late arriving on the spawning grounds, flights are delayed, etc.). In 2005, this problem was

exacerbated by containers being frequently opened for inspection by the Transportation Security Administration (TSA), causing them to further reduce their viable service life. This year, we did not have problems with TSA officials improperly handling dry-shippers, but one of the Bering Sea samples was held up during transport and the samples arrived thawed in Juneau.

A second challenge we faced in 2006 involved the very low abundance of herring in Prince William Sound (PWS). Despite diligent efforts by ADF&G staff aboard the R/V Solstice, we were unable to locate significant herring spawning events in PWS in 2006 to sample for stock identification. One fairly sizeable event did occur in NE PWS approximately 2 weeks earlier than usual, but did not persist long enough for staff to acquire samples. Aerial and vessel surveys throughout the remainder of the spring did not identify any other significant spawning events to sample. The continued low abundance of herring has unfortunately hindered our ability to collect representative samples from traditional spawning aggregations in PWS. Because all other area samples were successfully collected, the absence of PWS samples will not affect our ability to meet the project's primary objective to evaluate the temporal stability of fatty acid signatures used to discriminate Pacific herring in Alaska. Although no collection efforts were originally planned for 2007, given the importance of PWS herring to the funding agency and PWS user groups, we will make one last attempt to collect samples from herring spawning in PWS in Spring 2007.

With the exception of the Spring 2007 PWS samples, all field collections are now complete. Fatty acid analysis of all samples collected to date is currently nearing completion at NMFS's Auke Bay Lab.

2. Summary of Future Work to be Performed:

No proposed changes, other than adding the task to attempt one last collection of PWS spawning herring in Spring 2007.

3. Coordination/Collaboration:

This project relied heavily upon close coordination and collaboration with ADF&G research vessels and personnel conducting normal agency functions. By successfully coordinating with ADF&G research vessels and staff, we were able to collect herring heart, genetic, and otolith samples for this project at greatly reduced cost by not having to charter our own vessels.

4. Community Involvement/TEK & Resource Management Applications:

To outreach this study's progress and results to interested community members and the general public, we developed a project web site: www.herringstockid.info. We've also been corresponding with the local Homer representative of the Alaska Marine Conservation Council (AMCC: Alan Parks), who received approval from his organization's governing board to collaborate with us to outreach this project via AMCC's network of personnel in Alaska's coastal fishing communities. Two possibilities we're considering are designing a project outreach poster

that could be displayed in selected communities with an interest in Alaska's herring fisheries, and writing an article for the AMCC newsletter.

This proposal has broad support from ADF&G Management/Research staff, as demonstrated by their efforts to help collect samples from their respective areas (e.g., Sitka [Marc Pritchett], PWS [Steve Moffitt, Rick Merizon], Lower Cook Inlet [Lee Hammarstrom], Kodiak [Mark Witteveen, Forrest Bowers], Togiak [Tim Baker, Chuck Brazil], and Kuskokwim Bay [John Linderman, Doug Bue]).

5. Information Transfer:

During this reporting period, the PI and Co-PI attended the Annual EVOS-GEM Marine Workshop (January 22-24, 2006), submitted the Annual Report for this project (September 1, 2006) and developed a web site for outreaching project information (www.herringstockid.info).

6. Budget:

No problems and no substantial differences between actual and budgeted expenditures to report.

Report Prepared By: Ted Otis

Project Web Site Address: <http://www.herringstockid.info>

SUBMIT ANNUAL REPORTS ELECTRONICALLY TO brenda_ramos@evostc.state.ak.us. THE REPORTS WILL BE POSTED ON THE TRUSTEE COUNCIL'S WEB SITE AND SHOULD ALSO BE POSTED ON THE PI'S WEB SITE. The subject line of the e-mail transmitting the report must include the project number and the words "annual report" (e.g., "035620 Annual Report"). Electronic reports must be submitted either as an Acrobat Portable Document Format (PDF) file or word processing document (Microsoft Word 2000 for Windows or lower or WordPerfect 9.0 or lower) with any figures and tables imbedded. Acrobat PDF 4.0 or above file format must be used, preferably in 'formatted text with graphics' (called "PDF normal" under Acrobat PDF 4.0) format. Minimally, "PDF searchable image" (called "PDF original image with hidden text" under Acrobat PDF 4.0) may be used if pre-approved by the Trustee Council Office. In either case, the PDF file must not be secured or locked from future editing, or contain a digital signature from the principal investigator.