

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: 040654

Project Title: Surface nutrients over the shelf and basin in summer: bottom-up control of ecosystem diversity.

PI Name: Phyllis J. Stabeno and Calvin W. Mordy

Time Period Covered by Report: September 30, 2004 – April 30, 2005

Date of Report: May 26, 2005

Work Performed: This project is a continuation of project number 030654 which funded the addition of an underway nitrate monitor to an existing suite of underway measurements (temperature, salinity and fluorescence) made on two cruises as part of the *NMFS-OCC / GLOBEC Juvenile Salmon Survey*. The addition of a nitrate monitor was to help elucidate mechanisms of nutrient supply in summer and to explore bottom-up control of plankton and fish distributions along the shelf. Results from the first survey cruise were presented at the 2004 annual GEM workshop. The second survey cruise was delayed until mid-October, 2004; and then only 6 cross-shelf sections were completed due to extremely poor weather conditions. Nutrient samples were collected from the CTD and the underway system, frozen, and analyzed in Seattle. Because the project was to ascertain the spatial variability of nitrate in summer, some of the GEM funding (~\$5K) was used for the analysis of surface samples from five other cruises that spanned spring to fall, 2004 and to integrate these results with those from October cruise. These data sets will be integrated to examine bottom-up control of the ecosystem and its impact on diversity.

Future Work: The GEM data and GLOBEC data will be compiled into a comprehensive seasonal description of the nitrate field, and should extend far beyond the scope of the original proposal. All of the nutrient data will be presented at the annual GEM meeting in 2006. The results will appear in a manuscript that is being prepared using this data to describe the mesoscale patterns in the Gulf.

Coordination/Collaboration: Stabeno and Mordy are PIs on several GLOBEC and FOCI collaborative projects. Mordy is collaborating with efforts to estimate nitrate from space, and these data will be used as ground-truth. A manuscript describing estimates of nitrate from space has been published in EOS (Goes, J.I., H. do R. Gomes, T. Saino, C.S. Wong, and C.W. Mordy, 2004).

Community Involvement/TEK & Resource Management Applications: The primary effort for community involvement was the chartering of a local fishing vessel for this oceanographic expedition.

Information Transfer: No publications were produced in FY04 from this project, but a paper is presently in progress.

Budget: Funding for final data analysis and publication of the data set will be leveraged from GLOBEC and NOAA programs. Calvin Mordy will present the final results at the GEM annual meeting in 2006. Travel money for this meeting will be leveraged from a second GEM project that funds C. Mordy. (040699/Biophysical Observation aboard Alaska Marine Highway System Ferries).

Report Prepared By: Phyllis J. Stabeno and Calvin W. Mordy

Project Web Site Address: http://www.pmel.noaa.gov/foci/GEM/surface_nitrate/

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.