

FY15 PROJECT PROPOSAL SUMMARY PAGE

Continuing, Multi-Year Projects

Proposals are due to the EVOSTC office by September 2, 2014. Please note that the information in your proposal and budget form will be used for funding review. Late proposals, revisions or corrections may not be accepted.

Project Title: Herring Research and Monitoring – Aerial Survey Support

Project Period: February 1, 2015 – January 31, 2016

Primary Investigator(s): W. Scott Pegau, Prince William Sound Science Center

Study Location: Prince William Sound

Project Website: <http://pwssc.org/research/fish/pacific-herring/>

Abstract*:

This project is for providing aerial survey support to the EVOSTC sponsored Herring Research and Monitoring (HRM) and Gulf Watch Alaska (GWA) programs. For the HRM program the aerial support will be used to help collect herring samples for the genetics project and to provide an aerial index of age-1 herring abundance. For the GWA program the aerial support will be used by the forage fish project. The desire is to provide an aerial index of forage fish abundance and guide the capture efforts of the vessel. In turn the vessel will be providing ground truth of fish types and size of schools for better interpretation of the aerial based forage fish information. This proposal request is strictly for aerial support, all analysis and vessel funding will come from the existing projects. Funding for this project will be managed as a supplement to the HRM Coordination and Logistics project led by Dr. Pegau.

Estimated Budget:

EVOSTC Funding Requested* (*must include 9% GA*):

FY12	FY13	FY14	FY15	FY16	TOTAL
		70,850	70,850		141,700

Non-EVOSTC Funds to be used:

FY12	FY13	FY14	FY15	FY16	TOTAL
		4,000			

**If the amount requested here does not match the amount on the budget form, the request on the budget form will be considered to be correct.*

Date: 8/15/2014

I. EXECUTIVE SUMMARY

Please provide a summary of the project including key hypotheses and overall goals, as submitted in your original proposal. If there are additional highlights that you would like to include since you submitted your annual report, please include them here. Also, please list any publications that have been submitted and/or accepted since you submitted your annual report.

This project is for providing aerial survey support to the EVOSTC sponsored Herring Research and Monitoring (HRM) and Gulf Watch Alaska (GWA) programs. For the HRM program the aerial support will be used to help collect herring samples for the genetics project and to provide an aerial index of age-1 herring abundance. For the GWA program the aerial support will be used by the forage fish project.

Fish collection for the genetics project entails finding spawn occurring in multiple locations around Prince William Sound (PWS) and either guiding vessels or landing and sampling fish. In 2014 we assisted with fish collection at Kayak Island. We desired to collect spawning fish from Montague Island. Despite several schools being observed near the beach on Montague Island there was no spawn observed and therefore we did not assist in collecting fish.

In June we completed a survey of the coastal areas of PWS to get an index of the number of age-1 herring schools observed. Approximately 225 schools of age-1 herring were seen, which is a tenth of that observed in 2013, but more than 2011, and 2012.

We worked with Mayumi Arimitsu with the forage fish project in the GWA program to revise sampling protocols and collect observations using various methods. The desire is to provide an aerial index of forage fish abundance and guide the capture efforts of the vessel. We used a stratified random sampling technique. PWS was broken into blocks and previous July observations were used to stratify sampling into high, medium, and low numbers of schools. We surveyed over 140 blocks in 2014 and worked with the vessel on six days to provide validation of the aerial observations. The ground truth of fish types and size of schools allows for better interpretation of the aerial based forage fish information.

This proposal request is strictly for aerial support, all analysis and vessel funding will come from the existing projects. Funding for this project will be managed as a supplement to the HRM Coordination and Logistics project led by Dr. Pegau. The budget for this project is included in that project's budget.

II. COORDINATION AND COLLABORATION

A. Within a EVOTC-Funded Program

This project involves tight coordination between the GWA Forage Fish project and the HRM Coordination and Logistics project. The Forage Fish project provides equipment for logging observations and the Coordination and Logistics project provides observers. The two projects work together to develop sampling protocols.

We anticipate continuing to search for additional spawning populations for the genetics project.

B. With Other EVOSTC-funded Projects

We have not contributed to other EVOSTC-funded projects.

C. With Trustee or Management Agencies

We will continue to work with Steve Moffitt, the regional fisheries biologist for Alaska Department of Fish and Game (ADF&G) in Cordova. We share all observations of herring spawn and work to assist in the collection of herring from populations ADF&G is unable to sample. The forage fish surveys are done in conjunction with John Piatt and Mayumi Arimitsu of USGS. All data is provided to them.

III. PROJECT DESIGN – PLAN FOR FY15

A. Objectives for FY15

This project's objectives are:

- 1) Provide aerial support for collection of samples for the genetics project.
- 2) Provide an index of abundance of age-1 herring.
- 3) Provide aerial support to the forage fish project of the GWA program:
 - a. Test the efficiency of adaptive vs. conventional sampling methods to optimize survey design for estimating stock size with an accurate estimate of the associated variance
 - b. Validate aerial observations for species, age class, average biomass and school density.

B. Changes to Project Design

We will continue to search for herring spawn along Montague Island to collect fish for genetic sampling and to provide to ADF&G for their age-structure analysis. Originally this was planned for 2014 only, but no fish were observed spawning that year.

The sampling protocols may change based on results from 2014. The expected amount of effort provided by the aerial surveillance will remain the same.

IV. SCHEDULE

A. Project Milestones for FY 15

Objective 1. Provide aerial support for collection of samples for the genetics project.

To be met by May 2015

Objective 2. Provide an index of abundance of age-1 herring.

To be met by July 2015

Objective 3. Provide aerial support to the forage fish project of the GWA program.

To be met by August 2015

B. Measurable Project Tasks for FY 15

Specify, by each quarter of each fiscal year, when critical project tasks (for example, sample collection, data analysis, manuscript submittal, etc.) will be completed, as submitted in your original proposal.

Please identify any substantive changes and the reason for the changes. Please format your schedule as in the following example:

FY 15, 1st quarter (February 1, 2015 - April 31, 2015)

March-April: Spawn observations and collection of genetic samples

FY 15, 2nd quarter (May 1, 2015-July 30, 2015)

June: Survey coastal areas for age-1 herring

July: Survey PWS for the Forage Fish project and work on validation

V. PROJECT PERSONNEL – CHANGES AND UPDATES

No changes in personnel are anticipated.

VI. BUDGET

A. Budget Forms (Attached)

This budget is included in that of the Coordination and Logistics project.

B. Changes from Original Proposal

No changes are requested

C. Sources of Additional Funding

Cordova District Fishermen United has supported the spawn surveys at approximately \$4,000 for the past two years. It is expected that funding will continue.