

Bering Sea Integrated Ecosystem Research Project: Format for Semiannual Progress Reports

Project #: B59

Title: Surface trawl survey acoustics

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Contract Period and Amount of Funding:

1 October 2007 – 30 September 2012
\$449,381

Report Period:

1 April 2008 through 30 September 2008

Report Date:

29 September 2008

Lead Author of Report:

Sandra Parker-Stetter, John Horne, Ed Farley

Proposed timeline and milestones within report period:

<i>What</i>	<i>Who</i>	<i>Start</i>	<i>Other key dates</i>
Plan 2008 Fall survey, including liaison with BSIERP data group	Farley, Sigler, Clary, Horne, Heintz, Aydin	Now	Complete plan during May
2008 Survey on Dyson; BASIS stations in Area 2 (Pribilof Is. Area)	Farley, Eisner, Horne, Parker-Stetter	Dutch Harbor, Sept 8 to 30, 2008	

Project Summary: Our project will use acoustics and midwater trawling to assess the vertical and horizontal distribution of forage fish (e.g., juvenile pollock, capelin, herring) including estimates of

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density, variance, and abundance within the BASIS survey area. We will also correlate forage fish distribution with environmental parameters and potential predators.

This project will provide data for and/or address hypotheses 1b, 1c, 2b, 2c, 2d, 3b, and 3c.

Progress Summary: Planning of the 2008 BASIS survey was achieved in consultation with other BSIERP PIs to ensure that multiple project needs would be accomplished given the constrained BASIS survey duration. The 2008 survey area was aligned to encompass preciously observed concentrations of juvenile walleye pollock and forage fish. The survey was conducted from Sept. 8th to Sept. 30th 2008.

Lessons learned and project adjustments: Reduced resources for the BASIS survey resulted in coordinated compromise for primary and secondary projects associated with this research cruise. All affected PI's discussed alternative survey designs and evaluated benefits and constraints of any particular transect layout. A compromise survey plan was developed with input of all PI's to address objectives of all projects. This final design covered ~ 2/3 of the original survey area at a coarser resolution than has been used in previous BASIS surveys.

Increased transect spacing (from ~32 nmi to ~65 nmi) will eliminate our ability to use geostatistical methods to estimate abundance and variance of forage fish. Indices and possible estimates will be limited to forage species distribution maps along-transect and the use of classical statistical approaches (e.g., stratified, simple) to estimate population abundances and variances. Variance estimates derived from this approach are expected to be higher than would be obtained using geostatistical methods. The loss of geostatistical analyses from 2008 may also constrain or eliminate correlative analysis with environmental variables or among-year comparisons of forage fish distributions. The number of target identification trawls was also reduced and we anticipate increased uncertainty associated with species or group-specific density/abundance estimates.

Integration activity: We participated in all BSIERP-FISH quarterly meetings (in person and teleconferences) and discussed implications of BASIS survey design changes on BSIERP projects. Planning for the reduced BASIS survey also included coordination among modeling and field PI's to determine critical data needs and associated samples.

As the field component is underway at the time of writing this report, no data/metadata have been delivered to the BSIERP Data Manager or to other projects.

Education and Outreach: Outreach activities have not occurred during this reporting period.

Next year's Work plan (not part of the 5 page target length):

B59, Surface trawl survey acoustics, John Horne (jhorne@u.washington.edu), Edward Farley (ed.farley@noaa.gov), Sandra Parker-Stetter (slps@u.washington.edu)

2009-2012 Tasks, Assignments, Timeline

<i>What</i>	<i>Who</i>	<i>Start</i>	<i>Other key dates</i>
Analyze acoustic and catch data from BASIS cruise	Parker-Stetter, Horne	Oct, 2008 to Mar 2009	
Station data delivery (lat, lon, number of fish caught, biological data for age 0 pollock, cod, etc)	Farley	December 2008	
Plan 2009 Fall survey, including liaison with BSIERP data group	Farley, Sigler, Clary, Hollowed, Horne, Heintz,	January 2009	Complete plan during May

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	Aydin		
2009 Survey; vessel unknown	Farley, Eisner, Horne, Parker-Stetter	Tentative dates Sept 1 to 30, 2009	
Analyze acoustic and catch data from BASIS cruise	Parker-Stetter, Horne	Oct, 2009 to Mar 2010	
Station data delivery (lat, lon, number of fish caught, biological data for age 0 pollock, cod, etc)	Farley	December 2009	
Plan 2010 Fall survey, including liaison with BSIERP data group	Farley, Sigler, Clary, Hollowed, Horne, Heintz, Aydin	January 2010	Complete plan during May
2010 Survey; vessel unknown	Farley, Eisner, Horne, Parker-Stetter	Tentative dates Aug 14 to Oct 10, 2010	
Analyze acoustic and catch data from BASIS cruise	Parker-Stetter, Horne	Oct, 2010 to Mar 2011	
Station data delivery (lat, lon, number of fish caught, biological data for age 0 pollock, cod, etc)	Farley	December 2010	