

## BSIERP Project O2.26, Acoustic Survey

### O2.26 Acoustic survey

#### Contact Information

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**Co-PIs:**

#### Summary

This project estimates midwater walleye pollock (age 1+) abundance in the eastern Bering Sea through approximately biennial acoustic-trawl surveys conducted by the NOAA-NMFS-Alaska Fisheries Science Center. Collection of observations of physical oceanography, fish prey fields, and marine mammal and seabirds for several other BSIERP projects also take place during these summer cruises.

#### Background

##### Species and Geographic Scope

Walleye pollock (*Theragra chalcogramma*), middle and outer continental shelf in the eastern Bering Sea, sometimes including portions of both the U.S. and Russian EEZ.

##### Hypotheses

This survey provides data for several BSIERP projects that together address BSIERP Hypotheses 2, 3, and 4.

##### Project Description

Acoustic surveys designed to estimate walleye pollock (*Theragra chalcogramma*) abundance (Honkalehto et al. 2002) have been conducted by the NOAA-NMFS-Alaska Fisheries Science Center (AFSC) in the middle and outer domains of the eastern Bering Sea shelf approximately biennially since 1979 and are planned for June and July of 2008, 2009, and 2010. These surveys are conducted using standard methods (Traynor et al. 1990; Williamson and Traynor 1984) along regularly spaced survey transects (37 km spacing), primarily with calibrated echosounders operating at 38 kHz and midwater and bottom trawling (Figure 1).

Fieldwork for several other BSIERP projects take place during these cruises (see Research Links), including physical oceanographic, forage species, seabird, and marine mammal data collection. The cruises are conducted mostly at no cost to the project; BSIERP funding will be used to cover a small portion of the cost of conducting the survey scheduled to take place in summer 2009, as 2009 is not a regularly scheduled year for this approximately biennial survey.

The acoustic survey (O2.26) will take place (nominally) June 1 – July 31 of 2008, 2009, and 2010.

##### Project Reporting

Research Products: Data products include age- and size-structured estimates of age 1+ midwater pollock abundance and spatial distribution. See also Research Links.

Research Links: Data from O2.26 supports supports data collection or analysis in the following projects: O2.16, O2.17, O2.24, O4.36, O4.38, O4.40, and potentially any of the modeling projects TBD. Some small requests for sample collection were made by BEST investigators at the September 2007 joint BEST/BSIERP meeting. Midwater pollock abundance from O2.26 complements near-bottom pollock abundance estimates from the AFSC bottom trawl survey (O2.25).

## BSIERP Project O2.26, Acoustic Survey

Research Reporting: Survey data will generally be edited and available to PI's two months following completion of each survey year.

Dissemination: See project O2.17.

Graduate Students and Post-docs: See project O2.17.

### Figures

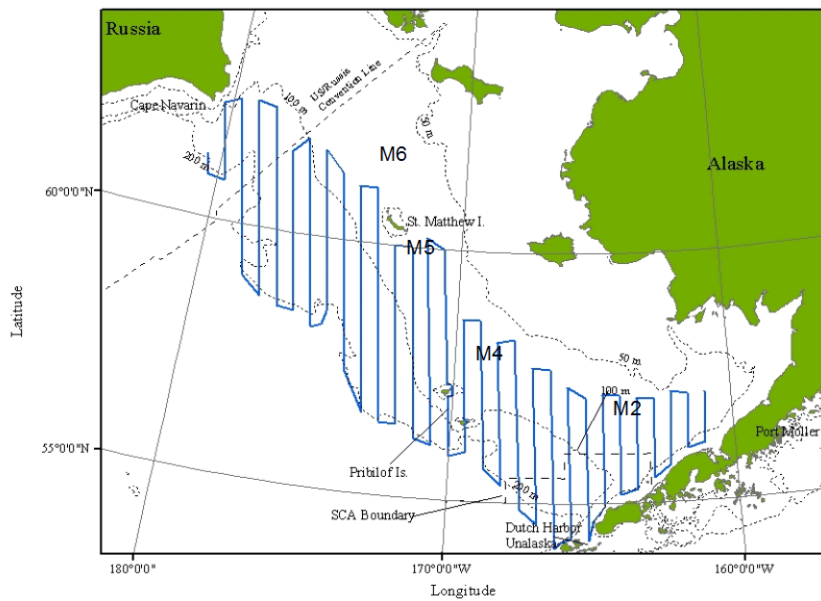


Figure 1.--Transect lines from the summer 2004 echo integration-trawl survey of pollock (blue lines), on the Bering Sea shelf.

Fig. 1. Acoustic survey (O2.26) transects and 4 biophysical mooring (O1.1) locations (M).

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### References

- Honkalehto, T., N. J. Williamson, S. de Blois, W. and Patton. 2002. Echo integration-trawl survey results for walleye pollock (*Theragra chalcogramma*) on the Bering Sea Shelf and Slope during summer 1999 and 2000. U.S. Dep. Commer., NOAA Tech. Memo. NFMS-AFSC-125,126.
- Traynor, J.J., N.J. Williamson, and W.A. Karp. 1990. A consideration of the accuracy and precision of fish-abundance estimates derived from echo-integration surveys. Rapp. P.-v. Reun. Cons. Int. Explor. Mer. 189:101-111.
- Williamson, N.J., and J.J. Traynor. 1984. In situ target-strength estimation of Pacific whiting (*Merluccius productus*) using a dual-beam transducer. J. Cons. Int. Explor. Mer 41:285-292.