



Fish News

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AEB – NMFS Cooperative Research Project: Shumagin Islands Pollock Resource Assessment Survey

By Dr. Vidar Weststad & Dr. Martin Dorn



Dwain Foster, captain of the F/V Temptation, conducted the final acoustic survey of a multi-year cooperative survey of Area 610 pollock. The area included Sanak and parts of Unga Straits in the Guillemot Island.

In April 2013, the final survey of a multi-year cooperative survey of Area 610 pollock was completed with an acoustic survey of the Sanak area and parts of Unga Straits in the Guillemot Island area. Dwain Foster conducted the survey in command of the F/V Temptation. The ship's acoustic instruments were calibrated in King Cove to insure they were recording properly. Captain Foster surveyed the Sanak area following the same track lines that the NOAA R/V Oscar Dyson occupied earlier in the year.

The results recorded by the F/V Temptation indicate a higher biomass of pollock than was found by the NOAA vessel. In March, the R/V Oscar Dyson found very little pollock sign in the Sanak area. Following several days of bad weather, Captain Foster volunteered to take the F/V Temptation to survey the Guillemot area where again, there appeared to be more fish present in April than during the R/V Oscar Dyson survey conducted in March.

No samples were taken during the survey because the fishery was closed, and there was no federal permit to allow fishing. However, from the appearance of the sign and historic patterns, it is highly likely that most of the observed sign is pollock. The items of key importance of this survey are that:

1. It confirms “traditional ecological knowledge” that pollock are generally not present in abundance in the Shumagin Islands at the time the NMFS survey is carried out,
2. Small trawlers can collect simpler quality acoustic data and trained skippers can conduct the survey and record the data without direct assistance.

The April survey was a culmination of several years of research into the effectiveness of

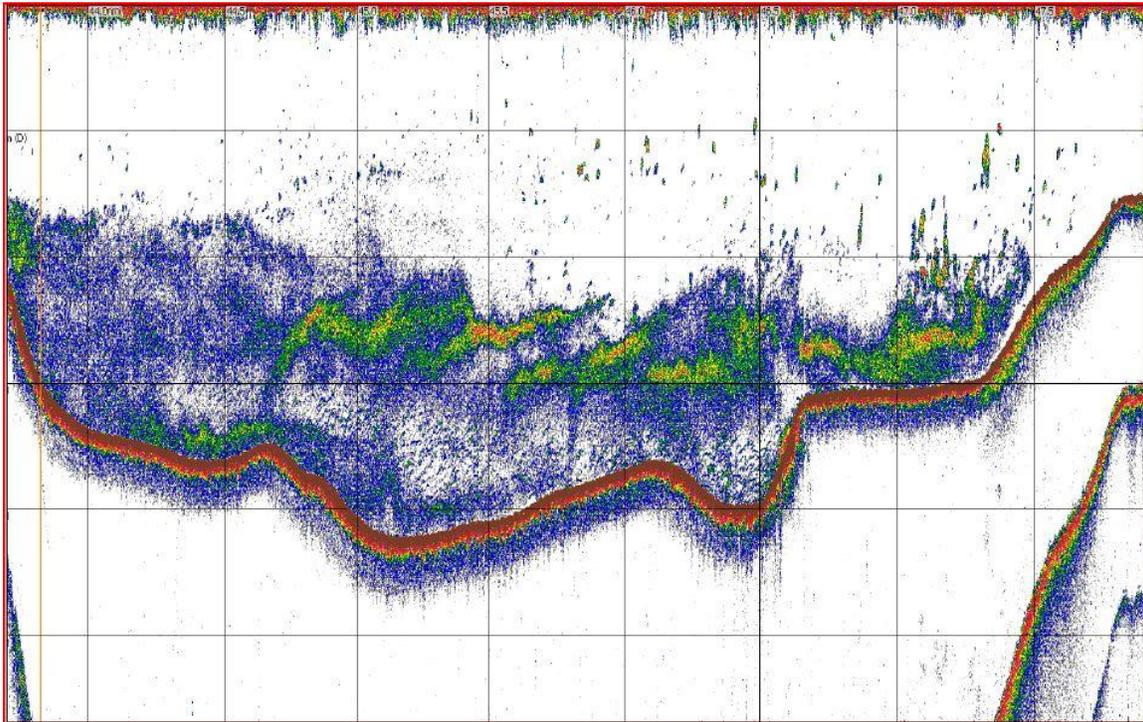


Dwain Foster, captain of the F/V Temptation; Dr. Martin Dorn and Dr. Vidar Wespestad check an echogram from western Nagai Strait.

small boat survey potential in the western Gulf of Alaska and the ability to assess the abundance of pollock. The underlying reasons for establishing the program were that the Oscar Dyson was having operational difficulties at the time and there were concerns about its ability to operate in many of the areas of the Shumagin Islands. Local people had concerns about the effectiveness of the survey. In addition, the communities of King Cove and Sand Point, which are heavily dependent on pollock harvests, were concerned that there

would be no surveys in the western Gulf of Alaska if government funding of the surveys were reduced. These factors led to the creation of the Shumagin Cooperative pollock assessment project.

Over the course of the project, we learned a great deal about the capability of local trawlers and about the distribution and abundance of pollock in the area. We also made some small changes to the program. We added a high frequency echosounder that allows measurement of krill and plankton and provides information to separate pollock from some of the other pelagic fish in the area, such as smelts and eulachon. We also attempted to quantify the presence of whales and other marine mammals along the survey track lines. Whales exhibit a high degree of association with pollock since both are primarily feeding on krill concentrations. Juvenile pollock are also highly associated with krill, so the question of interest is if whale feeding is impacting the pollock population.



Example of an echogram from western Nagai Strait.

The primary goals of this project were accomplished, but as in all science, more questions are uncovered than answered. The project demonstrated that a small trawler can collect usable acoustic data, and that it is possible to obtain better abundance estimates at a later date than the NMFS survey conducted with the Oscar Dyson. The program is proven but lacks funding to make it operational and able to provide a quantitative assessment of pelagic resources in the Shumagin Islands. The program is relatively low cost and hopefully funds can be obtained to continue the survey now that it is established.

The project was conducted under the direction of Dr. Martin Dorn of the Alaska Science Center. Suzanne Romain, AFSC contract employee, who did much of the analysis of the

acoustic data, assisted Dr. Dorn. Dr. Vidar Westpestad represented the AEB on the project and assisted with survey planning, operations and in data collections and liaison with the AEB. For all of us from outside the AEB, we wish to thank everyone involved for their kindnesses and assistance in many ways. We especially want to thank Ms. Beth Stewart, former AEB Resource Director, who brought all the elements together and brought the project into being.

It was interesting to learn about the local communities and their way of life. Perhaps with luck, we may return and continue to learn more about the pelagic resources of the Shumagin Islands region.

For more information, visit the links below:

2012 Cooperative Acoustic Surveys in the Western Gulf of Alaska, a presentation to the AEB Fishermen's meeting, November 27, 2012. Martin Dorn, Suzanne Romain, Vidar Westpestad.

Link: <http://www.aebfish.com/2012coopacousticpres.pdf>

DRAFT Results from the Cooperative Acoustic-Trawl Surveys of the Western Gulf of Alaska, September 2012. Vidar Westpestad, Martin Dorn, Suzanne Romain.

Link: <http://www.aebfish.com/draftacoustic2012.pdf>

Results of Cooperative Research Acoustic Surveys of Walleye Pollock (*Theragra chalcogramma*) in the Western Gulf of Alaska from September 2007 to January 2011. Suzanne Romain, Vidar Westpestad, Martin Dorn.

Link: <http://www.aebfish.com/acoustic.pdf>

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