

Collaborations

A monthly report on collaborative research projects in the northwest Atlantic Ocean.



The blinding glare that so often fills commercial fishing vessel wheelhouses has been a major obstacle in developing an effective electronic logbook. New “view anywhere” screens is just one of the improvements currently undergoing field tests on 15 fishing vessels across New England. (Image courtesy of NOAA)

The Study Fleet Pilot Project

By Michael Crocker

In the summer of 1912 pioneering Harvard oceanographer, Henry Bigelow, asked a group of New England and Canadian highliners if he could consult their logbooks for information about the abundance and distribution of fishes in the Gulf of Maine. He also sought their observations on weather, winds, tides, and currents.

Bigelow had just begun research for his seminal work, *Fishes of the Gulf of Maine*, and he knew that nobody understood the waters between Cape Cod and Cape Sable, Nova Scotia better than fishermen. He would later write that their intimate knowledge of the sea “could be had from no other source.”

Today, in a sign of the times, researchers are

collaborating with fishermen to develop a digital logbook in the pursuit of science.

According to Story Reed, a fisheries specialist with Perot Systems Government Services (a government contractor in charge of managing many facets of the program) the goal of the program is to one-day use the information collected to better manage fish stocks.

Some 15 vessels from three separate New England fleets are participating: Gulf of Maine mid-size trawlers; southern New England offshore trawlers; and inshore Cape Cod hook vessels.

The Gulf of Maine Research Institute, the Manomet Center for Conservation Sciences, and the Cape Cod Commercial Hook Fishermen’s Association are assisting with the coordination of the fleets.



The Walkabout Hammerhead, an example of a tablet PC. (Image courtesy of NOAA)

Known as “The Study Fleet Pilot Project” the nearly \$2 million effort—funded by NOAA’s Cooperative Research Partners Initiative (CRPI) in Gloucester, Mass.—partners scientists and field researchers with fishermen to design, build, and implement an electronic data reporting device for eventual use aboard all groundfish fishing vessels in the Northeast, Reed said.

“Fishermen’s observations are some of the best information we have about marine systems. Such knowledge is key to making effective management decisions that make sense for fish and fishermen,” said Dr. Earl Meredith, CRPI’s coordinator, and collaborative research specialist.

Currently, two electronic data collection systems are being tested: the Thistle Marine HMS-110 and the University of New Hampshire (UNH) Logbook. Affectionately known as the “Thistle Box,” the HMS-110 includes both hardware and software. The device is self-contained, weatherproof, and can be operated with a gloved hand. It can also be connected directly to the vessel’s Global Positioning System (GPS) to incorporate navigational information with fishing data.

After a trip, fishermen bring the unit home, con-

nect it to a phone line, and download the data to Thistle Marine’s secure website. These conveniences make the “Thistle Box” a favorite among many fishermen. But a drawback of the unit is that it lacks modification capability once necessary changes are identified, according to Meredith.

By comparison, he said, the UNH Logbook utilizes software, installed on Dell Inspiron laptop computers, which can be updated regularly.

Two prototype laptops have been weatherproofed and hardened for use on open Cape Cod hook vessels; off-the-shelf computers are used in closed wheel-houses.

This system allows fishermen to enter catch and effort data into a custom-designed electronic logbook. Data collection parameters have been approved by fisheries scientists at NOAA’s Northeast Fisheries Science Center in Woods Hole, Mass. and are very similar to current government vessel trip reports (VTRs), said Reed.

“Input from fishermen was the driving force behind the design of this logbook, and it will continue to be as we make changes.”

Throughout the project, fishermen have made suggestions to make the UNH Logbook more user-friendly and less redundant—such as interfacing the vessel’s GPS to allow automatic recording of location, he said.

“Input from fishermen was the driving force

behind the design of this logbook, and will continue to be as we make changes,” said Scott Tibbetts, a software designer who has been contracted to develop the system.

The study fleet has been collecting and storing data since August 2003, but use of the information so far has solely been to test logistics of the collection systems.

The project designers said they eventually hope to create a single system that will collect data, transfer it near real-time via satellite, and store it on a secure database at Woods Hole. Current NMFS protocol for the collection of fisheries dependent data will serve as a model to ensure the privacy and proper use of the information.

This summer, tests to interface the logbook with P-Sea WindPlot technology, a navigation system widely used throughout the fleets will be conducted on five vessels. The use of Boatracs, a wireless communication system, will also be assessed, said Reed.

And Perot systems is in the process of creating a secure website to collect and store data, where fishermen will be able to access their own information with a personal identification number.

“It is not widely known that fishermen are some



Old Standby: The Thistle Marine HMS-110 data collection device. (Image courtesy of NOAA)

of the most conservation minded folks out there. The things we see on a daily basis are tremendously important to creating a management system that works for everyone. The key to the success of this project will be to develop a central clearinghouse for the data, one that serves the needs of both science and industry,” said Bill Lee, a captain from Rockport, Mass. who is participating in the Study Feet Pilot Project.

For more information please visit <http://coopresearch.nero.noaa.gov> or email carl.leoncello@noaa.gov.

Participating Fishermen and Organizations

Manomet Center for Conservation Sciences

Zane Gogola - F/V *Mora K*
 Bob Khole – F/V *Glenna and Jacob*
 Phil Ruhle Jr. – F/V *Sea Breeze*
 Tony Santos – F/V *T. Luis*
 Scott Wescott – F/V *Mary Elena*

Cape Cod Commercial Hook Fishermen’s Assoc.

Jamie Eldredge – F/V *Yellow Bird*
 Bruce Kaminski – F/V *Never Enough*
 Tom Luce – F/V *Sea Win*
 Mike Russo – F/V *Susan Lee*
 Peter Taylor – F/V *Sea Hound*

Gulf of Maine Research Inst.

Lendall Alexander – F/V *Julie D.*
 David Goethel – F/V *Ellen Diane*
 Bill Lee – F/V *Ocean Reporter*
 Cameron McLellan – F/V *Adventurer*
 Paul Vitale – F/V *Angela & Rose*

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