

***Pilot Project to Assess Need and Initialize a Methodology to Groundtruth
Existing Multibeam and Sidescan Sonar Seafloor Charts***

Progress Report
NEC Contract # PZ06133
December 1, 2006

PI Contact Information

Dr. Kathryn Ford
MA Division of Marine Fisheries
1213 Purchase Street
New Bedford, MA 02740
508-990-2860
kathryn.ford@state.ma.us

Project Participants

Olivia Free
Massachusetts Fishermen's Partnership
2 Blackburn Center
Gloucester, MA 01930
978-282-4847
olivia@mass-fish.org

Captain Peter Marshall
F/V Venture
142 Conomo Point Road
Essex, MA 01924
978-335-8439

Major Accomplishments and Milestones

- Consultations with Captains Sam Novello and Peter Marshall to devise a sampling strategy;
- Meeting with Dr. Hunt Howell, UNH; Chris Hein, BU; Bill Hoffman, DMF, Captain Sam Novello; and Olivia Free, MFP, to determine sampling sites and coordinate with on-going research work;
- Coordination with Walter Barnhardt, USGS; Dann Blackwood, USGS; Seth Ackerman, MA CZM; and Chris Hein, BU; to determine project logistics including equipment loans, on-board crews, and sample transport and analysis;
- Successful field testing of video and sampling equipment;
- Four sea-days groundtruthing existing USGS charts at cod spawning sites within the Cod Conservation Zone (CCZ) in Massachusetts Bay using grab samples and video analysis; and
- Three sea-days groundtruthing existing USGS charts at cod spawning sites within Ipswich Bay using grab samples and video analysis;
- Completion of organic carbon and grain size analysis of sediment samples.

Unexpected Difficulties and Project Alterations

The original proposed pilot study intended to produce high resolution sidescan maps of a portion of the CCZ. However, Dr. Ford subsequently discovered that the USGS had already produced high quality, sidescan and multibeam charts of the target areas. As a result, the focus of this project shifted to groundtruthing these existing charts with a focus on gaining insight into benthic habitats where spawning cod are found. In addition, the

pilot project's area of focus was expanded to include Ipswich Bay as an important cod spawning location and the field days originally planned for sidescan work were used to do exploratory work in Ipswich Bay.

The sidescan and multibeam sonar sea trials were originally planned to be conducted aboard Captain Sam Novello's trawler but the configuration of his gear did not permit the safe and effective usage of the groundtruthing equipment. As a result, Captain Peter Marshall was recruited by the MFP to participate. His scallop vessel had an A-frame and sufficient deck space to deploy the necessary video and grab sampling equipment. Captain Novello remained involved in the project and participated during sea sampling as well as by providing sampling advice.

Next Steps and Tasks for Next Six Months

- Analysis of sediment sample results and video footage
- Production of enhanced cod habitat characterization and sea floor maps
- On-going coordination with all involved parties
- Outreach of project findings to fisheries managers, scientists and industry members
- Determination of appropriate follow-on project activities
- Final report preparation

Impacts of the Project to Fishermen/fishing Community, and Scientist/science Community

The findings of this project will contribute to the growing databank of accurate seafloor charts and benthic habitat characterization in the Gulf of Maine. In particular, our work in the CCZ will help examine why a seasonal aggregation of cod return to specific geographic areas in Massachusetts Bay and if there is a link to particular benthic habitat types that may contribute to this phenomenon. In addition, our work in Ipswich Bay will further characterize the habitat that underlies pre-spawning and spawning cod fish. Moreover, this pilot project will establish the efficacy of science/industry partnerships in generating these types of products and creating future partnerships to couple sidescan sonar mapping and groundtruthing with the capable interpretations of fishermen. The acquisition of this information is necessary to help identify, manage and protect the habitat critical to the growth and survival of fish and shellfish stocks throughout the Gulf of Maine.



Dr. Kathryn Ford
Massachusetts Division of Marine Fisheries

December 1, 2006