

GULF OF MAINE LOBSTER FOUNDATION



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Annual Report (past due) to Northeast Consortium

Project Title: Determining Effect of Eastern Maine Bottom Currents On Groundlines

Award Number: 07-090 (NEC development grant)

Period of Performance: 04/05/07 – 11/30/07 (extended to 6/30/09)

Date of Report Submission: 3/13/09

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## Work Completed Since January 2008

Gulf of Maine Lobster Foundation (GOMLF) did not submit an Annual Report to the Northeast Consortium in 2008, but will submit a Final Report before 6/30/09. Though the 6-month field component of the project "Determining Effect of Eastern Maine Bottom Currents On Groundlines" was completed over a year ago, GOMLF has continued to pursue data processing results and possible conclusions from the lead scientist, Neal Pettigrew, since that time.

The project sought to examine the effect of bottom currents on specific lobster gear in nearshore eastern Maine waters. Our objective was to establish whether bottom currents in Downeast Maine are so strong that they significantly reduce the profile of floating rope used as groundline, and therefore reduce the risk of whale entanglements. While there was no significant change to the objective of the project, the data work has taken a much longer time than anyone anticipated. Additionally, the federal regulations that have come to pass since the start of this project have rendered irrelevant any positive conclusion that might be drawn about the low profile of floating groundlines.

Sara Ellis, Data Manager for GOMLF, extracted preliminary data from the Star-Oddi pressure sensors and all the data was sent to Pettigrew in January 2008. Most of the data was good, although there were a couple of anomalies that Pettigrew needed to account for. That is one reason for the delay in data processing; there were many contacts made with the manufacturer of the pressure sensors, in order to explain some of the "false" readings of the pressure sensors. The full dataset from the pressure sensors underwent rigorous analysis by Pettigrew in early 2009, and early readings of the data shows the floating groundlines at or below six feet (one fathom) of arc height over a 20 fathom length.

The Sensor Data 6000 dataset (that from the mechanical flow meter) was graphed by Chris Heinig at Maine Environmental Resources and submitted in January 2008 to Pettigrew. Data from the two ADCPs has been in the GoMOOS office's possession since early 2008. It is still the plan that the three datasets, in conjunction with data from the GoMOOS buoy array, will be used to model bottom current patterns in the area where the gear was deployed. Preliminary presentation of the data was made at the Maine Fishermen's Forum in early March 2008 (attached) and a draft report entitled "Analysis of Effects of Bottom Currents on Lobster Trap Ground-Lines" was submitted by Pettigrew to GOMLF in March 2009 (attached). While the latter report investigates 3/5 of the data obtained in the field and stops short of the theoretical work regarding the groundlines and how close to the bottom at slack tide they are, it provides an analysis of the problems and promise of the pressure logger data.

## Next Steps

Data Manager Ellis will be enlisted to work directly with Pettigrew to scrutinize pressure sensor data from all five months. Pettigrew will collate all datasets and postulate conclusions. GOMLF will submit a comprehensive assessment of both the project's methodology and results in a Final Report to the Consortium by 6/30/09. All billing will conclude by that date.