



Gulf of Maine Research Institute

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Progress Report

Contract Number: 10-073

Project Title: Is the OLFISH electronic monitoring system a feasible tool for improving fishery-dependent data for the deep water red crab fishery?

Principal Investigator : **Dr. Shelly Tallack**
The Gulf of Maine Research Institute
350 Commercial Street,
Portland, ME 04101

Email: stallack@gmri.org
Tel: 207-228-1639
Fax: 207-772-6855

Additional Project Participants:

Mr. Jon Williams
New England Red Crab Harvesters Association
132 Herman Melville Blvd.
New Bedford, MA 02740

Email: benthic7777@hotmail.com
Tel: (508) 951-4788
Fax: (508) 990-3201

Contract period: March 1, 2010 – February 28, 2011 (12 months)

Period being reported: March 1, 2010 – January 27, 2011 (11 months)

Signature of lead PI:

Date:

Introduction

This report refers to the Scope of Work outlined in the Project Development Fund contract #10-073, entitled “Is the OLFISH electronic monitoring system a feasible tool for improving fishery-dependent data for the deep water red crab fishery?”

The primary aims of this scope of work are as follows:

Objective 1: Customize and assess the OLFISH electronic data collection system for collecting catch-per-unit-of-effort (CPUE) and discards data during commercial red crab fishing trips; collaborate with the NEFSC assessment staff to ensure the compatibility and utility of these data for improved stock assessments in future years.

Objective 2: Work with the red crab industry (Williams, captains and crew) to ensure the feasibility of the data collection system developed and provide training for sustained CPUE/discards data collection.

Objective 3: Make the collected data available to the NEC, the NEFSC, the red crab PDT and the SSC for consideration in future stock assessment processes.

Major accomplishments and milestones

Upon receiving the formal contract from the Northeast Consortium, GMRI coordinated the following meetings:

- 1) Spring 2010 - Meeting with Heidi Henninger (Offshore Lobstermen’s Association / Olfish Representative) – the purpose of this meeting was to review the OLFISH software’s capacity and begin discussing how the software could be tailored to the deep water red crab fishery.
- 2) June 2010 - Conference call with the NEFSC, Jon Williams, Dick Allen and Heidi Henninger to discuss as a group the data needs for future stock assessments, to ensure that the software customization could meet these needs.
- 3) September 2010 – Between June and September, we developed the blueprint for the OLFISH customization and a contract was signed between GMRI and OLRAC to move forwards with software development.
- 4) October 2010 – GMRI purchased the computing equipment and USB GPS satellite receivers to equip two red crab vessels with the OLFISH software.
- 5) November 2010 - The final working version of OLFISH was received in November 2010, along with a ‘User Guide’ and a ‘Database Element Document’. The software was then installed, tested, and patched to fix two minor programming bugs. GMRI prepared additional user manual sheets and species identification sheets before training the captain of one red crab vessel (Jorge Daher, FV Benthic Mariner)
- 6) January 2011 – Shelly trained a second captain (John Brewer, FV Hannah Boden) to use the OLFISH software.

Unexpected difficulties and project alterations

The software development process took longer than anticipated, since OLRAC was focused on refining their product for use by sectors in the groundfish fishery. The build-time for the red crab customized software also took longer than anticipated since in the end OLRAC decided to build a custom-software from the bottom up, rather than modifying an existing product. This means that we have software that is highly tailored to the red crab fishery, but we did not receive the fully functioning version until November 2011 (for screenshots of the software, see Annex 1). Since the primary red crab season is May – December, this meant that we were not able to record catch/discards data for a good portion of the core red crab fishing season.

Our next problem was that after delivering the computer with OLFISH installed, and training the first captain (Jorge Daher, FV Benthic Mariner), the computer's operating system suffered an unrecoverable system error. We therefore needed to bring the computer back to Maine to be re-formatted, undergo diagnostics and re-install the software in time for the next trip. The captain then recorded data from two trips by Christmas 2010, but then went home (to the West Coast) and decided to stay to fish in Alaska; Jorge will not be returning to fish red crab until May 2011. Thus, we had lost our trained captain.

The captains for this fleet move between vessels and fisheries on a regular basis. For example, we had initially planned to train two captains, but after training the captain on the FV Benthic Mariner, the second vessel (FV Krystal James) was running out of days at sea for the year, meaning that it made little sense to purchase a software license for this vessel and train this captain. At this time, the two other red crab captains were fishing lobster and swordfish.

In January 2011, GMRI trained a second captain (John Brewer) to record red crab catch on FV Hannah Boden; this vessel should continue to fish red crab until the spring, before switching back to swordfish in May 2011. At this time, FV Benthic Mariner and FV Krystal James should begin targeting red crab again, so we can resume collecting data from these vessels (if the current contract is extended beyond March 2011).

Figure: Red Crab OLFISH training session



Next steps, tasks for next 6 months

With only 1 month remaining on the current contract, it is hoped that the NEC will grant us a project extension to enable us to increase the data set of catch and discards data for this fishery. Additional next steps will include:

- Deliver a summary of data collected and example data to the NEFSC red crab stock assessment team;
- Improve our options for collecting catch/discards data during commercial trips by training an additional red crab captain (Tim Foley, FV Diamond Girl & FV Krystal James), thus, increasing the quantity of trained captains to three (3);
- Present our work at relevant fishery forums;
- Summarize the work from this project on a webpage hosted by GMRI.

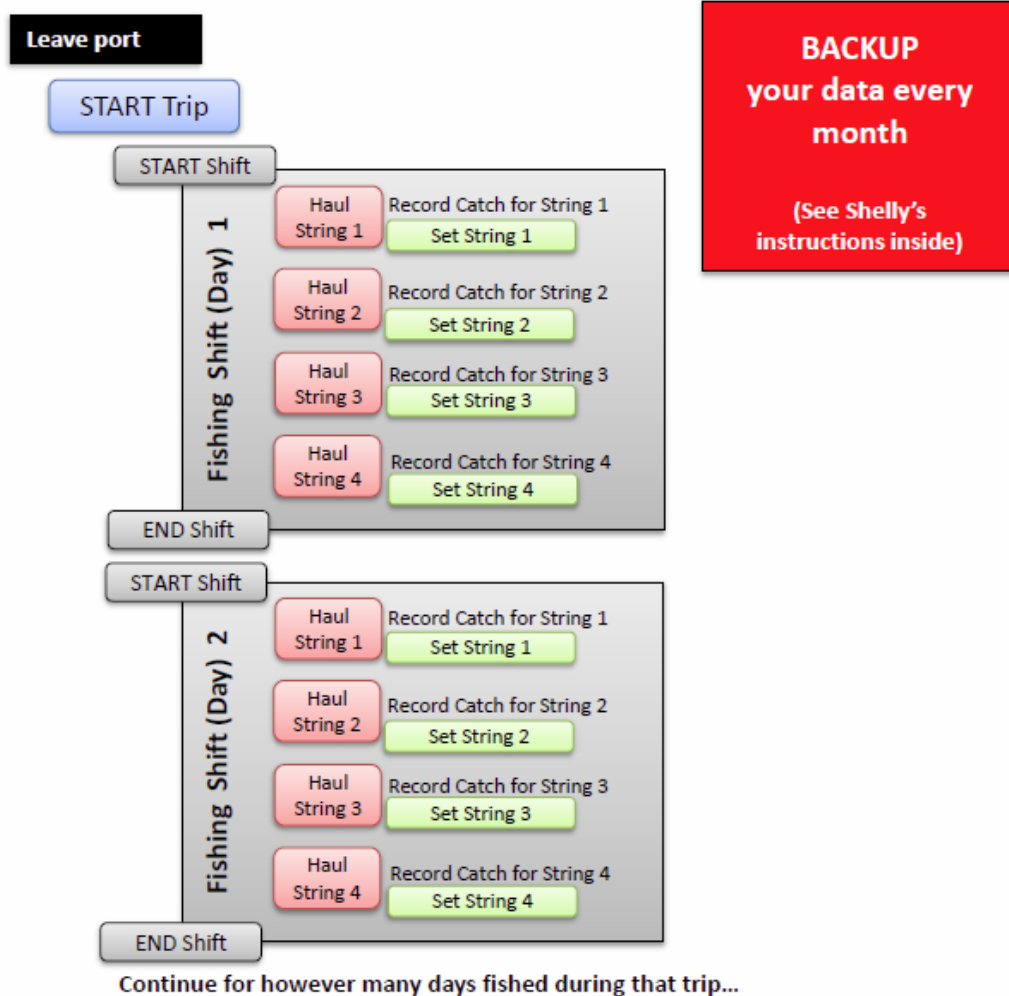
Impacts of the project to the fishing and science community

To date, the software has been well-received by the two captains who have been trained to use it. However, the last few months have shown us that ideally, this software needs to allow a captain to move the laptop between vessels (rather than having a license registered to a specific vessel). This will enable the captains to change vessel information under one computer license and therefore, improve the continuity of the data in the future. GMRI is currently obtaining a quote from OLRAC to find out how much it would cost to add this flexibility to the software.

Until we have data from more red crab trips, the project can have minimal impact on the scientific community. However, the foundation is now set and with some minor tweaks, it will be possible to continue monitoring the catch at a data resolution that is helpful to future stock assessments and efforts to manage the deep water red crab fishery.

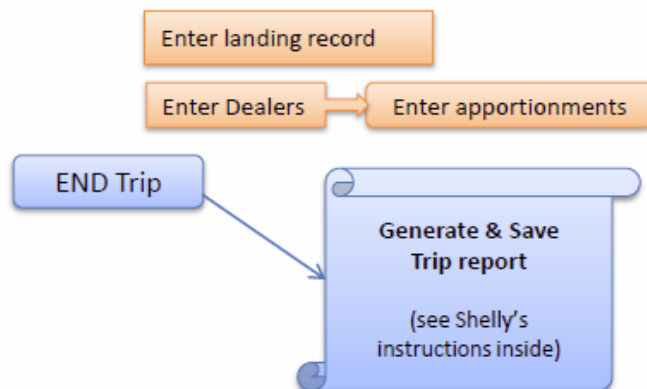
Annex 1

A flow-chart created by GMRI to guide captains through the OLFISH data collection process.



Return to port

Do not "end trip" until after completing landing reports



OLFISH Screen shots: Starting a Trip – the data collected can be linked to the vessel’s Fishing Vessel Trip Report #, and therefore, also dealer/landings information. At the end of a trip, the software will generate a trip report that helps fishermen complete their FVTR more accurately.

Missing mandatory fields

Start Details

1. Start Date: 22 Nov 2010
2. Start Time: 14:24:47
3. Start Latitude: 42°38'09"N
4. Start Longitude: 064°28'18"W

Trip Details

5. FVTR#
6. Confirm FVTR#
7. Operator's Name: JORGE, DAHER A.
8. Trip Type: Commercial
9. Number of Crew: 6
10. Trip Observed?: No

OLFISH Screen shots: Haul-by-haul data – this screenshot show that there are four strings of traps (sets) soaking and the captain can enter catch (landngs and discards) data for each string.

Activities

- Fishing Shift: 22 Nov 2010 14:27:11
 - Set: AB
 - Set: CD
 - Set: EF
 - Set: GH

Reports

Trip: 22 Nov 2010 14:24:47

Pointer Lat: 45°22'20"N
Pointer Long: 065°29'53"W

Start Details

Start Date	22 Nov 2010
Start Time	14:24:47
Start Latitude	42°38'09"N
Start Longitude	064°28'18"W

Trip Details

Vessel Name	Shelly Tallack (office)
Vessel Permit Number	-
Hull ID	-
Trip Identifier	-10112214
FVTR#	0
Confirm FVTR#	0
Operator's Name	JORGE, DAHER A.
Trip Type	Commercial
Number of Crew	6
Trip Observed?	No

End Details

End Date	22 Nov 2010
End Time	14:57:08
End Latitude	44°29'49"N
End Longitude	061°20'37"W
Port of Return	New Bedford - MA