DEVELOPING & TESTING INNOVATIVE ROPELESS LOBSTER FISHING GEAR TO REDUCE BYCATCH OF NORTH ATLANTIC RIGHT WHALES

BACKGROUND
The North Atlantic Right Whales are in serious decline from entanglement in active fishing gear and ship strikes. Fishing gear entanglements account for 82% of documented right whale mortalities (ref. 1). 83% of all Right Whales bear scars from being entangled at least once in their lives (ref. 2). The vertical buoy line used in trap/pot fisheries entangles and anchor Right Whales and other marine life.

INTRODUCTION
SMELTS has developed a patent pending, line free fishing system (Lobster Ralf™) that integrates variable buoyancy lift bags with a remotely operated acoustic modem and GPS tracking. The Lobster Ralf™ will reduce the hazards of entanglement created by vertical line and buoy systems. This gear can be deployed independent of the pot/trap with a gangion to the trowel or mounted directly to a pot/trap.

TESTING OBJECTIVE
Evaluate the technical, operational and economic viability of remotely triggered lift bag fishing gear.

References

METHODS

PHASE 1 – TRAINING AND RIGGING DEVELOPMENT
Phase 1 Goals:
Work with system engineers and fishermen to provide confidence that the systems work as intended.
The training required to bring users up to speed for all of these systems will take several deployments with qualified people on board. System suppliers involvement is preferable.

Personal involved:
NBFSC staff will attend and facilitate the training and rigging sessions. Ideally a representative from the buoyless system supplier will give instruction to both the NBFSC staff and Fisherman on how to rig and use the devices in person.

How many deployments of each system:
As many as necessary to accomplish the goal of phase 1. System suppliers (or NBFSC staff if supplier unavailable) will work with fishermen to rig, learn, and improve the system. The fishermen and gear supplier will agree when this is accomplished.

Depth of deployments:
Fisherman and system supplier will agree on deployment locations considering the desired fishing depth and system design.

Duration of deployments:
Fisherman and system supplier will agree on deployment locations considering the desired fishing soak time and system design.

For buoyless system:
Each line (rope) and how long will the line be: Fisherman will offer desired line diameter, length, and height. Fisherman will offer desired line diameter, type, and length. If compromise is necessary fishermen and system supplier will make that decision.

Data collection:
Each different rigging of the gear will be documented by collecting data:

- For fishermen’s gear: trap characteristics, groundline, surface systems, gangions, anchors, traditional buoy lines.
- For buoyless system: System characteristics, line between system and first trap, buoyline of system(s) present, depth of deployments, soak duration, # of traps set and recovered.
- Data shall be shared with NMFS.

Catch Data - Tally of target species kept and discarded.
Set and Haul Data - time, date, location, soak duration, # of traps set and recovered, and any problems will be described with associated solutions, time recovery signal sent, time buoy spotted, time system re armed, and personnel involved in the operation.

PHASE 2 – FISHING DEPLOYMENTS AND DATA COLLECTION
Phase 2 Goals:
- Give each system an equal and comparable trial in regards to environment, duration of deployments, and cycles of use.
- Record data on fishing activity when system is in use, beginning northeast and progressing offshore/deeper longer soak durations as appropriate to system design.
- Record operational data, rate of success/failure, and haul information for each system.
- Each system will be used within the parameters for which it was designed in regards to environment and rigging while still achieving the goal of using the system in actual fishing operations.

Personal involved:
NBFSC Staff will accompany fishermen to collect data on the operations as described above, and will be available to troubleshoot if necessary. Buoyless system suppliers are welcome, but not required to join.

How many deployments of each systems:
10 cycles (deploy, recover, repack) of system use of fishing activity shall be completed. Instructions and guidelines from the manufacturer will be followed. After 10 cycles the system will be returned to the supplier for assessment and refurbishment. Results from this shall be shared with NMFS.

Depth of deployments:
Fisherman and system supplier will agree on deployment locations. These locations will be consistent with commercial fishing locations and depths.

Duration of deployments:
Fisherman and system supplier will agree on deployment soak times that are consistent with commercial fishing practices.

PHASE 3 – FISHERY USE
Scale up as needed, involve other interested fishermen.

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