

EXPERIMENTATION WITH WHALE-SAFE TECHNOLOGIES IN 2024

ASSOCIATION DES CRBIERS ACDIENS – CORBO ENGINEERING

ATLANTIC FISHERIES FUND / NEW-BRUNSWICK

Extensive experimentation of a whale-safe snow crab fishery using alternative gear and other technologies

Description

The project is a scale-up of the successful technologies tested in the first AFF financed project aimed at the co-habitation of North Atlantic Right Whales (NARW) and the snow crab fishers. Specifically, this project will test ropeless fishing in closed areas of CFA12 and develop a single unit intelligent box to give fishers friendlier access to navigation and gear tracking equipment on the vessel. An ALL-IN-ONE box which will regroup all the different navigation equipment and the gear tracking tools to simplify crew tasks and reduce the possibility of human error will be realized and tested.

Update of work done in 2024

The 31 harvesters equipped with gear-on-demand technology were given training by CORBO's team at the beginning of the 2024 fishing season. Questions were answered and discussions happened between them so that they could all benefit from each other's experiences. Unfortunately, only two harvesters were able to use the equipment during the season since all the others had caught or almost caught their quotas before fishing areas started to close due to the presence of whales.

At the same time CORBO staff started work on the development of an ALL-IN-ONE intelligent box by investigating existing patents worldwide. The prototype guidelines were then established by the team and a group of harvesters. Work has started on the development of the internal (App, GPS, Plotter...) and external (Satellite, GPS, LTE...) communication system integration as well as the integration of internal (Edgetech, Ashored...) and external systems (Time Zero, Olex...). Software programming for this box has also started and discussions with Earth Ranger are ongoing. The proof of concept is scheduled to be completed shortly.

Modifications to vessel stabilizers to reduce ghost gear in CFA 12

Description

This project aims to confirm the impact of vessel stabilizers in creating ghost gear and then, design modifications to the vessel stabilizers to limit or eliminate the risk of cutting off the ropes attached to traditional snow crab fishing gear. An engineering firm will first validate the hypothesis on the role of vessel stabilizers in lost gear, then design modifications to vessels stabilizers to limit their ability to cut / weaken ropes attached to snow crab cages and to test those designs/ modifications. Stabilizers modifications will be tested in a lab at Memorial University and then validated in sea trials.

Update of work done in 2024

The project was developed by CORBO's technical team and some harvesters' representatives. Discussions were started with Memorial University's Marine Institute Flume Tank. It was concluded that their facility would not be the ideal setup to perform the desired testing. Further discussions were held with the National Research Council's flume tank team also located at MU. Testing protocols were developed, and a model is currently being built that will be tested at the end of September 2024. The best results will be transferred to some fishing vessels and will be sea trialed in the spring of 2025.

Alternatives to reduce the risk and severity of entanglements of North Atlantic Right Whales with Snow Crab fishing gear in the southern Gulf of St. Lawrence

A scientific study investigating the strategies used by our AFF-NB funded projects to reduce the risk and severity of North Atlantic Right Whale (NARW) entanglements with snow crab fishing gear in the southern Gulf of St. Lawrence is now ready for peer review and publication. A notable aspect revealed by this study is the unprecedented involvement of fishermen in experimenting and evaluation processes involved with these projects. This participation is a first in the field and highlights the critical importance of incorporating fishermen's local knowledge and practical expertise into scientific evaluation. The study found that their direct involvement ensured that the solutions arrived at by the experts were not only scientifically sound but also practical and acceptable to industry stakeholders. This collaboration has been vital in developing effective conservation measures and emphasizes the value of fish harvesters' insights in advancing marine conservation. This collaborative effort represents a significant advancement in reducing human impacts on NARWs and contributes to broader marine conservation and sustainable fisheries management efforts.