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# Collaborations

A monthly report on collaborative research projects in the northwest Atlantic Ocean.



Gary Ostrom, a fisherman from West Barnstable, Mass. has designed a whale-friendly piece of lobstering gear.

## Whale-Friendly Fishing Gear

Story and photos by Michael Crocker

West Barnstable, Mass.— In early June I joined Gary Ostrom, a 44-year-old fisherman from West Barnstable, aboard his fishing vessel *Rare Bird* to pull some of the sea bass traps he soaks in Cape Cod Bay. The waters of the Cape are finally warming up after an unusually cold spring and the sea bass (*Centropristis striata*) are running hard (Ostrom caught his 500-pound limit in just a few hours) giving us time to talk about a subject for which he has become better known: North Atlantic right whales.

Northern right whales are one of the most critically endangered species in the world. In fact, it has gotten to the point where researchers know each of the 350 or so remaining individuals by a nickname and serial number listed in a bound catalog, along with an accompanying mug shot.

Collisions with ships and injuries suffered from entangle-

ments with fishing gear contribute to the mortality of the cetaceans; and with so few remaining the loss of even one

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-Gary Ostrom

could have a devastating effect on the species' survival.

But biologists and fishermen are optimistic that better understanding of the mammal's biology coupled with recent developments in fishing gear could help bring the 40-ton leviathans back from the brink of extinction.

"This is a problem that we can fix," said Ostrom. "We have enough people and resources working on this issue to find a solution that everyone is happy with."

Indeed, Ostrom has taken a leading role in finding ways

## Right Whales (continued)

for right whales and fishermen to coexist in the waters of New England, and his efforts have landed him on the pages of National Geographic as well as on more state and federal right whale protection committees than he can count.

In 1996, he and his brother-in-law, Dan Paul, a plastics engineer from New Hampshire, put their heads together to design a simple device that causes lobster lines to breakaway if they become entangled with whales.

When the lobster fishery is at its height in the early spring and summer the northwest Atlantic becomes a maze of lobster gear, and many of the offshore traps are in areas frequented by right whales traveling north toward the Bay of Fundy.

Some lobster buoys are tied to as many as 50 traps, strung together by a line that floats in a large arch above the ocean floor. If a right whale is swimming through the ocean with its mouth wide-open—as is the feeding practice of baleen whales—its jaw and rostrum can get snared. With no ability to swim backward, they end up winding the line around their heads and flippers,

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**-Gary Ostrom**

sometimes causing deep lacerations and life-threatening infections.

Gear specialists are currently designing rope that hugs the ocean floor to make way for migrating whales.

And Ostrom’s device, known as a “slip-link,” allows lines to slip away from their buoys under force. Modeled after “jam cleats” that are used on sailboats, the hard plastic gadget when a line is fed through its two small cylinders lined with plastic teeth. The teeth start to wear away when approximately 600-pounds of force is exerted on them—enough to withstand the rigors of storms and high seas, but no match for a 40-ton whale.

The device underwent extensive testing before a mold was made to mass-produce the final product at Qualitex, a plastics company in Manchester, N.H.

“You only get one chance to make a good impression with



The device attaches just below a buoy. The bitter-end of the line sits 12-inches away from the cylinders to prevent accidental slipping.

fishermen when their gear is at stake. So we boiled, froze, and tried to smash the thing to bits before we put it out for trial,” said Ostrom. “My name was on this thing so I wanted it to work.”

While other breakaway equipment incorporates splices and clove hitches into their designs, Ostrom said his device is the only one that is truly knotless.

In 2000, the Northeast Consortium awarded Ostrom and Paul a \$25,000 project development grant to further improve the design. Along with additional support from a private donor, Ostrom was able to have a 5/16-inch mold built and patented. He later had 11/32-inch and 3/8-inch molds built.

The slip-link was on the shelves two years before the National Marine Fisheries Service required breakaway gear on all lobster equipment in federal waters last January.

Though it requires breakaway gear the government currently does not have any standards to help ensure the reliability of the devices fishermen decide to use.

“There are all sorts of things out there, but no one knows how well it works or if it was ever tested. It doesn’t do anyone any good to require a piece of gear and not know whether it works or how it was tested,” said Ostrom.

Over the long-term Ostrom would like to market slip-links that can accommodate four line sizes. He has sold around 10,000 already (they cost between \$1.25 and \$1.35 depending on size) with Maine offering the largest market to date.

“I’ve been fishing these waters my entire life and the right whale has been a big part of that experience. I don’t want to be a part of the generation that saw it go away forever,” he said.

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## Update: Northeast Regional Cod-Tagging Program Underway

With landings of cod in the Gulf of Maine on the rise after a slow spring, the Northeast Regional Cod-Tagging Program is beginning to hit its stride, having tagged approximately 28,000 fish in the waters between Nantucket and Nova Scotia.

The program is being carried out by scientists and fishermen coordinated by the Gulf of Maine Research Institute in Portland, and represents the largest multinational cod tagging effort in history

“Now that we have the infrastructure [for the program] in place, our attention will turn to outreach—encouraging fishermen to return tags and getting the website up and running,” said Shelly Tallack, the cod-tagging program manager at the Gulf of Maine Research Institute.

A website ([www.codresearch.org](http://www.codresearch.org)), which is scheduled to be live by the end of June, will allow visitors to enter the serial number of a tagged-fish to track its movement from where it was tagged to where it was re-captured.

Five organizations from across the northwest Atlantic region—the Department of Fisheries and Ocean (Canada), Island Institute, Cape Cod Commercial Hook Fishermen’s Association (CCCHFA), Maine Department of Marine Resources (DMR), and the School for Marine Science and Technology (SMAST) at UMASS-Dartmouth—are now working with dozens of industry vessels and their crews to catch and tag cod.

Some 30 vessels working with CCCHFA (based in Chatham, Mass.) and covering the Chatham, Middle Rip and Mussels regions of Cape Cod had already tagged approximately 19,500 fish by mid-June. This almost completes their tagging for the season; in the fall, they may focus more on Coxes Ledge, as it is thought that the tagging commenced too late to effectively target the groundfish there in the spring.

“I am very pleased with how the tagging has progressed. Our fishermen have done a wonderful job ensuring that the work is done accurately and carefully to ensure the highest quality data,” said Tom Rudolph, the CCCHFA’s program coordinator. “Because we have a day-boat fleet, our crews are able to be very flexible, quickly shifting their effort

around to where the fish are.”

Farther north, however, landings have been considerably lower than in the Cape’s waters, possibly the result of particularly cold and persistent winter.

- Fishermen working with SMAST had tagged approximately 5,000 fish on Georges Bank by mid-June with one more trip scheduled for this season. Tagging will then resume in the fall.

- The Maine DMR team, covering Cashes and Fippenies Ledges and Jordan Basin, have tagged approximately 1,500 cod in total. Further trips will be scheduled for later in the summer or possibly the fall when more cod are expected to move into these areas.

- The Island Institute is still recruiting more vessels (both hook and lobster) to assist with the tagging in the nearshore waters from Sheepscot Bay to Passamaquoddy Bay. Currently the group has tagged approximately 100 fish; this number is expected to rise considerably as the lobster fishery increases its effort in the coming weeks. Additionally, the Island Institute has enlisted the help of the Northwest Atlantic Marine Alliance to recruit lobstermen and fishermen to cover a larger portion of western Maine.

- DFO Canada has undertaken two tagging trips: One on Brown’s Bank and the other in the Bay of Fundy. Few cod were tagged on the first trip, but approximately 3,650 were tagged in the Bay of Fundy. DFO’s next dedicated trip is scheduled for the fall on Brown’s Bank.

Accurate information about cod is critical to the health of the species and to livelihoods of fishermen because the government usually manages populations of fish, or “stocks,” in reference to a region. The effectiveness of management depends largely on how well these divisions reflect the reality of the fish’s lives and behavior. If managers do not have a good picture of what is happening in the water, fishermen may be instructed to take too many fish from one region and less than the population could support from another.

“This is the first large-scale region-wide cod-tagging

program in U.S. and Canadian waters. Its purpose is to monitor how fish are moving throughout the Gulf of Maine, neighboring Canadian waters and southern New England waters. The role of the organizations involved is to systematically tag and release viable quantities of tags throughout the study region. After that, the success of the program is largely dependent on commercial and recreational fishermen. It is essential to the goals of the program that fishermen report any tagged-cod they catch; without this information, questions regarding the movement patterns of cod in the Gulf of Maine will remain unanswered,” said Tallack.

### Reporting A Tagged-Cod

At the time of tagging and recapture:

- Tag Number
- Fish Length
- Location
- Date
- Water Temperature
- Depth of Water Fished
- Spawning Condition
- Time

Tag recaptures may be reported by calling 1-888-447-2111, or emailing [codresearch@gma.org](mailto:codresearch@gma.org)

**A reward will follow and your name will be entered into a lottery!**



Photo courtesy of Shelly Tallack