

# GEARNET: Partnering to test fishermen's ideas

The challenges facing today's Northeast groundfish fishermen grow bigger and more complicated each year. Fishermen are continually adapting to these challenges and, now, many are doing so with financial support, scientific guidance, and industry partnerships made available through GEARNET with funding from the NOAA Northeast Fisheries Science Center's Northeast Cooperative Research Program (NCRP).

GEARNET is the Gear Conservation Engineering and Demonstration Network. Since 2010, the network has supported 17 projects and, this spring, 12 new GEARNET projects will get underway to address a range of issues facing gillnetters and trawlers from Maine to Rhode Island.

These projects will target solutions in a few critical areas – maximizing allocations without exceeding cod or flatfish limits, avoiding harbor porpoise bycatch, reducing fuel costs, and reducing impacts on seabed habitat – all while aiming to maintain fishermen's incomes.

The principals of GEARNET are: Steve Eayrs of the Gulf of Maine Research Institute (GMRI); Mike Pol of the Massachusetts Division of Marine Fisheries (DMF); Mike Walsh, a Massachusetts fisherman; Jon Knight of Superior Trawl in Rhode Island; Dr. Pingguo He of the University of Massachusetts Dartmouth's School for Marine Science and Technology (SMAST); and Erik Chapman of New Hampshire Sea Grant/University of New Hampshire Cooperative Extension.

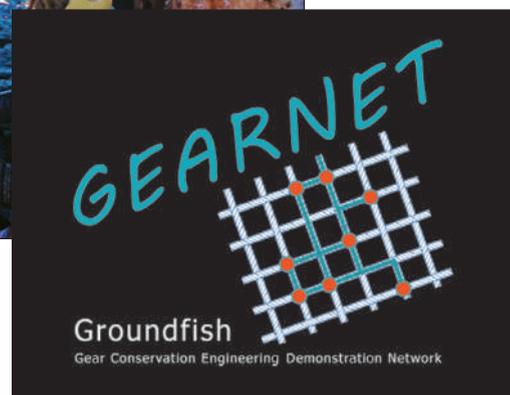
This collaboration was inspired by an initiative of the NCRP to create integrated multi-institutional research networks as a means to more effectively promote stock conservation through gear modifications. The NCRP has not only funded the GEARNET program but, from the beginning, has been a full-fledged partner in support of these efforts.

The GEARNET approach has turned the traditional model of collaborative research with the fishing industry on



Sally Rodman photo

*Capt Antonio Borges and crew put a net on board the F/V Sao Paulo that was part of a Sector 7 GEARNET project testing the use of larger mesh panels to retain haddock while reducing the catch of flounders.*



its head by investing in ideas that begin on the dock with fishermen rather than in the offices of managers or fisheries scientists.

This approach recognizes that fishermen are problem-solvers by nature and harnesses their innovative spirit to find solutions. Through GEARNET, ideas begin in this “bottom-up” fashion and then are developed through partnerships with gear scientists and other fishermen with financial support for research, trials, and outreach efforts.

“It's good for fishermen to be involved in this sort of thing,” said Walsh. “These projects can turn into things that can change our lives and we need to be at the table. Plus, the best knowledge about fish and fishing isn't on college campuses, it's on the water.”

Carolyn Woodhead, cooperative research specialist with the Northeast Cooperative Research Program, agreed.

“I think this is a terrific way to move fishermen's ideas into workable

gear concepts and to try out gear modifications without the fishermen having to invest a lot of money to try something new,” she said.

Fishermen are starting to see evidence of the value of this approach.

“I think we may have built a net that can target an underutilized fish while allowing a weaker species to rebound,” said New Hampshire fisherman Jayson Driscoll (F/V Sweet Misery).

Driscoll has been working on a GEARNET project with other New Hampshire fishermen and alongside Port Clyde, ME gillnetters to test whether gillnets raised 2'-to-6' off the seabed can avoid cod while still catching good numbers of more abundant species like pollock and white hake.

The results so far are promising and could have an important impact on a fishery where avoiding cod while catching other species will be the name of the game for the foreseeable future.

## Improving selectivity

Several of the new GEARNET projects will explore ways that fishermen can improve the selectivity of their fishing operations.

Off Massachusetts' South Shore, fisherman Stephen Welch (F/V Mystic), Pol, and DMF biologist Mark Szymanski will investigate a topless

trawl design to improve both fishing selectivity and fuel savings.

“We're excited to obtain enough data on catch and fuel to encourage adoption of this gear type to target flatfish and avoid cod,” Pol explained. “This net may provide another arrow in the quiver as we develop more focused trawl designs and provide continued access to fishermen while protecting stocks at low levels.”

In a separate project, Rhode Island fishermen Jeff Wise and Donald Fox are testing a rigid escape vent in the bottom belly of a trawl designed by Superior Trawl's Jon Knight to eliminate flounder catch in the cod fishery.

And still another project has Massachusetts fisherman Antonio Borges (F/V Sao Paulo) working with

Pingguo He, exploring the use of larger mesh panels to retain haddock while reducing the catch of flounders.

## Reduce costs, impacts

Saving money at the diesel pump is the goal of several new projects. With fuel costs hovering near \$4 per gallon and annual fuel costs for fishermen often running in the six-figure range, it's easy to see why.

Massachusetts fisherman Willard Viola (F/V Black Beauty) will explore fuel savings using knotless Dyneema® twine, while another project will investigate the possibilities for improving fuel efficiency by re-designing paravanes or “birds.”

“The potential impact of this project is global, although of course we're starting small,” Pol said. “Producing durable, hydrodynamic birds would save fuel, money, and improve health and safety – if we find the right design.”

A number of new GEARNET projects are testing gear modifications designed to reduce seabed impacts to find out how they might impact fishing selectivity, fishermen's operations, and fuel consumption.

Several Massachusetts and Rhode Island fishermen will test the

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**—Jayson Driscoll**

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