Collaborative gear research

Part II: Process needed to review results

by Cheryl Daigle

This column is the second of a two-part series looking at collaboration between scientists and fishermen on gear technology research. The first part appeared in the October 2002 issue of *Commercial Fisheries News* and focused on what it takes to get projects off the ground and the new challenges that have arisen as a track record has been created with cooperative research.

This column continues that discussion and raises the questions of what comes next in the process as research results come in. How will the results of these research projects be reviewed and incorporated into management? What is the value of this research to the fishing industry and others interested in sustaining our marine fisheries?

The trouble is that there do not seem to be answers to the questions since most agree that in the commercial fishing industry, cooperative research is breaking new ground.

A management tool

With the development of the Northeast Consortium (NEC) and the Cooperative Research Partners Initiative (CRPI) of the National Marine Fisheries Service, over four million dollars have been awarded to fishermen and scientists working collaboratively to design more selective and bottom-friendly gear.

An increasing number of these projects are being driven by ideas fishermen have brought to scientists. The learning process that has taken place in collaborative research emphasizes the value of combining the scientists' and fishermen's respective pools of knowledge. Results from some projects, such as the whiting gear research in Maine and the development of the Ribas net and topless net in Massachusetts, are now working their way through the federal evaluative process.

However, it is not yet clear how the results of gear technology research will be integrated into fisheries management.

"This (federal) money has certainly opened up opportunities for collaborative work," said Arne Carr, retired marine biologist for the Massachusetts Division of Marine Fisheries (DMF). Carr is well-known for his decades of work with fishermen on gear technology and development in New England.

According to Carr, one of the challenges right now is for management to recognize the amount of time and effort fishermen and scientists have expended in good faith, and incorporate the results of conservation engineering into management.

"It is one of many tools in the management box, and it's time they (managers) accepted it as a tool of significance," he said.

It appears that the time to bring conservation engineering to the forefront has come. Management priorities have shifted with increasing attention directed to issues of bycatch and mortality of nontarget species and the impact of gear on important fish habitat. Collaborative gear technology can directly address these concerns. It also benefits fishermen: a cleaner catch means less time sorting through the landings for bycatch, and newly developed or modified gear proven to reduce bycatch may lead to the opening of more fishing opportunities.

"Over the years we've paid close attention to meeting our mortality objectives, and then the focus moved to habitat protection," said Paul Howard, executive director of the New England Fishery Management Council. "The next big issue the council is facing is reducing bycatch."

The New England council currently does not have enough bycatch data, he said, yet it hears from fishermen that there is a lot of discard.

"We have had lawsuits that state we are not doing enough to reduce bycatch," Howard said. "Conservation engineering, including the design of nets to allow escape of nontarget species, seems to me to be a very good measure to address that."

Whiting fishery

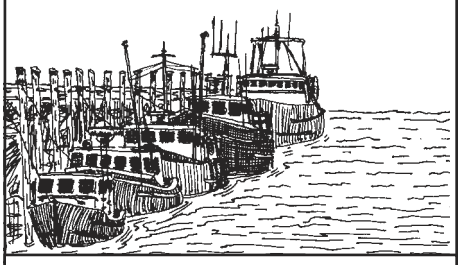
At its November meeting, the council considered re-establishing a whiting fishery in Maine. The recent results of cooperative research using a combination raised foot rope trawl and grate may have reduced groundfish bycatch enough to open the whiting fishery. This fishery has been closed in Maine since 1994 with the implementation of groundfish Amendment 5.

Vincent Balzano (F/V North Star) of Saco, ME is working with Dan Schick, biologist at the Maine Department of Marine Resources, on whiting gear in hopes of re-opening the fishery. Balzano was contracted to work 20 days to fish the gear and make adjustments. Although fishing was slow, he was able to stay well under the 5% bycatch provision with the sweepless trawl, which is vital to redeveloping the whiting fishery.

"Reopening a whiting fishery north and east of the western Gulf of Maine closed area will be a savior for the inshore fleet of southern and midcoast Maine, and if we can do that with little-to-no bycatch, it's also good for the resource," Balzano said.

The whiting research is among the first projects funded through NEC and CRPI to be up for review. However, being first in

THE SCIENCE SIDE



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line has drawbacks .

With the evaluative process still being established, the council wasn't quite ready to make a decision. After considering the whiting proposal, the council determined that the information being used to justify opening the fishery had not gone through the peer review process that is necessary for acceptance by the scientific community and management.

The council did not turn down the proposal. Instead, the proposal was taken out of Framework 37 to the groundfish plan, which was voted on at the November council meeting (see story page 5A). It was made into its own framework (38), which will undergo review by the groundfish committee and will be considered again during the council meeting in late January.

Despite initial disappointment, Schick feels this is for the best.

"This process will remove any clouds of doubt that may have been lingering about the whiting work. The groundfish committee is ready to look at this, and we haven't really lost anything," Schick said. "If the proposal is passed in January, we have plenty of time to set up the whiting fishery for the summer."

With this year's data showing the same low bycatch as last year, chances are good that the whiting fishery will be reopened in Maine.

In the Massachusetts whiting fishery, efforts are being made to move toward use of the sweepless trawl, a modified raised footrope trawl, because it has less bottom contact, captures fewer ghost traps, and is easier to enforce.

"With whiting, the problem has become access, not the health of the stocks. If we can prove this sweepless trawl works and it helps us get access into new areas, then I'm all for it," said Russell Sherman (F/V Lady Jane) out of Gloucester, MA. Sherman has partnered with scientists on research projects testing codfish grates and comparing different types of codends on Stellwagen Bank.

However, Sherman feels there is a trade off between getting a clean catch and spending more time towing on the bottom, as well as the cost of running the gear.

"A lot of concerns can be addressed with the gear work, but there comes a point when you make the gear so inefficient it's like shoveling against the tide," he said.

Not every piece of gear tested is going to work out. However, knowing a particular type of gear doesn't work in certain conditions, or at all, is just as important as knowing that another type of gear will work as predicted.

MA DMF photo

Capt. Luis Ribas holds one of the straps used to lengthen the top leg of the sweepless trawl. Lenthening it increases the net's height off bottom.

Results that count

While any information that adds to our collective understanding of the marine system and more efficient ways to fish is important, it is especially critical that these collaborative research projects produce results that can be used by fishery managers and accepted by fishermen.

Mike Pol, conservation engineering scientist for Massachusetts DMF, agreed.

"A lot of money is coming in to fund cooperative research. As a community, we need to be concerned that we are producing results from this funding in terms of management needs — practical results that make a difference," said Pol. "Our hope is that this research will result in developing selective gear that will allow fishermen to continue fishing. The money is not going to keep coming if we're not doing work that produces results that managers can use."

Pol's work with Luis Ribas on the Ribas net and the topless net that Arne Carr helped design is showing real potential for integration into management. Results from the Ribas net testing show over 70% reduction in bycatch of both cod and undersized yellowtail, and over 80% reduction in undersized blackback. Use of the topless net resulted in over 80% reduction of bycatch in cod and sublegal yellowtail, and 60% reduction in sublegal blackback.

Further testing of the gear on larger boats and at night is required by the New England council before sufficient proof exists to use the nets as a management tool.

Role for stakeholders

With so much effort on the part of fishermen and scientists, as well as federal dollars going into collaborative gear research, there needs to be room in the regulatory process to incorporate new gear technology as it is developed over the next several years.

But whose responsibility is it to make that happen? At this early point in figuring out the process, it seems anyone with a stake in results has a responsibility to be involved.

"Scientists can do things with the fishing industry and get results and present them to authorities and then it's out of our hands — we don't manage the fisheries," said Chris Glass of the Manomet Center for Conservation Sciences.

But he added, "If, as scientists and fishermen, we don't convince managers and regulators to take results and make them part of the management arena, at some level we have failed. The onus is on everybody to make this work."

Paul Howard is coordinating efforts between the council's Research Steering Committee and the Northeast Consortium to develop a body of technical experts to review NEC and CRPI research results and bring recommendations to the council about how the information can be integrated into management.

"We've gone through the process of

getting the funding, setting up a protocol for research projects, and disseminating funds," Howard said. "Now that we are getting results, the next step in the collaborative research process is to establish a group to review the information as it comes in, which will then provide recommendations to the council on how to use the information."

While it is still early in the process to judge how management will integrate the research results, the granting process itself is designed to attract proposals with high expectations of success.

Earl Meredith, marine biologist for the National Marine Fisheries Service and administrator of CRPI, said, "When we look at the proposals, we look at them specifically to see how the anticipated results will be integrated into the management process. Just now we are getting results from the first projects funded a few years ago. However, with Amendment 13 we are a little behind schedule to have research and analytical work done to bring results to the table."

According to John Williamson, chair of the Research Steering Committee for the council, Amendment 13 will have flexibility built into it to allow fishery managers to utilize gear research information as the results come in and are analyzed.

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"We are hoping gear research will give people a whole bunch of tools in the tool box to work with. The ultimate solution in the whole mix is to go into lower impact fishing technology that is more efficient, so more money goes into the fishermen's pocket for less amount of fish landed," Williamson said. "Gear type solutions to fishery management problems are very powerful when part of a comprehensive management strategy. They are not a single solution in and of themselves."

Gear technology offers fishermen a chance to take advantage of opportunities and stay away from difficult areas, so they can minimize their efforts on rebuilding stocks.

"What we are looking for in the end is a whole suite of gear solutions so that fishermen can tailor their daily activities to the management concerns of what they're fishing for," said Williamson.

As one of many tools, gear technology can go far in meeting the demands of environmentalists and fishery managers to reduce bycatch of regulated species. Establishing a process to review the gear research being done is essential; the sooner it is put in place, the better. Knowing how a project will be reviewed, and by which specific standards, will certainly aid scientists and fishermen in the planning of research projects and influence what methods they use to get results.

While the Northeast groundfish climate is charged with dread and uncertainty now, there is room for hope. Collaborative work between scientists and fishermen can bring results to the management arena that, if implemented, will lead to the re-opening of traditional fisheries and with less impact on fish habitat and nontarget species. ■