THE CURRENT STATUS OF WHALESAFE FISHING GEAR RESEARCH

GLENN SLAVADOR, NATIONAL MARINE FISHERIES SERVICE

Salvador designs and tests field-gear modifications aimed at reducing whale entanglements.

» Biography

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I work as part of the Gear Research Team for the National Marine Fisheries Service. My other two dory-mates are in the crowd here: John Higgins and John Kenny.

The mission of the Gear Research Team includes:

- outreach and education
- entanglement analysis
- support for the Northeast Region Protected Resources Division
- gear research

Let me begin by describing our outreach and education. The Fisheries Service began its Large Whale Take Reduction Plan about seven years ago. That's a plan to reduce death and injuries in large whales due to entanglements in fishing gear. The process was started with a round of public meetings for the fishing industry along the coast of New England. After the first round of meetings, the Fisheries Service decided to hire somebody to go out and work with industry. I happened to be that guy.

Here are some of the ways we do outreach and education. We use the trade publications that fishermen read. John Higgins does a monthly piece in one of the trade publications that fishermen read up and down the New England and Mid-Atlantic coasts—a column that covers the Take Reduction Plan and talks about different aspects of our gear research. We attend a lot of the industry's association meetings, including those of the lobstermen and gillmen. We do a lot of dock work, talking with fishermen, presenting the problems, trying to come up with some ideas from the fishing industry.

I remember at one of these meetings, a fisherman said, “Asking me to come up with a solution to this is like asking me how to keep a space ship from getting entangled in my wife’s clothesline.” Because most fishermen will never see a whale entangled in their fishing gear. It’s not a big problem for individual fishermen. But collectively, it’s huge problem. But a lot of ideas we’ve come up with have come from talks out at the dock, working with fishermen.

We also operate trade-show booths, setting them up at all the fishermen forums, where we’re available to answer questions. We also have a Web page, which fishermen and the public can access, that talks about the Take Reduction Plan and gives updates on gear research that we’re doing.

Another responsibility of the Gear Research Team is doing analysis of entanglement events. We try to identify the type of gear that was involved. Was it gillnet gear? Was it red-crab gear? Was it lobster gear? If possible, we try to identify the owner of the gear. When we do, we’ll conduct an interview with that fisherman, try to reconstruct the events, and learn where the gear might have been set, how it was set, and the type of bottom environment in that location. We try to get as much information as we can from these entanglement events, because most people never see entanglements happen, including the teams that attempt to disentangle whales. We see the end result, but we don’t actually see the entanglement happen.

We try to assess whether the fishing gear was in compliance with regulations. Did the fisherman have the proper amount of weak links in his gear? Was the gear marked properly? Then, after we collect all this information about an entanglement event, we catalog the gear and store it for future reference.

Another purpose of the Gear Research Team is to support the Northeast Region Protected Resources Division. We present progress reports on gear research at meetings such as the recent Right Whale Consortium. We give progress reports to the Take Reduction Team and to NGOs. We try to come up with a consensus on how to move the Take Reduction Plan forward. In addition, we supply testing results to decision-makers.

My team’s last purpose, as you might suspect from our name, is gear research. It would be impossible for me to cover all the gear research that’s gone on during the last six years. So let me mention the book on gear research that is available from our office at the Marine Fisheries Service.

One kind of research we do is utilizing these electronic load cells, which John Kenny has created, to collect data on the strain that is actually placed on gear. When we originally started the Take Reduction Plan, we really didn't know how much strain was caused by hauling a lobster trap off the bottom, or hauling 10 traps across the bottom, or how much strain there was in the middle of a gillnet. So we took these load-cell devices and tied them to different places in the gear to measure the strain. We also experimented on different anchoring systems.

We've also been looking at how line reacts in the water. We've looked at different line profiles. We've looked at a neutral buoyant line, the kind that hovers just off the bottom. We've looked at sink rope. We've looked at different configurations in buoy lines that run from the surface down to the trap. We've looked at float rope, half-float rope, and neutrally buoyant rope. We've also looked at ground-line profiles and how we can change those profiles with different configurations.

John Higgins, who is part of the Gear Research Team, has been doing a lot of work on a bottom-release mechanism. After it gets a predetermined amount of strain on it for a predetermined amount of time, this release device allows the buoy line to let go. If a mammal were entangled, this mechanism would release and allow it to get to the surface. Would the animal still have a rope on it? Yes, but it would be able to get to the surface.

In addition to our own research, the Fisheries Service has put together several different grant programs to foster gear research. Some of the programs are run through the National Fish and Wildlife Foundation. Others are handled in-house. One of them happens to be our Mini-grant Program, which we've run in-house for the last five years.

These mini-grants are open to all United States citizens to develop gear that has a likelihood of decreasing entanglements. The funding for 2003 is $450,000. The first round of mini-grants ended June 3, when there were 10 projects funded for $168,000. The second round ended Sept. 3, and there were five projects recommended for funding. There is approximately $200,000 remaining in the program for the next round.

One project funded in the first round was a remote-release buoy system, in which the buoy line and buoy would be stored at the trap and electronically brought to the surface. Another project was the rope-cutting device that I was talking about earlier, a bottom-release mechanism that would allow the buoy line to break free. One more project is creating low-breaking-strength float line. This is something that Norm Holy has been developing. It's also a good example of an idea suggested by the fishing industry itself. A fisherman said to me, "Rather than have an 1,100-pound weak link in the middle of my gear, and the rest of it having 2,000 or 3,000 pounds of breaking strength, why don't you make a rope that's the same diameter as that line, but reduced breaking strength?" I certainly didn't know how to do that, but Norm has figured it out. We've also funded a project to look at the costs and the industry acceptance of an acoustic, buoy-release system. We're in the process of fabricating 80 such mechanisms, which should be done in a few weeks, and we'll be testing those in the field. In addition, the University of Maine has a program that looks at how different types of fishing gear affect an animal once it gets entangled, and how it cuts into flesh. Another

project is a unit that can retrieve lost fishing gear, kind of a tow-sled device, so there isn't a lot of ghost gear out there.

We do research in various fishing grounds, because one size doesn't fit all in the fishing industry. What works for guys in southern Maine might not work for guys in central Maine, or a guy off Maryland.

We have some funds for quick-response research. If a fisherman comes to me today and says, "Listen, I've got this idea. I'm going to be setting my gear in a couple of weeks, and I'd like to tie in one of your test units." Using this program, I can write up a contract quickly with a fisherman and get funding within a few weeks to do a project.

We also run a Challenge Grants Program, which will have $150,000 available for 2004. We'll be going to engineering students at colleges and universities, supplying them with background information about fishing gear and whale entanglements, and having them compete for the best problem-solving ideas. We're really looking forward to this program.

Thank you for inviting me, and I hope my presentation gives you a general sense of what our Gear Research Team does for a living.

Biography

Glenn Salvador, a former commercial fisherman in a family line of fishermen, works with the fishing industry to advance the Atlantic Large Whale Take Reduction Program. He is a member of the NMFS Gear Research Team, which designs and field-tests fishing gear modifications aimed at reducing whale entanglements.