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New Gear Proposals Would Reduce Commercial Fishing's By-Catch

By Bob Marshall

Can the oceans' wild fish stocks survive today's world of commercial fishing?

For more than a decade, that question has been the driving concern of many marine conservationists, anglers, and the recreational fishing industry. The combination of new, highly efficient find-and-catch technologies, along with constant market pressures from the world's exploding population, has overwhelmed the reproductive capacity of some species. Just as troubling, pursuit of market species often results in a huge by-catch -- the capture, death and discard of untargeted species, including not only threatened fish but also marine mammals. Because that equation that shows no signs of changing, it threatens the future of some fish species.

That's why the results of a pilot program that took place in the Gulf of Mexico have some conservationists and commercial fishermen hopeful for the future. Using highly selective gear instead of their traditional longlines, commercial fishermen targeting yellowfin tuna and swordfish saw their by-catch drop by as much as 91 percent, and most of what they did catch unintentionally was released alive. Most importantly, the fishermen saw they could make a profit fishing this new, sustainable way.

The results are especially important for the troubled bluefin tuna population. The Gulf is one of two spawning grounds for Atlantic bluefins and one of the by-catch species impacted by Gulf longliners.

"If we want to keep fishing in an area with known high by-catch, we have to change the way we fish," said David Kerstetter, Ph.D., a researcher at Nova Southeastern University Oceanographic Center who led the program, which was funded by grants from the National Fish and Wildlife Foundation and the Walton Family Foundation. "Yellowfin tuna and swordfish populations are healthy in the Gulf. We want to keep them that way so these fishing communities -- commercial and recreational -- and survive."

Typical longline rigs stretch for 30 miles, with 750 hooks. Studies show 51 percent of all fish hooked by longlines in the Gulf are by-catch, including sea turtles and marine mammals, and 65 percent of those discards are dead from hanging on the lines too long.

Yellowfin fishermen in the study used "green stick gear," which operates much like big-game sportfishing gear. A stick (sort of like a vertical outrigger) pulls five to 10 plastic squid baits bouncing across the surface about 300 to 400 feet behind the vessel at around 5 to 7 knots. The surface baits stay out of the feeding zone of non-targeted species, such as bluefin tuna. And

keeping the baits close means fish are hauled to the boat quickly.

Only 16 percent of the green stick catch was by-catch, and all of it was released alive.

Swordfish boats used buoy gear, which feature one or two branch lines with hooks under independent, lighted or radar-reflecting floats. A typical set sees the fishermen deploy 12 to 15 buoys with 600 feet of water between them. The gear is actively monitored, so when detection gear shows a fish is hooked, the fishermen can quickly track and retrieve the catch.

During the test period, buoy gear by-catch was only 9 percent, and only 7 percent of those died.

Getting the fish in fast was one of the big keys for conservation as well as profit, Kerstetter explained. The longer a fish stays on the line, the less chance it has of survival if it must be released. And the fresher a fish is brought aboard, the higher the quality of its flesh, and the higher price it brings at the dock.

That's important as well, because while the test showed selective fishing like this can be profitable for fishermen, large-volume less-efficient methods still bring in more money.

The results of the program were explained during a "Sustainable Seafood Luncheon" hosted by the **Gulf Restoration Network** at Gautreau's Restaurant, one of New Orleans' premier dining spots. Invited guests included commercial fishermen and sportfishermen, restaurateurs, chefs, conservation groups, grocers, and seafood dealers. That demographic was no accident.

"If we're going to make this work economically for fishermen, we have to have a market that demands sustainably-caught seafood," Kerstetter explained. "It's like the dolphin-safe tuna movement. If we have people who care about conservation, and know they also will be getting higher quality fish, then we can create a market for sustainable fisheries."

Kerstetter and the conservation groups are hoping NOAA can be convinced to use some of the fines coming in from the Deepwater Horizon disaster to fund a gear conversion program to help fishermen switch to sustainable fishing methods.

"We believe ultimately sustainable fishing will be more profitable for the industry, as well as allow us to keep fishing for these fish," he said.

Results of the pilot project can be found at the Pew Trusts' **Gulf Surface Longline Campaign site**.