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Saving the Fish Banks

The U.S. has made improvements in managing its stocks but only compared to the rest of the world.

COLIN WOODARD | *November 24, 2008*

For once it's a good day at the Portland Fish Exchange in Maine.

Two dozen buyers representing fish processors, distributors, and retailers crowd in the auction room, consulting computer monitors and parrying one another's bids for the freshly landed catch laid out on ice in the refrigerated hangar next door.

Remnants of a tropical storm blew into the Gulf of Maine overnight, driving the fleet into port with whatever it had caught. *Harmony*, one of the few big bottom trawlers to have survived New England's fisheries crisis, has disgorged thousands of winter flounder caught in the Nantucket Sound, 180 miles to the south. Now packed in dozens of ice-filled totes, the small flatfish are displayed next to heaps of haddock and a 40-pound codfish brought in by one of a dozen smaller gillnetters, day boats that deploy their stationary gear on banks closer to home.

Fifteen years ago, Maine's fishermen often filled the 22,000-square-foot display hall wall-to-wall with totes of fish. Today's catch -- 120,000 pounds -- fills about a quarter of the hall, but general manager Bert Jongerden isn't complaining. Ten months ago, the catch was down to 67,500 pounds *a week* -- 15 percent of its former volume -- and some were predicting the fish exchange's demise. Now the 22-year-old exchange -- the oldest wholesale fresh-fish auction in the continental United States -- appears to have turned a corner.

"We've had a very good summer, and I figure we're good up into December, and we've been able to put some money away for a rainy day and can wait until the first of May when they open up some of the rolling closures," says Jongerden.

Like the Portland Fish Exchange, fisheries in the United States appear to have finally turned the corner, though they've been reduced to a shadow of their former glory. Earlier this year, the number of fish stocks categorized as overfished by the National Marine Fisheries Service (NMFS) dropped to 46, down from 86 in 2002. Several important commercial fish populations, including silver hake off the Middle Atlantic States, Pacific whiting, and red grouper in the Gulf of Mexico, have been rebuilt to what scientists consider a healthy level.

"I've been surprised to see how decisively the United States has been in setting and actually enforcing aggressive recovery targets," said Boris Worm, a prominent marine biologist at Dalhousie University in Halifax, Nova Scotia, not known for rosy predictions. "There have been some spectacular recoveries, which are real reasons to be optimistic."

"Nobody's whitewashing the situation, but we're making progress," says Steve Murawski, chief science adviser at NMFS headquarters in Silver Spring, Maryland. "We're down to a handful of stocks around the country that have been persistent problems, and we know it's crunch time for the process."

Of course, progress is relative, and given the situation of global fisheries, it's not hard for U.S. fisheries to stand out. "It's true that the U.S. looks good, but that's because the record of the other countries is so abysmally low," says Daniel Pauly, director of the University of British Columbia Fisheries Centre in Vancouver.

It's hard to overstate the crisis. According to the Food and Agriculture Organization of the United Nations, a quarter of the world's commercial fish stocks are overexploited or depleted, and about half are fully exploited -- meaning fishermen are taking as much as can be reliably replenished by the ecosystem. Ninety percent of the world's large predatory fish have been harvested since 1950, according to a 2003 scientific study in *Nature* co-authored by Worm, who headed a 2006 study by an international team of scientists that predicted that if the current situation continues, the world's commercial wild-caught seafood species will have collapsed by 2048.

Having destroyed stocks in their home waters, large, highly subsidized fishing vessels from the European Union, Russia, and China have purchased access to the waters of developing nations, where they displace local fishermen. As a result, West African fish stocks have declined by 50 percent over the last 30 years, and thousands of fishermen have been put out of work. On the high seas, heavily subsidized trawlers are devastating ecosystems scientists have barely begun to understand. As valuable fish become rare, fishermen have moved down the food chain, exchanging predators like tuna and cod for invertebrate scavengers like crabs. "At a global level," says Callum Roberts of the University of York, England, "fisheries are on a road to hell."

The U.S. has been down that road. Decades of ineffective management (by government) and technological innovation (by industry) ruined many important fisheries. Some west coast rockfish populations dropped to less than a tenth of their previous levels, while Atlantic halibut became too rare to target. In the Pacific Northwest, shrinking salmon populations have cost 72,000 jobs and more than half a billion dollars. But if there's a ground zero in this crisis, it's New England, where populations of cod and other bottom-dwelling "groundfish" species collapsed in the early 1990s, prompting the government to close many of the region's historic fishing grounds.

"The system has been broken for a long time, and putting it back together will be tough," says Elliott Norse, president of the Marine Conservation Biology Institute in Bellevue, Washington. "It will take discipline, good science, creativity, and, unfortunately, there's going to be more pain."

Consumers have been insulated from the crisis because the U.S. has outsourced the problem: Imports accounted for 79 percent of the national seafood supply between 2000 and 2005, according to the USDA last February. Dr. Murawski of NMFS says this undoubtedly contributes to overfishing elsewhere. Roberts calls this "one of the greatest injustices of the modern era of fishing," noting that developing countries are now bearing the brunt.

New England -- home to the nation's oldest and most heavily capitalized fishing communities -- is widely regarded as the greatest domestic challenge. Despite more than a decade of fishing restrictions -- permanent and rotating closures, stringent catch quotas, and days-at-sea limits -- the region is still home to by far the largest number of overfished stocks. Of the 46 populations NMFS regards as overfished, 16 are in New England, including cod, haddock, yellowtail flounder, and other species that were the bedrock of the region's 400-year-old industry.

The restrictions -- put into place after an environmental group, the Conservation Law Foundation, successfully sued the federal government in 1991 to protect the fish -- have had results. Several damaged stocks have been rebuilt -- including Georges Bank haddock and scallops -- and others are recovering, including redfish and summer flounder.

But some in the industry wonder if any fishermen will be left when the stocks recover. Many have been driven out of business by the restrictions and, increasingly, the cost of fuel, while the piers, processing plants, and other infrastructure they depend on are being pushed aside to make way for condominiums, marinas, and waterfront hotels. A generation ago, Maine was home to over 300 groundfishing vessels; now fewer than 80 remain. "At this point, there's hardly any fishermen left," says Jongerden of the Portland Fish Exchange. "No young guys are getting in. The average age of fishermen now is 55 to 60, and two out of three fishermen I talk to say if the government were to offer to buy them out, they'd be gone in a heartbeat."

Fishing is central to the identity, culture, and economy of dozens of New England communities from Block Island, Rhode Island, to Eastport, Maine. Ted Ames, a fisherman-turned-scholar and 2005 MacArthur Fellow, believes conservation would be best served by giving fishermen a role in management of local waters. "We're proposing the creation of smaller-scale governance that allows fishermen and managers to address the problem locally," says Ames.

The plan, which Ames wants to try in eastern Maine, is for state and federal authorities to continue setting recovery targets but to let local fishermen work out the details for -- and have sole access to -- their immediate area. This system -- modeled after the state's successful lobster-management regime -- gives fishermen an incentive to improve the ecological productivity of their home territory, while drawing on their fine-grained knowledge of local ecological factors. And, as it would apply only to nearshore waters, it would foster the use of smaller, less powerful vessels and gear technologies that Ames argues are best-suited to working with and adapting to the local ecosystem.

It's a variation on what scientists call "ecosystem-based management," a new regime in which managers break with their fragmented stock-by-stock and issue-by-issue approach and look to assessing and protecting the overall ecosystem. The goal: figure out how to manage all of our activities on the ocean so that we don't do severe damage to biodiversity, critical habitats, and overall ecosystem function.

How to do this remains an open question, but there's broad consensus that zoning the ocean will play a major role. When applied to fisheries, the approach -- endorsed by the World Bank, President Bush's U.S. Commission on Ocean Policy, and the Pew Oceans Commission -- would establish some areas where no fishing would take place and many others where fishing is restricted to certain seasons, gear-types, or species, depending on local ecological conditions.

"We can't continue to let the fishing industry have sway over the entire seabed and allow them to make any decision about where they want to put down their gear at any time," says Roberts.

Managing an area, rather than a species, may be the only way to detect and respond to the unexpected consequences of human activity. On the eastern seaboard, commercial and recreational fishermen have sharply reduced the population of large sharks. But while the shark problem soon became clear to conventional fishery managers, they completely missed the knock-on effects, which included the decimation of North Carolina bay scallops, Chesapeake oysters, and other shellfish. With fewer large sharks around, the numbers of skates, rays, and small sharks that were once their prey exploded. Unfortunately, these species eat shellfish and soon consumed nearly all the adult scallops in the sounds of southern North Carolina, forcing the closure of those fisheries.

"Ecologists throughout the world have argued consistently that management needs to have a more holistic approach or it will destroy the fisheries it is taking care of," says Ames. "One of the great puzzles to me is why management doesn't seem to ever tune in to this."

Indeed, NMFS remains primarily focused on ending overfishing ahead of a legally binding 2011 deadline, a task made more daunting by recent budget cuts. "Getting overfishing under control is our primary goal," says Murawski.

What is encouraging is that when overfishing is stopped, fish populations usually do recover, sometimes with surprising speed. "What we've got to do is give nature the space to make the recovery," says Roberts, who has been encouraged by U.S. management, including the creation of a massive marine reserve in the northwest Hawaiian Islands in 2006. "The ecosystems won't necessarily look the way they did 200 or 500 years ago, but they certainly will be able to recover to a more diverse and healthy state that will help support human life on this planet."



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