



New England Fishermen Adapt to a Sea Change

LEE CROCKETT
THE PEW CHARITABLE TRUSTS

As ocean waters warm and fish populations plunge, New England fishermen and regulators hope to chart a new course.

On a late summer afternoon, tourists crowd the observation deck overlooking the fishing pier in Chatham, on the elbow of Cape Cod. Some have come for the seals. Federally protected gray seals and harbor seals, once a rare sight here, are back, much to the chagrin of fishermen who say they damage nets and eat too many fish.¹

Half a dozen seals loll about in the unusually warm water, awaiting tidbits from fishing boats.

Other tourists snap pictures as boats unload their holds. Hundreds of small, bloody, yellow-eyed sharks known as dogfish spill down a metal chute to be packed in crates with ice and shipped off,

mostly to Europe. Once considered a nuisance, dogfish are now an important catch. Massachusetts fishermen landed about 10 million pounds in 2011, a tenfold increase over catches from less than a decade ago.²

But anyone hoping to see the Cape's namesake fish will be disappointed. "There is no codfish," says Greg Walinski, captain of the *Alicia Ann* from nearby Dennis Port. (See "Atlantic Cod Landings, 1950–2011.")

Landings for cod and other important groundfish—bottom-dwelling species—plummeted throughout the region over the past two decades, and scientific assessments of the populations show many at or near record lows. The New England Fishery Management Council adopted sharp reductions in the allowable catch for the 2013 fishing season, and the U.S. Department of Commerce declared a fisheries disaster in New England.³

"In my experience, when cod stops showing up in an area, it doesn't come back," Walinski observes. "I am very nervous about how I'll make a living."

Tourists might not realize it, but the holds full of dogfish instead of cod in Chatham, the warm water—even the seals—are signs of dramatic changes to the ocean ecosystem, and a serious challenge to the communities depending on it. Fish stocks are down, water temperatures are up, and anxiety is high.

Worrisome Trends

Sea temperatures off New England for the first six months of 2012 were the warmest in the 159 years scientists have kept records. Some data show cod populations shifting northward, toward cooler water. Scientists are still studying what warming oceans will mean for fisheries, even as they strive to fully understand the lasting effects of fishing itself.⁴

"The long-term impacts of fishing on ecosystems are exacerbated by a changing climate," explains John "Jud" Crawford, a fisheries expert with The Pew Charitable Trusts. But he adds that the depleted status of the region's most economically important fish has more to do with the fishing industry's past success.

"With the advent of high-technology fishing in the last half-century, fishing has developed the capability of fundamental change to ocean ecosystems," Crawford says. The estimated biomass of the Georges Bank cod population is now less than a quarter of what it was in the 1980s.⁵ Despite changes in the federal law limiting catches to scientifically set quotas, fish stocks are slow to return.

Peter Baker, director of Pew's northeast fisheries program, says Canada's cod fishery provides a cautionary tale. Overfishing and weak regulation and enforcement there brought a crash in cod populations in the early 1990s. Canadian regulators responded with a fishing moratorium to allow the population to recover, but 20 years later Canada's fishermen are still waiting for the cod's return.⁶

The current approach in New England brought renewed criticism of U.S. fishing regulations and calls for leniency in setting catch limits so the industry could land more fish. But Baker argues that some of the criticism misses the point.

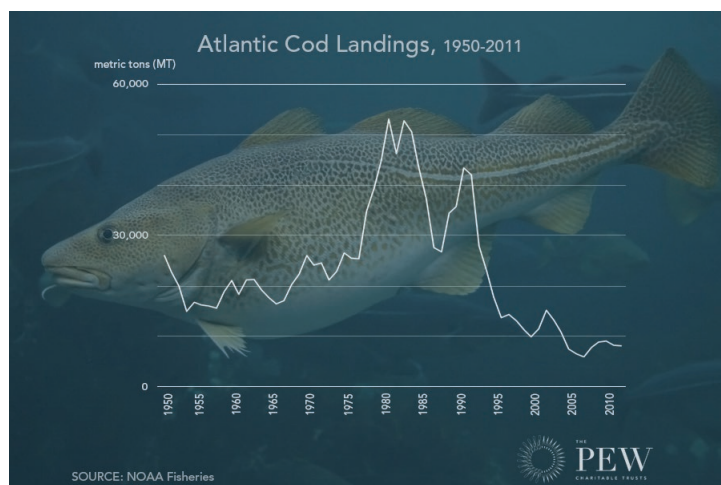
"The claim that the law is too rigid simply deflects attention

from the real crisis," he says. "New England cod stocks are in deep trouble and may follow Canadian cod stocks into commercial extinction."

Uneven Revenues

Despite the Commerce Department's declaration of a fishing disaster and the uncertainty hanging over the lower catch limits, economic data indicate that most New England fishing ports enjoyed rising revenues in recent years.

New Bedford, for example, has been the nation's top port for the past 12 years, as measured by revenue generated. That's largely due to the healthy, high-value scallop fishery. Scallops strongly rebounded after large sections of the seafloor were protected from most bottom trawling in the 1990s.



Now New Bedford's fishing revenues are nearly \$400 million a year. Even beleaguered groundfish such as cod and haddock have brought in more money in recent years. Statistics from the National Oceanic and Atmospheric Administration (NOAA) show that for the 2011–2012 season, landings, gross revenues, and net revenues per vessel reached three-year highs in New England.⁷

"Revenues have gone up for New England fisheries even as the overall economy is stagnant," Baker notes.

But that rising tide is not lifting all fishing boats equally. NOAA statistics also show employment in fishing crews is down from 2009 levels, and revenue is increasingly concentrated among a few, top-earning vessels. There is growing concern about how smaller fishing operations will fare under the cuts in catch limits. Small-craft captains operating close to shore fear they will lose out to larger vessels fishing farther offshore. And the fishermen most dependent on cod and other groundfish fear they will go out of business if they cannot switch to fishing other species.

If small boats go under, that could have a ripple effect on the ice houses, warehouses, fuel docks, and other support services in the port communities. The New England Fishery Management Council

is considering a plan for allocating the fishing quota in a way that preserves diversity among owners of small and large boats in the fleet (known as Amendment 18 to the Northeast Multispecies Fishery Management Plan), but so far there has been little concrete action.⁸

Meanwhile, New England fishermen are finding new ways to work amid change. Some are developing different means to market their catch and retain more of the value, such as selling directly to restaurateurs or the public. Community-supported fisheries (CSFs) in Port Clyde, Maine, and Gloucester, Massachusetts, give fishermen a reliable outlet, thanks to a subscription service for fish. Customers pay in advance to pick up a regular—usually weekly—delivery of seafood. The system is similar to community-supported agriculture, which delivers boxes of locally grown vegetables to subscribers.

CSFs also encourage consumers to try different types of seafood, allowing fishermen to market species that might otherwise be discarded. And in Port Clyde, fishermen in the cooperative are exploring more-selective fishing gear that can reduce their impact on ocean wildlife.⁹

Other fishermen are making the most of the types of fish that are now in their waters. In Chatham, fishermen might never make peace with the seals, but they are learning to love the dogfish, which is slowly finding a place in the market.

“The ecosystem has changed, and now dogfish and skates are abundant,” says Nancy Civetta, communications director for the Cape Cod Commercial Hook Fishermen’s Association. “These represent important opportunities for these fishermen, and we’d like to create mass domestic markets to help them get a better price and keep fresh, local dayboat seafood on consumers’ plates.”

In essence, fishermen are doing what they have done for centuries—adapting to changes in the ecological and economic systems of which they are a part. What’s different today is that both the scale and speed of change are unlike anything fishermen have seen before, and so is the challenge for the coastal economies they support.

Lee Crockett directs U.S. fisheries campaigns for The Pew Charitable Trusts. His “Bottom Line” blog on issues facing ocean fisheries appears in *National Geographic* online and the *Huffington Post*, www.huffingtonpost.com/lee-crockett.

Endnotes

- 1 “Fishermen” is still used for both women and men who fish.
- 2 “Addendum IV to the Interstate Fishery Management Plan for Spiny Dogfish” (Atlantic States Marine Fisheries Commission, Arlington, Virginia, August 2012), http://www.asafc.org/speciesDocuments/dogfish/fmpps/spinyDogfishAddendumIV_August2012.pdf; and Beth Daley, “Shark Fin Bans Ensnare New England Fishermen,” *Boston Globe*, September 16, 2012, http://articles.boston.com/2012-09-16/metro/33860216_1_shark-fins-dogfish-state-bans.
- 3 NOAA, “Secretary of Commerce Declares Fisheries Disasters in Northeast, Alaska, and Mississippi” (news release, September 13, 2012), http://www.nmfs.noaa.gov/stories/2012/09/09_13_12disaster_determinations.html.
- 4 NOAA, “Sea Surface Temperatures Reach Record Highs on Northeast

Continental Shelf” (news release, September 18, 2012), http://www.nefsc.noaa.gov/press_release/2012/SciSpot/SS1209/ss1209.pdf.

- 5 “Status of Fishery Resources off the Northeastern US, Atlantic Cod” (NOAA Northeast Fisheries Science Center, Silver Spring, Maryland, December 2006), <http://www.nefsc.noaa.gov/sos/spsyn/pg/cod/>.
- 6 David Abel, “In Canada, Cod Remain Scarce Despite Ban,” *Boston Globe*, March 4, 2012, http://www.boston.com/news/local/massachusetts/articles/2012/03/04/in_canada_cod_remain_scarce_despite_ban/?page=full. See also Mark Kurlansky, *Cod: A Biography of the Fish that Changed the World* (New York: Penguin Press, 1998).
- 7 “Northeast Fisheries Science Center Reference Document 12-30: 2011 Final Report on the Performance of the Northeast Multispecies (Groundfish) Fishery (May 2011–April 2012),” <http://www.nefsc.noaa.gov/publications/crd/crd1230>.
- 8 “Fleet Diversity, Allocation, and Excessive Shares in the Northeast Multispecies Fishery” (New England Fishery Management Council, September 3, 2010), <http://www.nefmc.org/nemulti/planamen/Amend%2018/draft%20allocative%20effects%20paper.pdf>; and Michael Conathan, “The Future of America’s First Fishery” (report, Center for American Progress, Washington, DC, May 2012), http://www.americanprogress.org/wpcontent/uploads/issues/2012/05/pdf/ne_groundfishery_execsumm.pdf.
- 9 Patricia Leigh Brown, “For Local Fisheries, a Line of Hope,” *New York Times*, October 3, 2012, <http://www.nytimes.com/2012/10/03/dining/a-growing-movement-for-community-supported-fisheries.html?pagewanted=all>.

This Communities & Banking article is copyrighted by the Federal Reserve Bank of Boston. The views expressed are not necessarily those of the Bank or the Federal Reserve System. Copies of articles may be downloaded without cost at www.bostonfed.org/commdev/c&b/index.htm.