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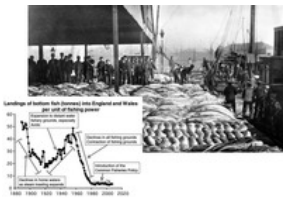
British Trawlers Working Nearly 20 Times as Hard to Catch Fish

by Gretchen Vogel on May 4, 2010 11:41 AM | Permanent Link | 3 Comments

Fish stocks are so depleted from their historical levels that it now takes British vessels almost 20 times the effort to land the same amount of fish that were caught at the end of the 19th century. That's the conclusion of a new study that examines more than a century of official fishing records from England, Wales, and Scotland. The work "clearly shows how inefficient fishing efforts have become," says marine ecologist Boris Worm of Dalhousie University in Halifax, Canada, who was not involved in the work. "They are sweeping up crumbs from what used to be a breadbasket."

ENLARGE IMAGE



Declining abundance. The fishing docks at Grimsby, on the eastern coast of England, were full of fish in 1900. Today, fishers need nearly 20 times the power used then to catch the same amount of fish.

Credit: Callum Roberts

In the 1880s, steam-powered trawlers began to compete with sail-powered fishing boats in European waters. The practice was controversial in the United Kingdom, where some critics claimed that the new trawlers were reducing fish stocks and damaging habitats. A government inquiry was launched in 1883, but the commission was unable to reach any firm conclusions, citing lack of statistics on the amount of fish caught. The commission recommended that, going forward, catch data should be collected for major ports in England and Wales.

Marine conservation biologist Callum Roberts of the University of York in the United Kingdom came across the records while researching a book on the history of fishing and decided to analyze the data. Although the findings are not the first to document the dramatic decline in fish abundance, he notes, most previous studies have been based on models or less-complete historical records. "Much of the [historical] evidence is anecdotal. This was analyzable," he says.

To adjust the catch data for the increasingly powerful and sophisticated fishing boats, Roberts and colleagues used boat registration records to calculate the overall power of the British fleet. The researchers expressed ship power in units equivalent to the catching power of one sail-powered trawler in the 1880s. The scientists then calculated the landings per unit of fishing power (LPUP), essentially how many fish a comparable boat caught each year.

The data reveal four distinct phases in fishing efficiency over the past 120 years, says Roberts. From 1889 until 1914, LPUP dropped sharply, from more than 60 tons to less than 20 tons. The decrease in fishing during World War I allowed a recovery of fish stocks, and LPUP rebounded briefly to 30 tons in 1918. Between WWI and the 1950s, British vessels began fishing farther from home, off the coast of West Africa and in the Arctic. Those relatively unexploited waters allowed the rate of fish caught by British vessels to increase again, to about 50 tons in 1956. But with continued exploitation, LPUP nose-dived, to about 5 tons in 1980, the team reports online today in *Nature Communications*. After 1983, the Common Fisheries Policy of the European Union set strict new limits on where and how much British vessels could fish, but stocks have not recovered. Today it takes 17 times as much fishing power to land a fish as it did in 1889, an LPUP of 3.4.

The data show clearly that British fishers have had to become "very good at finding fish that are scarce," says marine biologist Daniel Pauly of the University of British Columbia, Vancouver, in Canada. Most fishers, however, don't notice how much harder it is to catch fish than it was for their fathers or grandfathers, he says.

The politics of trying to set limits on fishing hasn't gotten any easier since the 1880s, Roberts says. Nevertheless, he says he hopes the study demonstrates the changes the ocean has undergone "in a way that will resonate with the fishing industry and government officials: This is their own data."

jp

As long as economic interests direct our environmental behaviour, I don`t see a future for our ecosystems. But people already started recognising this 120 years ago and what did it help? As long as there are leaders of fishing companies who believe to beeing smarter than scientists, exploitation will continue...and the european union? A confession of failure. Explainable by two possibilities: either it is incompetence or we are dealing with palm greasing on highest levels s the reason for having eyes wide shut!

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dewbaba

this does not seem to indicate declines due to global warming as most would assume. it indicates reduction in surface area covered by british fishing as well as dramatic increases in fishing effectiveness. personally i would request data on the location and surface area of waters fished and the fishing strategies empolyed at what horsepower or knot. this story also lacks the changes in government intervention that reduced the death rates of unintended species caught in nets.

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wayne williamson

nice article...it would be interesting to see how other fishing fleets have fared....the usa must have some statistics as well as other countries....

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