ENVIRONMENT:
U.S. Cod Stocks Down 96 Percent

Stephen Leahy

BROOKLIN, Canada, Mar 2 (IPS) - Historical records reveal that scientifically managed cod stocks off the northeast coast of the United States have been nearly fished to extinction.

Once a dominant species, the volume of adult cod has declined 96 percent, leaving enough to fill only 16 small 19th century schooners, according to a new study published Monday in the journal "Frontiers In Ecology and Environment".

This has implications for fisheries management worldwide. Setting catch limits based on data from the 1950s, 1960s or later may be based on wrong assumptions and could be much too high, experts warn.

"The study is a wake-up call for everyone to think in a historical time frame," said Jeff Bolster an associate professor of history at University of New Hampshire (UNH), co-author of the study.

This science-based estimate of the cod stocks of the 1850s is important because it shows that the current status of the cod is much worse than previously thought. Among the most studied fish stocks in recent times, previous studies of cod only go back a few decades.

"If you only look back 25 years, and the current number of fish is higher than the average, it might look like a recovery is underway. But over 150 years, things still look pretty grim," Bolster told IPS.

The new study supports the 2003 findings of Canada's Ransom Myers, a leading fisheries biologist based at Dalhousie University, that commercial fishing had reduced populations of every species of large fish on the globe by more than 90 percent.

"From giant blue marlin to mighty blue-fin tuna, and from tropical groupers to Antarctic cod, industrial fishing has scoured the global ocean," Myers said in an IPS interview at that time.
Fisheries like the cod will need decades to recover not just years says study co-author Andy Rosenberg, dean of the College of Life Sciences and Agriculture at UNH.

"Fisheries are a public trust, governments have to resist economic and other pressures to increase quotas after a few years of stock improvement."

The new numbers establish a more accurate baseline population for the original stocks. The researchers said tougher federal regulations could allow stocks to rebuild over a longer period of time, closer to what they previously were.

To estimate fish levels long ago, researchers used 1850s New England schooner records of daily catch locations and fleet activity on the fishing grounds. Fishers used handlines at that time and captains kept careful records of how many fish were caught because they paid their crew based on the number of fish they caught, Bolster said.

A schooner's catch was sold by weight, allowing the researchers to estimate the average weight of fish per trip. Ship captains had "negligible incentive to falsify records", and combined with other documents, their logs "provide a solid, reliable basis for stock assessment," Bolster said.

Using a mathematical formula, the researchers estimated that cod biomass on the Scotian Shelf was 1.26 million metric tonnes, a conservative number since only adult cod were recorded in the old logs.

In 2002, Canadian scientists estimated that there are less than 50,000 metric tonnes of cod, with adults representing just six percent of the remaining stock.

The ship log records also revealed the very beginning of the depletion of the cod stocks.

Between 1852 and 1857, the New England schooners fished the Scotian Shelf, the main cod grounds south of province of Nova Scotia, close to 90 percent of the time. That declined to 60 percent in 1859 as captains searched farther out to sea for more economically profitable concentrations of cod.

Some vessels left the fleet and may have left the cod fishery altogether, a familiar pattern in collapsing fisheries today. Catch per unit of fishing effort -- in fish per day per tonne of vessel -- declined by over 50 percent between 1852 and 1859.

"This is just one example of what we think will be a general pattern that's repeated around the world," said Bolster.

A number of other similar studies are underway as part of the Marine Life History of Marine Animal Populations project. This research will be a focus of the Conference on the Oceans Before Fishing, a major...
"What's happened to the cod is happening to other stocks around the world," said Rosenberg. "The world fish catch is declining and can't be sustained. There are too many fishing boats in the world and no place in the oceans that isn't being fished."

"The world needs to get serious about reducing the size of the fishing fleet," he added.

As a first step, Rosenberg recommends cutting government subsidies to the industry. Global fisheries subsidies vary from 14 billion to 20 billion dollars annually, with Europe and Japan in the lead, according to the World Bank.

Large marine protected areas that are completely off-limits to fishing also need to be created, the UNH scientist says.

"We need to educate the public about the extent of the crisis so that they will push governments to take action," said Rosenberg.

Daniel Pauly, another leading fisheries expert based in Canada, has suggested that fishing be banned in up to one-half of the world's oceans for the next 10 to 20 years to prevent a major collapse of fish stocks worldwide.

Even in the 1860s, fishers on sailboats and using hooks were depleting the cod stocks, said Bolster. "They knew cod were becoming as scarce as the once bountiful salmon but there was little they could do without proper government support to control the resource." (END/2005)