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(Brooks)

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Over the edge. Atlantic cod caught off Newfoundland, Canada, provided nourishment and income for centuries until the 1990s.

CREDIT: JOHN EASTCOTT AND YVA MOMATIUK/NATIONAL GEOGRAPHIC/GETTY IMAGES

Canadian cod fishery collapsed in the early 1990s. Total bans ensued, and fisheries managers expected to see a recovery. However, after 15 years of little to no fishing, local populations show no sign of rebounding. In fact, some will continue to spiral downward, according to projections reported in this month's issue of the *Canadian Journal of Fisheries and Aquatic Sciences*.

Biologists Douglas Swain and Ghislain Chouinard of Canada's Department of Fisheries and Oceans used well-established models of fishery stocks to predict the future of the fourth largest population of cod, in the southern Gulf of St. Lawrence, southwest of Newfoundland. The models took into account the population's productivity, based on the proportion of young fish that mature, the growth of adults, and natural mortality rates. The results were sobering: The southern Gulf cod stock will be extirpated (local extinction defined as less than 0.3% of the species' original biomass) within 20 years if limited fishing is allowed. Even if the fishery is completely closed, the stock will hit rock bottom in 38 years.

No Recovery for Atlantic Cod Population

By Cassandra Brooks
 ScienceNOW Daily News
 25 November 2008

A new study predicts for the first time that a major population of Atlantic cod, near Newfoundland, Canada, will essentially go extinct within 20 years, despite best attempts to manage it. "This is the most shocking and disturbing news I've ever heard about a marine fish population," says fisheries biologist Jeffrey Hutchings of Dalhousie University in Halifax, Canada.

Atlantic cod is a symbol of boom-and-bust commercial fishing. After 50 years of heavy harvesting in the late 20th century, the

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The main problem, according to Swain and Chouinard, is that adult cod have been dying at an unusually high rate in recent years. No one knows why, but Swain suspects the cause might be increased predation by seals. The problem may be more widespread: The neighboring Scotian Shelf cod population also took a nosedive in the 1990s based on data from a Canadian report published in 2003. Furthermore, while most other cod populations off Canada appear to be stable, the same could have been said about the southern Gulf population up until a few years ago, says Swain.

Although biologists have traditionally assumed that stocks will rebound if fishers simply stop fishing, Hutchings notes, the new study of cod is an "extremely compelling example of the fallacy of that assumption." As for extirpation of a cod population, Hutchings says he never considered it possible until this analysis. However, fisheries biologist Ralph Mayo of the National Oceanic and Atmospheric Administration in Woods Hole, Massachusetts, says the outlook could be better for smaller U.S. cod stocks in the Gulf of Maine and on Georges Bank. "The Gulf of Maine population has even been increasing," he says. That, of course, is small consolation for Canada.



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