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# RESEARCH SERIES

AUGUST 2006

Ten years after the legislative mandate to rebuild fisheries, most fish stocks that should be rebuilt by now are still in poor shape.

## REBUILDING U.S. FISHERIES

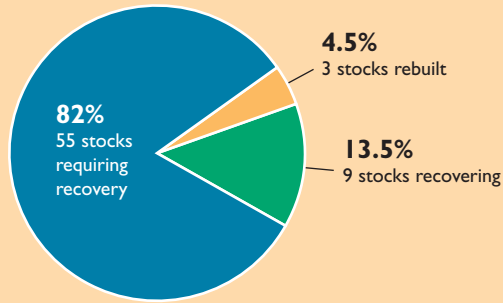
### A SUMMARY OF NEW SCIENTIFIC ANALYSIS:

Rosenberg AA, Swasey JH, and Bowman M. 2006. Rebuilding US Fisheries: Progress and Problems. *Frontiers in Ecology and the Environment* 4(6): 303–308.

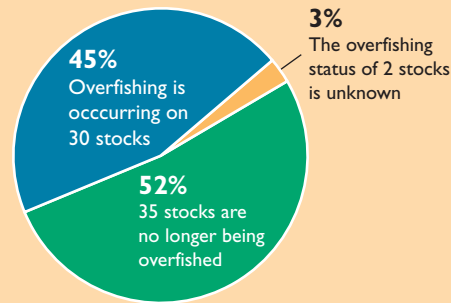
IN OCTOBER 1996, Congress passed amendments to the Magnuson-Stevens Fishery Conservation and Management Act (“Magnuson-Stevens Act”) that required fishery managers to rebuild depleted populations of marine fish. Despite this strong Federal mandate, in too many cases the U.S. has failed to rebuild fish populations and overfishing continues to hamper progress.

Andrew Rosenberg and colleagues recently examined why, 10 years later, the law has had only a limited effect on improving fishery resources. This study, funded by the Lenfest Ocean Program, resulted in the paper, “Rebuilding U.S. Fisheries: Progress and Problems”, published in the August 2006 issue of the journal *Frontiers in Ecology and the Environment*. This *Lenfest Ocean Program Research Series* report is a snapshot of the study’s findings.

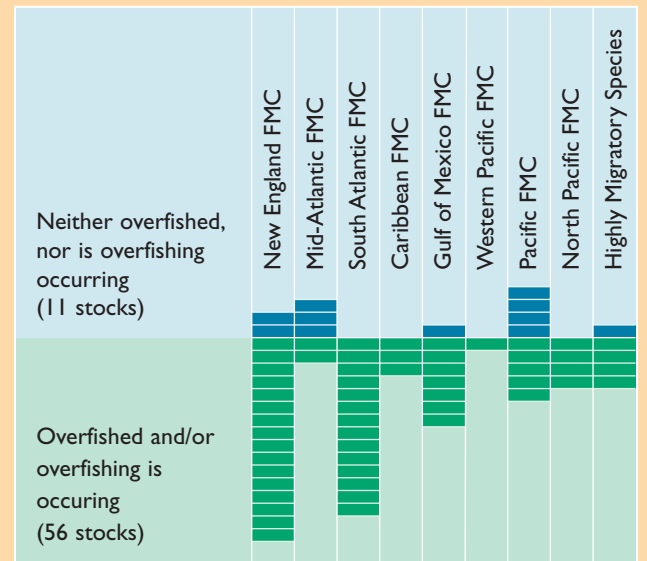
### Status of Fish Stocks Under Rebuilding Plans



### Status of Fishing Pressure on Stocks Under Rebuilding Plans



### Stock Recovery by Regional Council<sup>1</sup>



<sup>1</sup> For this chart's detailed caption, see Figure 2 in the *Frontiers in Ecology and the Environment* paper.

## HAVE FISH POPULATIONS BEEN REBUILT?

THE MAGNUSON-STEVENSONS ACT requires fishery managers to implement plans to rebuild fish populations when they are declared below healthy levels, or overfished. To date, rebuilding plans for 67 fish stocks identified as overfished have been adopted, and plans are being developed for an additional seven stocks.

But based on nine years of data:<sup>1</sup>

- Only three stocks out of 67 have been rebuilt (less than 5%). The three successes are Atlantic sea scallops, Pacific whiting, and Pacific lingcod.
- 82% of the populations that need rebuilding are still below healthy levels (i.e., overfished) and/or are continuing to be overexploited (i.e., overfishing is occurring).

Nearly half (45%) of the fish stocks under rebuilding plans are still fished so heavily they cannot recover.

## WHY IS REBUILDING FAILING FOR SO MANY FISH POPULATIONS?

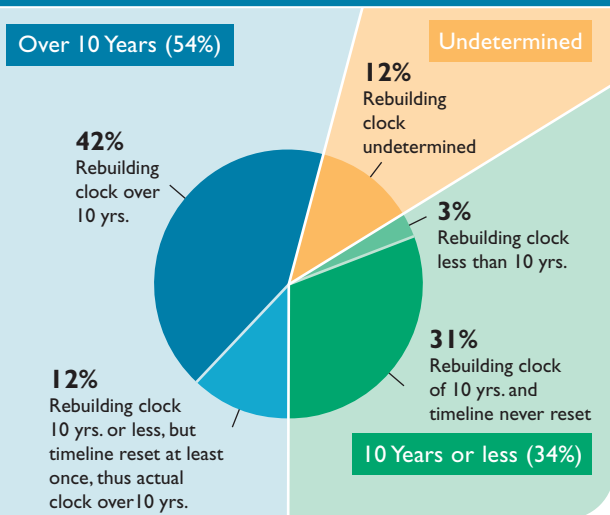
THE MAGNUSON-STEVENSONS ACT REQUIRES that rebuilding plans take 10 years or less unless the biology of the fish prevents recovery in under 10 years. According to scientists, most fish populations can be rebuilt within this timeframe. So, after 10 years, why are success rates so low? Because:

- Too many fish continue to be removed from the ocean (called overfishing) even after fishery rebuilding plans are put in place. Nearly half (45%) of the fish stocks under rebuilding plans are still fished so heavily they cannot recover.
- Despite the law's requirement that fish populations be rebuilt in as short a time as possible, over half of depleted fish stocks have rebuilding plans of more than 10 years (ranging from 11 to 90 years). Only two plans out of 67 have a timeframe of under 10 years.
- Monitoring has been inconsistent or absent, and managers have failed to revise plans that are not working. The critical information needed to assess the effectiveness of a rebuilding plan is the level of fishing pressure, and the size (biomass) of the fish population. In 51% of fish populations under rebuilding plans, managers cannot determine the rebuilding plan's effect on fishing pressure to date, and for 45% there is insufficient information to determine the biomass of the population.

Continued overexploitation of many fish populations, and delayed or extended rebuilding plan timelines, means that most fish stocks that should be rebuilt by now are still in poor shape.

<sup>1</sup> This study is based on data collected through 2005.

### Timelines for Rebuilding



## How will rebuilding impact the fishing industry?

A separate study has analyzed the economics of 17 of the most valuable fish species undergoing rebuilding and concluded that the net present value of rebuilt fisheries (even taking into account short term catch reductions) is approximately three times as high as continuation of current fishing levels. Sumaila UR and Suatoni L. 2006. Economic benefits of rebuilding US ocean fish populations. Vancouver, Canada: The University of British Columbia. Fisheries Centre Working Paper #2006-04.

## BUT THERE IS GOOD NEWS

IN SPITE OF THESE SHORTCOMINGS, this study found that the basic principle of the Magnuson-Stevens Act holds: when overfishing stops, fish populations begin to recover, benefiting both fish and the fishing industry. In 37% of populations under rebuilding plans, fishing pressure is decreasing and as a result, the size of the fish population is increasing.

Additionally, short-term reductions in catch in order to rebuild fish populations quickly has shown to result in less overall economic hardship to the fishing industry as compared to long continued fishery declines.

## HOW SHOULD REBUILDING BE IMPROVED?

THE STUDY RECOMMENDS several actions to make rebuilding efforts more effective. Most significantly, overfishing should be ended immediately to rebuild fishery resources. While rebuilding plans are being developed, interim measures should be established to protect further depletion of fishery resources and begin rebuilding. Rebuilding plan timeframes should be as short as possible, and the plans should require an immediate end to overfishing. Plans should also require regular monitoring to be conducted, with performance standards in place for both fishing mortality and biomass. If a plan isn't working, adjustments should be made rapidly to prevent further depletion.

In the long run, the negative economic impact of diminished fish populations will be far greater on the fishing community than any short term reduction in catch. Inaction—or delayed action—only heightens the threat to the health and abundance of fisheries and ultimately will produce low catches for years to come.

## About the Authors

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### Protecting Ocean Life Through Marine Science

The Lenfest Ocean Program brings the best scientific research to bear on identifying the causes, consequences and solutions to problems facing the global marine environment.

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