NOAA Fisheries

Status of Stocks 2011

Annual Report to Congress on the Status of U.S. Fisheries

Stocks at a Glance

Overfishing Status

- 222 stocks (86%) are not subject to overfishing
- 36 stocks (14%) are subject to overfishing

Overfished Status

- 174 stocks (79%) are not overfished
- 45 stocks (21%) are overfished

Rebuilt Status

- 6 stocks declared rebuilt, totaling 27 stocks rebuilt to date
- 51 stocks in rebuilding plans, with 6 additional plans in development

Summary of Changes

	2010	2011
Subject to Overfishing	40 (16%)	36 (14%)
Overfished	48 (23%)	45 (21%)
Rebuilt	21	27

Overfishing is when the rate of removal from a stock is too high. A priority for the U.S. is ending overfishing so that all stocks can rebuild and be sustained at rebuilt levels.

Overfished is when the population is too low, or below a prescribed threshold. A population can be overfished but be managed under a rebuilding plan that over time returns the population to health.

Rebuilt is when a stock has increased to its target population level after falling below the critical overfished level.

NOAA Fisheries releases the 15th Annual Report to Congress on the Status of the Nation's Fisheries. This report documents our national journey toward ending overfishing and rebuilding the nation's fisheries.

Bering Sea snow crab being off-loaded for processing in Dutch Harbor, Alaska. (Photo credit: Forrest Bowers, Alaska Department of Fish and Game)

Sustainable Fisheries: Jobs and the Economy

Fisheries, whether for commercial sale or recreation, play an enormous role in the U.S. economy. Fish processing, restaurants, grocery stores, sales of tackle and gas, icehouses, and a multitude of other businesses are involved with the seafood and fishing supply chain, generating $183 billion per year to the U.S. economy and more than 1.5 million full and part-time jobs.

The important role stock assessments and sustainably managed fisheries play in the U.S. economy is demonstrated by the recent rebuilding of the Bering Sea snow crab fishery. In 1999, scientists found that snow crab stock was overfished. In response, managers cut harvests for the following fishing seasons to a level that would allow the stock to recover. Under conservative harvest levels, Alaska snow crab has rebounded and is now above its target population level. This is good news for the resource and for fishermen, too. An abundant resource can sustainably support higher harvests, and managers boosted the harvest limit for 2011/2012 by 64 percent. This increase in harvest of Bering Sea snow crab is anticipated to have a multi-million dollar benefit to the U.S. economy, fishermen, and the seafood industries that depend on this resource.

For more information, visit www.nmfs.noaa.gov.

NOAA Teacher at Sea Maureen Anderson measures a scalloped hammerhead shark during a research cruise in the Gulf of Mexico aboard the NOAA ship *Oregon II.*

"The 2011 report demonstrates we are actively turning the corner on ending overfishing and illustrates why U.S. fisheries management is a global model of stewardship."

—Samuel Rauch, Acting Assistant Administrator for NOAA Fisheries

Winter flounder in eelgrass habitat.

About the Report—What's Unique About the U.S. Science-Based Model

Since 1997, this annual report to Congress identifies the status of our managed stocks and complexes. It provides a 'snap-shot' in time of where our nation's fisheries were at the end of 2011 in relation to their thresholds of overfishing and overfished. This report does not capture the dynamic nature of sustainability and the many factors that may influence a fishery and require harvests to be adjusted. The strength of the U.S. science-based model for managing fisheries relies on stock assessments to monitor populations and a management system that adjusts harvest levels accordingly. It is this iterative process between science and management that for years has worked in many fisheries around the country, for example, in one of the world's largest, most sustainable fisheries—Alaska pollock.

The Importance of Stock Assessments—A Tale of Two Fish

In 2011, we reviewed the status of 214 stocks including 8 stocks with previously unknown status. Only one species—Atlantic scalloped hammerhead shark—was found to be overfished and have overfishing occurring. Based on this new scientific information, managers can now take the necessary steps to end overfishing and craft a plan to rebuild this important stock. Under the U.S. management process, a rebuilding plan must be implemented no more than two years after a stock is determined to be overfished.

Scientists also completed new assessments for three separate stocks of winter flounder in 2011. They found that the Georges Bank and Southern New England/Mid-Atlantic stocks are no longer subject to overfishing and project that the Georges Bank stock will be rebuilt ahead of its 2017 rebuilding deadline. They also found that a third stock in the Gulf of Maine is also not subject to overfishing. Its status was previously unknown. As a result, managers increased catch limits for Gulf of Maine and Georges Bank winter flounder for 2012.

Behind the Science of Stock Assessments

NOAA Fisheries is committed to continuing to improve the quality of our data collection and the number of stocks we assess. Advanced stock assessment technology is helping us assess the abundance and distribution of fish in the ocean in a timely and efficient manner. For example, electronic logbooks collect data from fishermen and transmit it to a central database rather than entering it by hand. Towed and robotic underwater vehicles with optical systems survey complex habitats providing a detailed count of organisms from scallops in the Northeast to reef fish in numerous regions. These and other technologies improve understanding of the stocks fishing communities depend on by improving accuracy, increasing detail, and speeding delivery of data necessary to monitor stock status.

More frequent assessment updates help fishery managers adjust annual catch limits according to natural changes in the productivity of the fish stocks. Efficient data systems, standardized assessment approaches, and streamlined review protocols are increasing the frequency of assessment updates, particularly in the Northeast.

Improved stock assessment models, with explicit links to ecosystem and environmental factors, are helping fishery managers understand why stock changes occurred in the past and can improve forecasts of potential catch levels that will best balance fishing opportunities, prevent overfishing, maintain ecosystem health, and support coastal community needs. These improvements will help keep our nation in the forefront of marine resource stewardship.

Beyond Fishing—Environmental Factors

Although it is often assumed that a fish stock is overfished due to too much fishing, many other factors can influence the health and abundance of a fish stock. These factors can include natural mortality, disease, natural population cycles, habitat degradation, and environmental changes such as climate, ocean acidification, and land-based pollution.

For example, the fishery for Pribilof Island blue king crab has been closed to directed fishing since 1999 and a number of other measures have been implemented to protect this resource, but the stock has made no progress towards rebuilding. This failure to recover is likely due to environmental conditions that are unfavorable to the blue king crab's reproduction and survival rates.

Female blue king crab. Blue king crab are not totally blue, but have much more blue color than red king crabs.

By the Numbers—2011 Status of Stocks

Under the current science-based management of the Magnuson-Stevens Act, the assessments of 2011 continue to show the majority of our nation's fisheries are at sustainable levels and that management measures are effectively preventing, monitoring, and responding to overfishing when it is found to occur.

- *Overfishing:* 222 stocks (86%) are not subject to overfishing and 36 stocks (14%) are subject to overfishing—all have had annual catch limits or other measures put in place to end this overfishing.
- *Overfished:* 174 stocks (79%) are not overfished and 45 stocks (21%) are overfished.
- *Rebuilt:* 27 stocks are rebuilt, including 6 additional stocks declared rebuilt in 2011. These stocks are: Bering Sea snow crab, widow rockfish, chinook salmon (N. California Coast: Klamath Fall), coho salmon (Washington Coast: Queets), summer flounder, and Gulf of Maine haddock. More stocks were declared rebuilt in 2011 than in any other single year tracked.
- *Rebuilding plans:* 51 stocks are in rebuilding plans. These include 39 overfished stocks and 12 stocks that are no longer overfished but rebuilding to target levels. 6 stocks were newly determined to be overfished in 2010 and 2011. Rebuilding plans are currently being developed for these stocks and must be in place within two years of an 'overfished' determination.

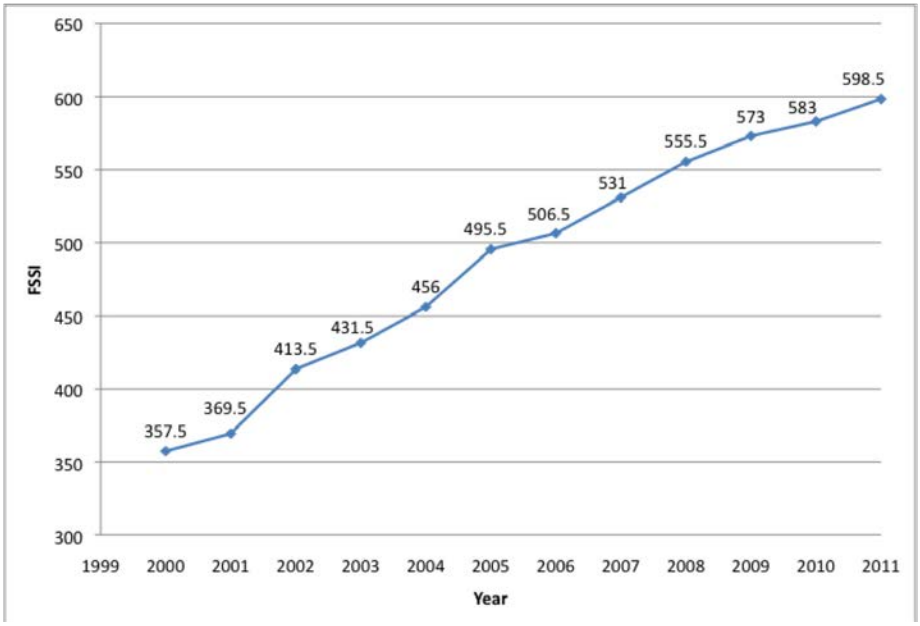
Changes in Stock Determinations—2011			
Changes in overfishing status	**Number of Stocks**	**Region**	**Stock**
No longer subject to overfishing (previously subject to overfishing)	5	Atlantic Highly Migratory Species	Sandbar shark - Atlantic
		Northeast	Winter flounder - Georges Bank
			Winter flounder - Southern New England/Mid-Atlantic
		Southeast	Tilefish - South Atlantic
		Southwest	Yellowfin tuna - Eastern Tropical Pacific
Not subject to overfishing (previously unknown)	5	Alaska	Golden king crab - Pribilof Islands
		Northeast	Red hake - Gulf of Maine/Northern Georges Bank
			Winter flounder - Gulf of Maine
		Northwest	Longnose skate - Pacific Coast
		Southeast	Yellowedge grouper - Gulf of Mexico
Now subject to overfishing (previously not subject to overfishing)	None		
Now subject to overfishing (previously unknown)	1	Atlantic Highly Migratory Species	Scalloped hammerhead shark - Atlantic
Changes in overfished status	**Number of Stocks**	**Region**	**Stock**
No longer overfished (previously overfished)	5	Northeast	Winter flounder - Georges Bank
			Smooth skate - Gulf of Maine
		Northwest	Petrale sole - Pacific Coast
			Coho salmon - Washington Coast: Queets (Rebuilt)
		Southeast	Black sea bass - South Atlantic
Not overfished (previously unknown or undefined)	4	Alaska	Gulf of Alaska Shallow Water Flatfish Complex
		Northwest	Greenspotted rockfish - Pacific Coast
			Spiny dogfish - Pacific Coast
		Southeast	Yellowedge grouper - Gulf of Mexico
Now overfished (previously not overfished)	1	Northwest	Pacific ocean perch - Pacific Coast
Now overfished (previously unknown)	1	Atlantic HIghly Migratory Species	Scalloped hammerhead shark - Atlantic

U.S. Fisheries—Leading the World and Turning the Corner

U.S. managed fisheries are among the most responsibly managed fisheries in the world, serving as a model of stewardship that can address the challenges facing global fisheries. The United States' implementation of annual catch limits in all its fisheries locks into place a robust science-based management process that prevents, monitors, and responds to overfishing as well as the ecosystem needs of fishery resources. U.S. fishermen and industries they support have played a critical role in achieving this monumental goal and the stewardship practices that have come to define U.S. fisheries.

Measuring Progress—The Fish Stock Sustainability Index

Akin to the Dow Jones index providing a performance measure for financial stocks, the Fish Stock Sustainability Index (FSSI) provides a performance measure for the sustainability of 230 stocks comprising the most commercial and recreational important species in the United States. The FSSI score increases as new assessments are conducted, overfishing is ended, and stock size increases to sustainable levels.



The value of the FSSI has been calculated since 2000. Out of a possible 920 points, the index has increased from 357.5 in 2000 to 598.5 in 2011. This 67 percent increase represents significant progress in managing our fisheries sustainably.

FishWatch.gov—Fresh facts, smart seafood.

When consumers go to the market for seafood, they can be assured that if the species is harvested in the United States, it has been harvested responsibly. NOAA Fisheries launched a redesigned FishWatch.gov in March 2012 to provide the public with easy-to-understand, science-based facts to help them make smart sustainable seafood choices. FishWatch is not a buyer's guide designed to discriminate against one fishery or advocate for another, nor is it an ecolabel or certification. Rather, FishWatch delivers regularly updated information on how U.S. seafood is harvested under regulations that keep the environment healthy, fish populations thriving, and our seafood industry on the job.

Common both inshore and offshore in the western North Atlantic, sandbar sharks were experiencing overfishing and found to be overfished in a 2005/2006 assessment. As a result, managers established a rebuilding plan for sandbar shark, restricting this fishery to a research only fishery. They set an annual catch limit, allocating it among vessels operating in the research fishery. Fishing rates subsequently dropped below prescribed levels in 2008 and 2009, and in 2011, scientists determined that overfishing has indeed ended for this species.

Summer flounder, a highly valued commercial species and one of the most popular recreational fish on the Atlantic coast, was declared rebuilt in 2011. Depleted after years of overfishing, the summer flounder population gradually recovered under annual catch limits divided between the commercial and recreational fisheries. Summer flounder is a favorite product for Rhode Island's Ann and Richard Cook, who sell this and other local catch at farmers markets. To read an interview with the Cooks, see our Voices from the Waterfront series at www.nmfs.noaa.gov.

NOAA FishWatch.gov