



# Status of Stocks 2016

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

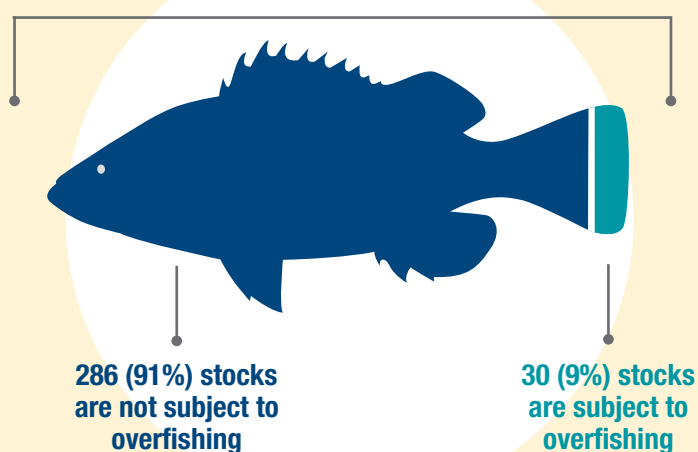
NOAA Fisheries is pleased to present the 2016 Report to Congress on the Status of U.S. Fisheries as managed under the science-based framework of the Magnuson-Stevens Fishery Conservation and Management Act (MSA). As a result of the combined efforts of NOAA Fisheries, the eight regional fisheries management councils (councils), and other partners, two previously overfished stocks were rebuilt, and the number of stocks on the overfishing and overfished lists remains near all-time lows. Two stocks were assessed for the first time in 2016, which resulted in new stock status information. Neither of these stocks are subject to overfishing or overfished. Continuous monitoring and improvement of our knowledge about the status of stocks is key to ongoing sustainable fisheries management under the MSA.

## Benefits of Sustainable Fisheries Management

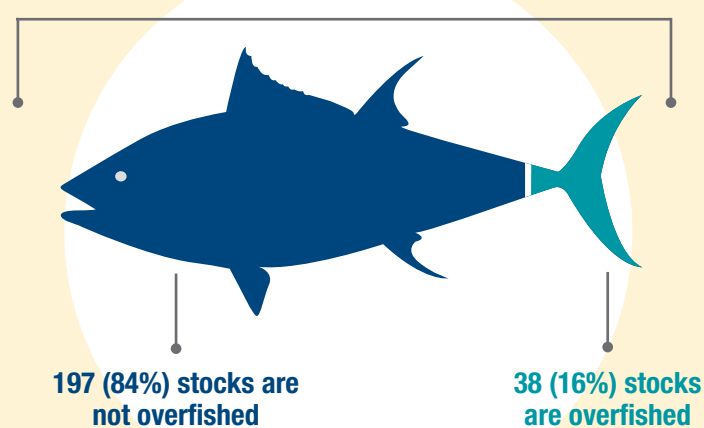
Managing fisheries sustainably is an adaptive process that relies on sound science, innovative management approaches, effective enforcement, meaningful partnerships, and robust public participation. Sustainable fisheries play an important role in the nation's economy by providing opportunities for commercial, recreational, and subsistence fishing, marine aquaculture, and sustainable seafood for the nation. Combined, U.S. commercial and recreational saltwater fishing generated \$208 billion in sales and supported 1.6 million jobs in 2015. By ending overfishing and rebuilding stocks, we are strengthening the value of U.S. fisheries to the economy, our communities, and marine ecosystems.

### Status Listings: Overfishing & Overfished

**OVERFISHING: 316 stocks with known status:**



**OVERFISHED: 235 stocks with known status:**



## The Year in Review

At the end of 2016, the overfishing list included 30 stocks and the overfished list included 38 stocks. The number of stocks rebuilt since 2000 increased to 41. NOAA Fisheries tracks 474 stocks or stock complexes in 46 fishery management plans, or FMPs. Each year, assessments of various fish stocks and stock complexes are conducted to determine their status. These assessments include stocks of both known status and previously unknown status. Based on assessments conducted by the end of 2016, four stocks were removed from the overfishing list and six were added. There were no changes in the number of stocks on the overfished list. As required by the MSA management framework, the councils are developing management measures to end overfishing and rebuild all stocks added to the overfishing and overfished lists. Specific changes to the status of stocks in 2016 include:

2015	2016
28 (9%) on overfishing list	30 (9%) on overfishing list
38 (16%) on overfished list	38 (16%) on overfished list
39 stocks on rebuilt list	41 stocks on rebuilt list

### OVERFISHING LIST

Removed	Added
Chinook salmon – Columbia River Basin: Upper River Summer <sup>1</sup> Chinook salmon – Washington Coast: Willapa Bay Fall Natural <sup>1</sup> Chinook salmon – Washington Coast: Grays Harbor Fall <sup>1</sup> Coho salmon – Washington Coast: Hoh <sup>1</sup>	Triggerfishes and Filefishes Complex – Puerto Rico Caribbean spiny lobster – Puerto Rico Wrasses Complex – Puerto Rico Blue king crab – Pribilof Islands Coho salmon – Puget Sound: Hood Canal <sup>1</sup> Tilefish – Southern Atlantic Coast

### OVERFISHED LIST

Removed	Added
No Changes	No Changes

### REBUILT LIST

Barndoor skate – Georges Bank / Southern New England Albacore – North Atlantic <sup>1</sup>
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<sup>1</sup> This stock is fished by U.S. and international fleets.



# Ending Overfishing Under Effective Laws

Under the MSA, the United States has become an international leader in fisheries management and we are committed to continuing our successful efforts to prevent overfishing and rebuild overfished fisheries. The MSA has been reauthorized twice since its enactment—once in 1996 and again in 2006. The 2006 reauthorization included a new requirement to use annual catch limits (ACLs) to end and prevent overfishing. By the end of 2016, catch was successfully kept at or below the ACLs for 92 percent of all stocks or complexes. Councils are implementing management measures to address any ACL overages that did occur. Monitoring catch levels and keeping them in check on an annual basis—as is done with ACLs—helps reduce the chance of overfishing and ensures long-term biological and economic sustainability.

ACLs are effective in preventing overfishing, but some challenges remain. For data-poor and rarely-sampled stocks, for example, fisheries managers are still learning how to accurately account for catch and determine effective mechanisms to address overfishing. The three Puerto Rico stocks added to the overfishing list this year are considered data poor and did not have catch limits prior to ACL implementation.

## Improving Stocks, Rebuilding Fisheries

In 2016, NOAA Fisheries added barndoor skate and North Atlantic albacore to the rebuilt list. When a stock is determined to be overfished, a council must develop a rebuilding plan. A typical rebuilding plan allows fishing to continue at a reduced level so that the stock can rebuild to its target level and can produce its maximum sustainable yield (MSY). This approach keeps fishermen and waterfronts working while stocks rebuild.

Forty-two stocks or stock complexes are currently in rebuilding plans. NOAA Fisheries monitors rebuilding stocks and, through the fishery management council process, adjusts management measures as necessary to increase stock abundance to a target level that supports MSY. When a rebuilding stock increases above the overfished threshold, the stock is removed from the overfished list but remains under its rebuilding plan until fully rebuilt. Currently, nine stocks are no longer overfished but continue to be managed under rebuilding plans.

[Click here for trends of stocks in rebuilding plans.](#)

## National Standard 1 Guidelines

**U.S. fisheries management shall prevent overfishing and achieve Optimum Yield from each fishery on a continuing basis.**

In 2016, NOAA Fisheries completed a major rulemaking to revise the **National Standard 1 Guidelines**.

These guidelines help fishery managers determine how to achieve certain statutory requirements within the MSA such as preventing overfishing, rebuilding overfished stocks, and achieving “Optimum Yield.” The recent updates to the guidelines outlined optional management tools to increase stability within fisheries and provide flexibility to address fishery management issues identified since the 2006 MSA amendments requiring ACLs that prevent overfishing. The updated guidelines reflect advances in fisheries science and current approaches for the most effective way to end and prevent overfishing, as well as rebuild overfished stocks.

The revised guidelines provide tools to help fisheries managers end overfishing and rebuild overfished stocks including:

- Allowing for multi-year overfishing status determinations, which will help reduce uncertainty and increase fishery stability.
- Additional flexibility in setting target times to rebuild stocks based on the best scientific information available, which increases the likelihood of successful rebuilding plans.
- Guidance on determining adequate progress in rebuilding to help ensure that stocks rebuild on time.

# Stock Status by U.S. Region

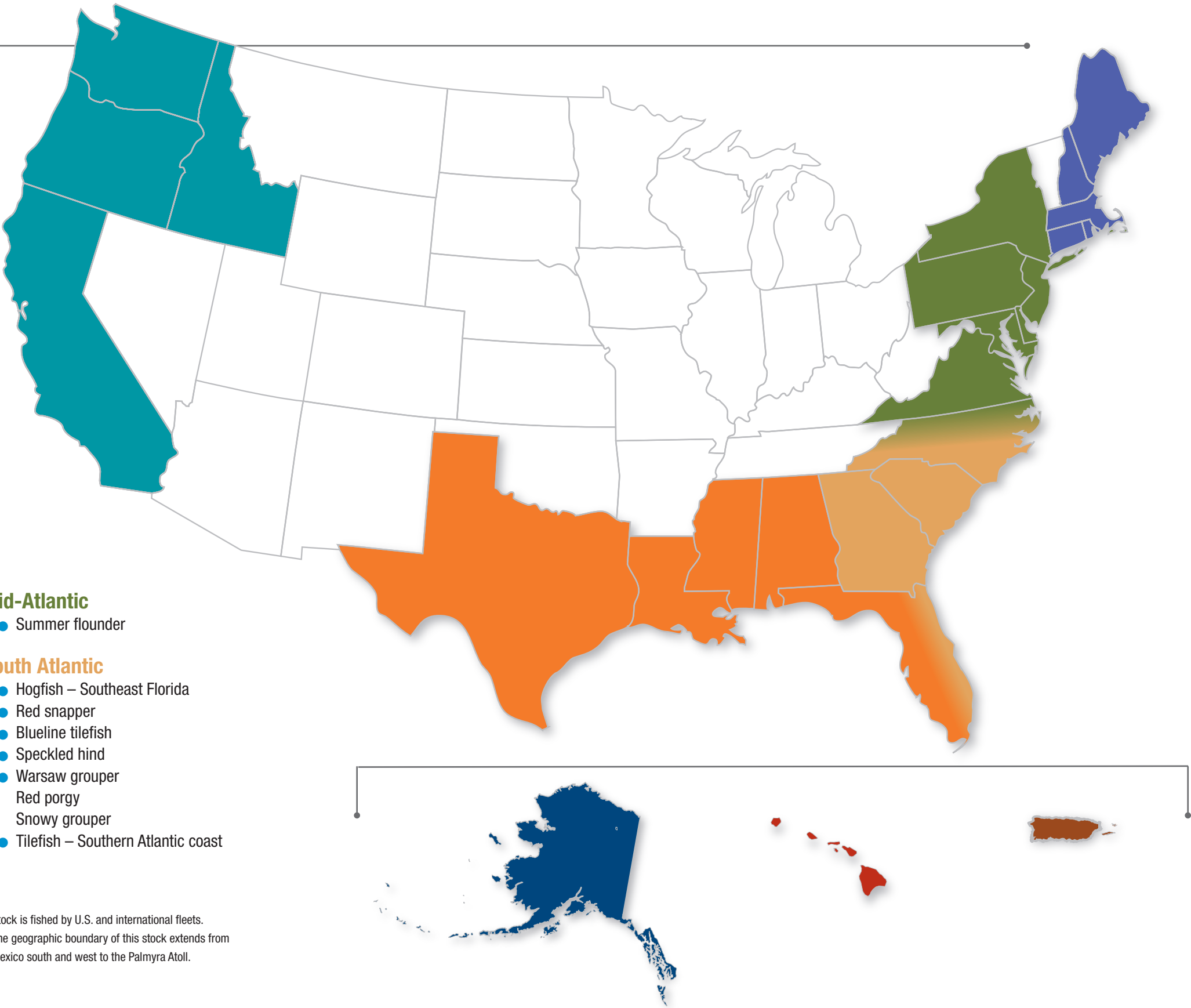
■ 38 On Overfished List   ● 30 On Overfishing List

- North Pacific**
- ● Blue king crab – Pribilof Islands
- Pacific**
- Pacific ocean perch
  - Yelloweye rockfish
  - Coho salmon – Puget Sound: Hood Canal<sup>1</sup>
- Pacific and Western Pacific**
- ● Pacific bluefin tuna – Pacific<sup>1</sup>
  - Swordfish – Eastern Pacific<sup>1, 2</sup>
- Western Pacific**
- ● Striped marlin – Western and Central Pacific<sup>1</sup>
  - Seamount Groundfish Complex – Hancock Seamount<sup>1</sup>
  - Bigeye tuna – Western and Central Pacific<sup>1</sup>
- Gulf of Mexico**
- Greater amberjack
  - Gray triggerfish
  - Red snapper
- Caribbean**
- Goliath grouper
  - Nassau grouper
  - Queen conch
  - Triggerfishes and Filefishes Complex – Puerto Rico
  - Caribbean spiny lobster – Puerto Rico
  - Wrasses Complex – Puerto Rico

- New England**
- ● Atlantic cod – Georges Bank
  - ● Atlantic cod – Gulf of Maine
  - Windowpane – Gulf of Maine/Georges Bank
  - ● Witch flounder
  - ● Yellowtail flounder – Cape Cod/Gulf of Maine
  - ● Yellowtail founder – Georges Bank
  - ● Yellowtail flounder – Southern New England/Mid-Atlantic
  - Thorny skate – Gulf of Maine
  - Atlantic halibut
  - Atlantic salmon
  - Atlantic wolffish
  - Ocean pout
  - Winter flounder – Southern New England
  - ● Winter flounder – Georges Bank
- Highly Migratory Species**
- Bigeye tuna – Atlantic<sup>1</sup>
  - ● Blacknose shark – Atlantic
  - ● Blue marlin – Atlantic<sup>1</sup>
  - ● Dusky shark – Atlantic
  - ● White marlin – Atlantic<sup>1</sup>
  - ● Scalloped hammerhead - Atlantic
  - Porbeagle shark – Atlantic<sup>1</sup>
  - Sandbar shark – Atlantic
  - Bluefin tuna – West Atlantic<sup>1</sup>
  - Sailfish – West Atlantic<sup>1</sup>

- Mid-Atlantic**
- Summer flounder
- South Atlantic**
- ● Hogfish – Southeast Florida
  - ● Red snapper
  - Blueline tilefish
  - Speckled hind
  - Warsaw grouper
  - Red porgy
  - Snowy grouper
  - Tilefish – Southern Atlantic coast

<sup>1</sup> Stock is fished by U.S. and international fleets.  
<sup>2</sup> The geographic boundary of this stock extends from Mexico south and west to the Palmyra Atoll.



## Overfishing & Overfished

The main concepts related to overfishing and overfished covered in this report:

### Maximum sustainable yield or

**MSY:** The largest long-term average catch that can be taken from a stock under prevailing environmental and fishery conditions.

**Overfishing:** A stock that has a harvest rate higher than the rate that produces its MSY.

**Overfished:** A stock that has a population size that is too low and that jeopardizes the stock's ability to produce its MSY.

**Rebuilt:** A stock that was previously overfished and that has increased in abundance to the target population size that supports its MSY.

## What's the difference?

As a harvest rate, overfishing is a direct result of fishing activities. Allowed to continue unchecked, overfishing is associated with many negative outcomes, including a depleted population. Current management practices—such as annual catch limits and accountability measures—reduce the likelihood of this happening.

As a population size, overfished can be the result of many factors, including overfishing, and also habitat degradation, pollution, climate change, and disease. While overfishing is sometimes the main cause of an overfished stock, these other factors can also play a role and may affect the stock's ability to rebuild.

## The Science Behind Stock Status

Fishery management plans must specify objective and measurable criteria, or reference points, to determine when a stock is subject to overfishing or overfished. A scientific analysis of the abundance and composition of a fish stock and the rate of fishing mortality is called a stock assessment. Typically, a stock assessment undergoes peer review by independent scientists before it is accepted as the best scientific information available.

The councils use information from stock assessments to develop and recommend ACLs and other conservation and management measures. While catch limits are set annually, assessments are often done less frequently. To determine whether catch limits have successfully ended or prevented overfishing, NOAA Fisheries may use either the results of a stock assessment or a comparison of catch to the overfishing limit (OFL). If the catch to OFL comparison is used, an overfishing determination is made annually. If a stock assessment is used, due to timing of the next stock assessment, several years may pass before we are able to determine if catch limits successfully ended overfishing.

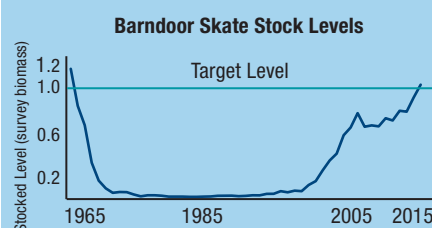
## 2016 Rebuilt Stocks

Two stocks, barndoor skate and North Atlantic albacore, were declared rebuilt in 2016, adding to the list of rebuilding success stories.

### Barndoor Skate



- Foreign fleets seriously depleted the stock prior to MSA.
- Stock has recovered under rebuilding plan.
- Landings have been prohibited since 2003. The council may now consider allowing landings of barndoor skate in the future.

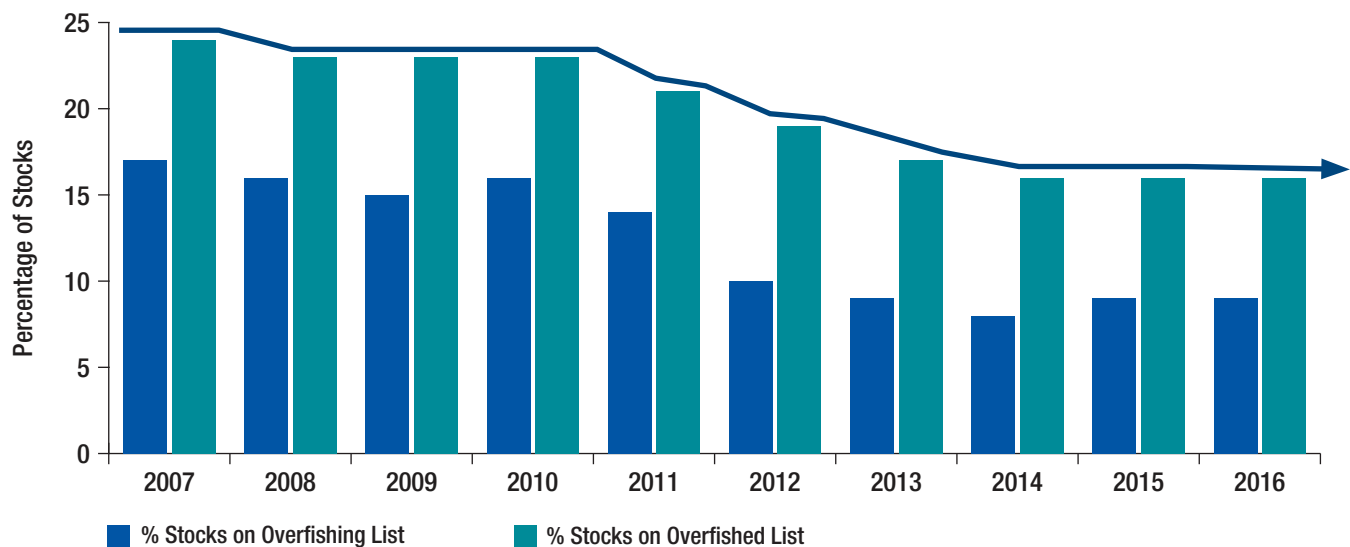


### North Atlantic Albacore



- 2016 was the 50th anniversary of the International Commission for the Conservation of Atlantic Tunas (ICCAT). NOAA Fisheries works with ICCAT to manage international stocks, including albacore.
- Despite having a small share of the total catch, the United States successfully negotiated with other countries to reduce fishing mortality and help rebuild the North Atlantic albacore stock.

## Stock Trends 2007–2016



## Being Competitive in a Global Market through Productive and Sustainable Fisheries

The need to increase our nation's seafood supply is a continuing and growing challenge, and rebuilding and maintaining stocks at their sustainable levels will help achieve this goal. NOAA Fisheries is focusing on increasing trade opportunities so that we can remain competitive with other seafood exporting countries. In 2016, NOAA Fisheries finalized the Seafood Import Monitoring Program. The Program establishes, for imports of certain seafood products, the reporting and recordkeeping requirements needed to prevent illegal, unreported and unregulated (IUU)-caught and/or misrepresented seafood from entering U.S. commerce. This is the first-phase of a traceability program that will provide additional protections for our national economy, global food security, and the sustainability of our shared ocean resources.

NOAA Fisheries is also committed to increasing our domestic seafood supply through aquaculture. NOAA Fisheries released the Marine Aquaculture Strategic Plan in 2016, which will guide efforts within NOAA Fisheries to support development of sustainable marine aquaculture from 2016-2020 and establishes a target of expanding sustainable U.S. marine aquaculture production by at least 50 percent by the year 2020. Expanding U.S. aquaculture complements wild harvest fisheries and supports our efforts to maintain sustainable fisheries and resilient oceans.

## Implementing the National Saltwater Recreational Fisheries Policy

Saltwater recreational fishing is an integral part of life in coastal communities in the United States and a major economic force. America's approximately 8.9 million saltwater anglers support 439,000 jobs and generate \$63 billion in sales impacts. In 2016, NOAA Fisheries released regional plans to implement the agency's National Saltwater Recreational Fisheries Policy. These plans and other work are helping to continue constructive dialogue and collaboration with the recreational fishing community to support a diverse array of sustainable saltwater recreational fisheries.

Visit our website for more information:  
[www.fisheries.noaa.gov/sfa](http://www.fisheries.noaa.gov/sfa)



## Adapting for the Future

NOAA Fisheries and our many partners continue to build on the United States' successful fisheries management approach by advancing policies and plans that will help us meet the challenges of today and tomorrow.

Fisheries management occurs in a dynamic environment and amid increasingly changing ocean conditions and NOAA Fisheries continues to adapt our science and management process to address these changes. In 2016, NOAA Fisheries released five Regional Action Plans to guide implementation of its **Climate Science Strategy**. These plans identify specific actions to better track changes, assess risks, provide early warnings and forecasts, and identify the best management strategies under changing conditions in each region.

Climate is just one important ecosystem-related challenge that affects U.S. fisheries management. To further strengthen the ability of fisheries managers to account for and anticipate complex ecosystem interactions, NOAA Fisheries finalized the **Ecosystem-Based Fisheries Management (EBFM) Policy and Road Map** in 2016. While NOAA Fisheries and the

councils are already implementing some facets of EBFM, this Policy and Road Map will facilitate more full integration of EBFM into our fisheries management decisions.

Also finalized in 2016, the **National Bycatch Reduction Strategy** guides our efforts to reduce bycatch and bycatch mortality to further support sustainable fisheries management.

These efforts are just a few examples of how NOAA Fisheries is looking to the future to ensure the long-term sustainability of our fisheries and the businesses and communities that depend on them. Our dynamic, science-based management process is proving successful at ending overfishing and rebuilding stocks, and helping us realize significant benefits to the U.S. economy. We look forward to working with Congress, the councils, our state partners, and other stakeholders to further these efforts and identify other opportunities to strengthen the long-term biological and economic sustainability of our nation's fisheries.

[Click here for more information on the 2016 Status of Stocks Report](#)