

Status of Stocks 2018

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

JULY 30, 2019



NOAA
FISHERIES



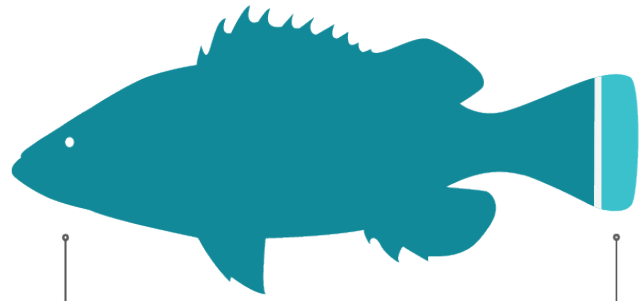
Status of Stocks 2018

NOAA Fisheries is pleased to present the *2018 Report to Congress on the Status of U.S. Fisheries* under the science-based framework established by the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The 2018 report highlights work toward the goal of maximizing fishing opportunities while ensuring the sustainability of fisheries and fishing communities. Due to the combined efforts of NOAA Fisheries, the eight regional fishery management councils, and other partners, one previously overfished stock was rebuilt and the number of stocks on the overfishing list remains near all-time lows. The total number of stocks listed as overfished increased, due to a number of factors including those outside the control of domestic fisheries management. In addition, in 2018 new information became available for several stocks, which resulted in first-time stock status determinations. Only one of these stocks is subject to overfishing as well as 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

Sustainable fisheries management 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. Combined, U.S. commercial and recreational saltwater fishing generated more than \$212 billion in sales and supported 1.7 million jobs in 2016. By ending overfishing and rebuilding stocks, we are strengthening the value of U.S. fisheries to the economy, our communities, and marine ecosystems and providing sustainable seafood for the nation.

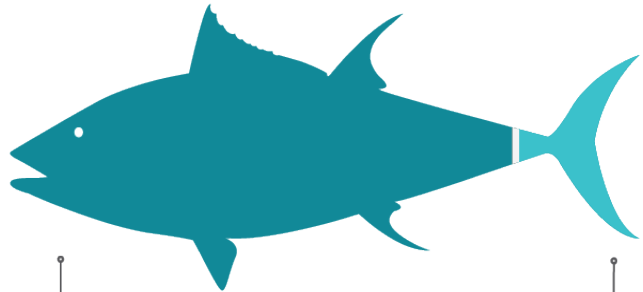
Overfishing



91% not subject to overfishing (293 stocks)

9% subject to overfishing (28 stocks)

Overfished



82% not overfished (201 stocks)

18% overfished (43 stocks)



The Year in Review

At the end of 2018, the overfishing list included 28 stocks and the overfished list included 43 stocks. Gulf of Maine smooth skate was rebuilt in 2018, and the total number of stocks rebuilt since 2000 has increased to 45. NOAA Fisheries manages 479 stocks or stock complexes in 46 fishery management plans. 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. Of the 479 stocks and stock complexes, 321 have a known overfishing status and 244 have a known overfished status. Based on assessments conducted by the end of 2018, seven stocks were removed from the overfishing list and five were added, one of whose status was previously unknown. The additions are the result of stock assessments or data showing catch was too high. Eight stocks were added to the overfished list, one of whose status was previously unknown. These results indicate population sizes were too low. Many of the stocks added to the overfishing and overfished list have been impacted by environmental factors or international harvest that the United States has limited ability to control. 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 2018 include:



OVERFISHING LIST	
Removed	Added
Bigeye tuna - Western & Central Pacific ¹ Coho salmon - Puget Sound: Stillaguamish ¹ Caribbean spiny lobster - Puerto Rico Puerto Rico Triggerfishes and Filefishes Complex Greater amberjack - Gulf of Mexico Gray triggerfish - Gulf of Mexico Red grouper - Southern Atlantic Coast	Chinook salmon - Columbia River Basin: Upper River Summer ¹ Gray snapper - Gulf of Mexico Lane snapper - Gulf of Mexico Yellowfin tuna - Eastern Pacific ¹ Atlantic mackerel - Gulf of Maine/Cape Hatteras (first-time determination)
OVERFISHED LIST	
Removed	Added
None	Chinook salmon - Sacramento River fall run Chinook salmon - Klamath River fall run Coho salmon - Washington Coast: Queets ¹ Coho salmon - Washington Coast: Straight of Juan de Fuca ¹ Coho salmon - Puget Sound: Snohomish ¹ Blue king crab - Saint Matthew Island Bigeye tuna - Atlantic ¹ Atlantic mackerel - Gulf of Maine/Cape Hatteras (first-time determination)
REBUILT STOCK	
Smooth skate - Gulf of Maine	

1. This stock is fished by U.S. and international fleets under a formal international agreement.

Ending Overfishing under Effective Laws

Under the MSA, the United States has become an international leader in fisheries management. NOAA Fisheries is committed to continuing our successful efforts to prevent overfishing and rebuild overfished stocks. The MSA has been reauthorized twice since its enactment—once in 1996 and again in 2006. In 2018, it was amended by the Modernizing Recreational Fisheries Management Act, which focused on improvements to recreational fishing data and management of mixed-use fisheries. NOAA Fisheries is working to implement this new law.

The 2006 MSA reauthorization included a requirement to use annual catch limits (ACLs) to end and prevent overfishing. In 2018, ACLs were not exceeded for 93 percent of all stocks or complexes, a 2 percent increase over 2017. 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 occurs with ACLs—helps reduce the chance of overfishing and ensures long-term biological and economic sustainability.

Challenges in Fisheries Management

The eight stocks added to the 2018 overfished list illustrate numerous challenges inherent in fisheries management. Environmental change, habitat degradation, and international fishing contributed to the status of the eight new overfished stocks. For example, relatively warm water conditions may be impacting the growth and reproduction of the cold-water Saint Matthew Island blue king crab. This stock has never been subject to overfishing and directed fishing for this crab has been prohibited since 2016. Warm ocean conditions, including the warm “Blob” in the northeast Pacific Ocean, reduced the number of spawning coho salmon returning to their natal rivers, and both Chinook and coho salmon have been impacted by habitat degradation caused by drought and lack of sufficient water for spawning. During the past 5 years, several of the fisheries for these salmon stocks have been declared fishery disasters under the MSA by the Secretary of Commerce due to factors beyond the control of fishery managers.

Some of the overfished stocks are also impacted by international harvest that the United States has limited ability to control. For example, the United States accounts for only 1 percent of the total international landings of Atlantic bigeye tuna. Additionally, salmon stocks are impacted by inland fisheries; federally managed ocean harvest of the three overfished coho salmon stocks accounts for less than 25 percent of the total fishing mortality. NOAA Fisheries continues to work in the international fishery management arena, and with state and tribal co-managers, to end overfishing and rebuild stocks important to the United States.

Improving Opportunity and Stability in Recreational Fisheries

In the United States, approximately 9.8 million saltwater anglers support 472,000 jobs and generate \$67.8 billion in sales impacts.

NOAA Fisheries recognizes the importance of recreational fishing and its benefits to coastal economies. We actively engage with and respond to the recreational fishing community at national and regional levels. For example, in 2018, together with the Atlantic States Marine Fisheries Commission, we hosted a successful National Saltwater Recreational Fisheries Summit focused on improving opportunity and stability in recreational fisheries. More than 130 participants, representing every region of the United States and a variety of sectors and perspectives, identified cross-cutting themes requiring additional progress including building trust, improving data, enhancing collaboration, and addressing discard mortality. NOAA Fisheries continues to advance summit outcomes and solutions with our partners.

Working Cooperatively with Fishermen to Improve Fishing Opportunities

In 2018, NOAA Fisheries issued exempted fishing permits (EFPs) allowing West Coast trawl fishermen to use new gear types, increasing their catch by more than 14 million pounds and revenue by approximately \$5.5 million. The EFPs were the result of several years of collaboration between the fishing industry, NOAA Fisheries, and the Pacific Fishery Management Council to abolish obsolete trawl gear regulations and develop gear types that retained healthy groundfish stocks while avoiding bycatch of salmon and other protected species. The EFPs follow the 2011 implementation of a catch share program for the West Coast groundfish fishery that substantially reduced discards of fish. Catch limits for several groundfish species have increased dramatically as overfished stocks have rebuilt. Fishermen, processors, and seafood markets and restaurants have all benefited from these collaborative endeavors and successful management.

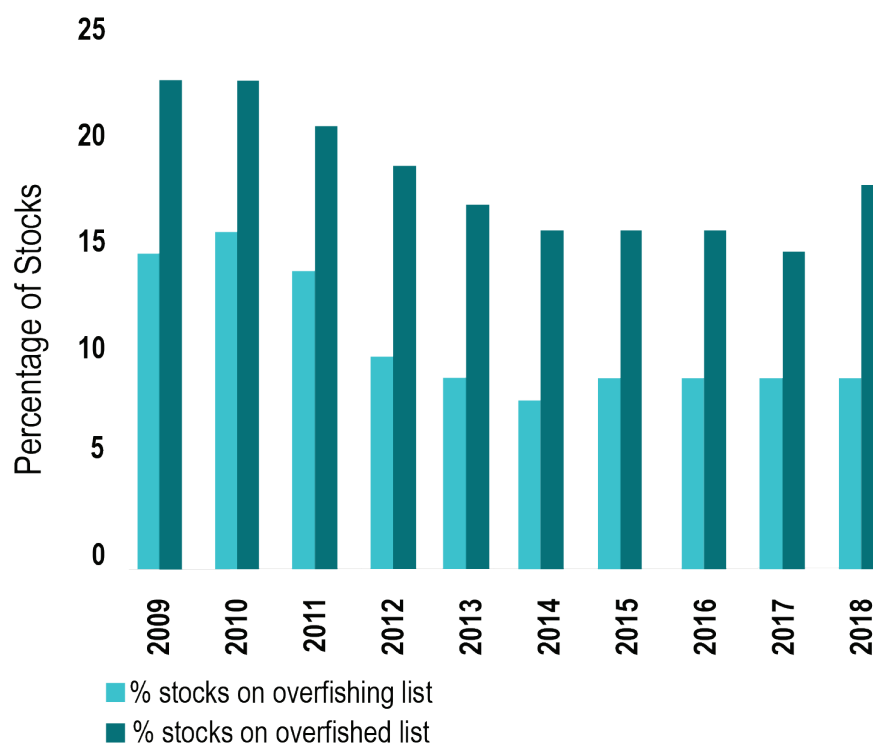
Fisheries management occurs in a shared ocean environment amid increasingly changing ocean conditions such as temperature and acidity. We continue to adapt our science and management processes to respond to these changes and work domestically and internationally to alter the trajectory of stocks on the overfishing and overfished lists.

Improving Stocks, Rebuilding Fisheries

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 the stock can rebuild to its target level and produce its maximum sustainable yield (MSY). This approach keeps fishermen and waterfronts working while stocks rebuild.

Thirty-eight stocks or stock complexes are currently in rebuilding plans. NOAA Fisheries monitors rebuilding stocks and, through the council process, adjusts management measures 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 it is fully rebuilt. Currently, eight stocks are no longer overfished but continue to be managed under rebuilding plans.

Percentage of Stocks on Overfishing and Overfished Lists 2009 - 2018





The Science Behind Stock Status

Fishery management plans must specify objective and measurable criteria (reference points) to determine when a stock is overfished or subject to overfishing. A scientific analysis of the abundance and composition of a fish stock, as well as the degree of fishing intensity, is called a stock assessment. Stock assessments are subject to regional peer review as part of the process to ensure that management decisions are based on the best scientific information available, as mandated by the MSA. In fiscal year 2018, NOAA Fisheries conducted 198 stock assessments.

The councils and the agency 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 the fishing intensity metrics and reference points derived in 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.

Overfishing and Overfished

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

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

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

Overfished: *A stock having 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, as well as 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.

Overfishing and Overfished Stocks as of December 31, 2018

■ 43 On Overfished List ● 28 On Overfishing List

North Pacific

- Blue king crab – Pribilof Islands
- Blue king crab – St. Matthew Island

Pacific

- Chinook Salmon – Upper Columbia River Summer¹
- Chinook salmon – Sacramento River fall
- Chinook salmon – Klamath River fall
- Coho salmon – Queets¹
- Coho salmon – Juan de Fuca¹
- Coho salmon – Snohomish¹

Pacific and Western Pacific

- ● Pacific bluefin tuna – Pacific¹
- Swordfish – Eastern Pacific^{1,2}
- Yellowfin tuna – Eastern Pacific¹

Western Pacific

- ● Striped marlin – Western/Central Pacific¹
- Seamount Groundfish Complex – Hancock Seamount¹

Gulf of Mexico

- Greater amberjack
 - Gray snapper
 - Lane snapper

Caribbean

- Goliath grouper
- Nassau grouper
- Queen conch

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 flounder – 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/Mid-Atlantic
- ● Red hake – Southern Georges Bank/Mid-Atlantic
- ● Atlantic mackerel – Gulf of Maine/Cape Hatteras

Highly Migratory Species

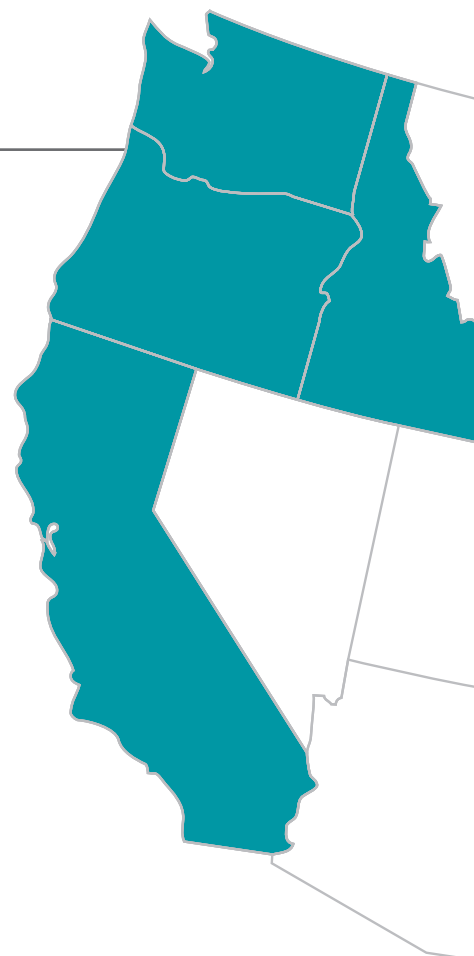
- ● Blacknose shark – Atlantic
- ● Blue marlin – Atlantic¹
- ● Dusky shark – Atlantic
- ● White marlin – Atlantic¹
- ● Scalloped hammerhead – Atlantic
- ● Porbeagle shark – Atlantic¹
- Sandbar shark – Atlantic
- ● Bigeye tuna – Atlantic¹
- ● Shortfin mako – North Atlantic¹

Mid-Atlantic

- Summer flounder

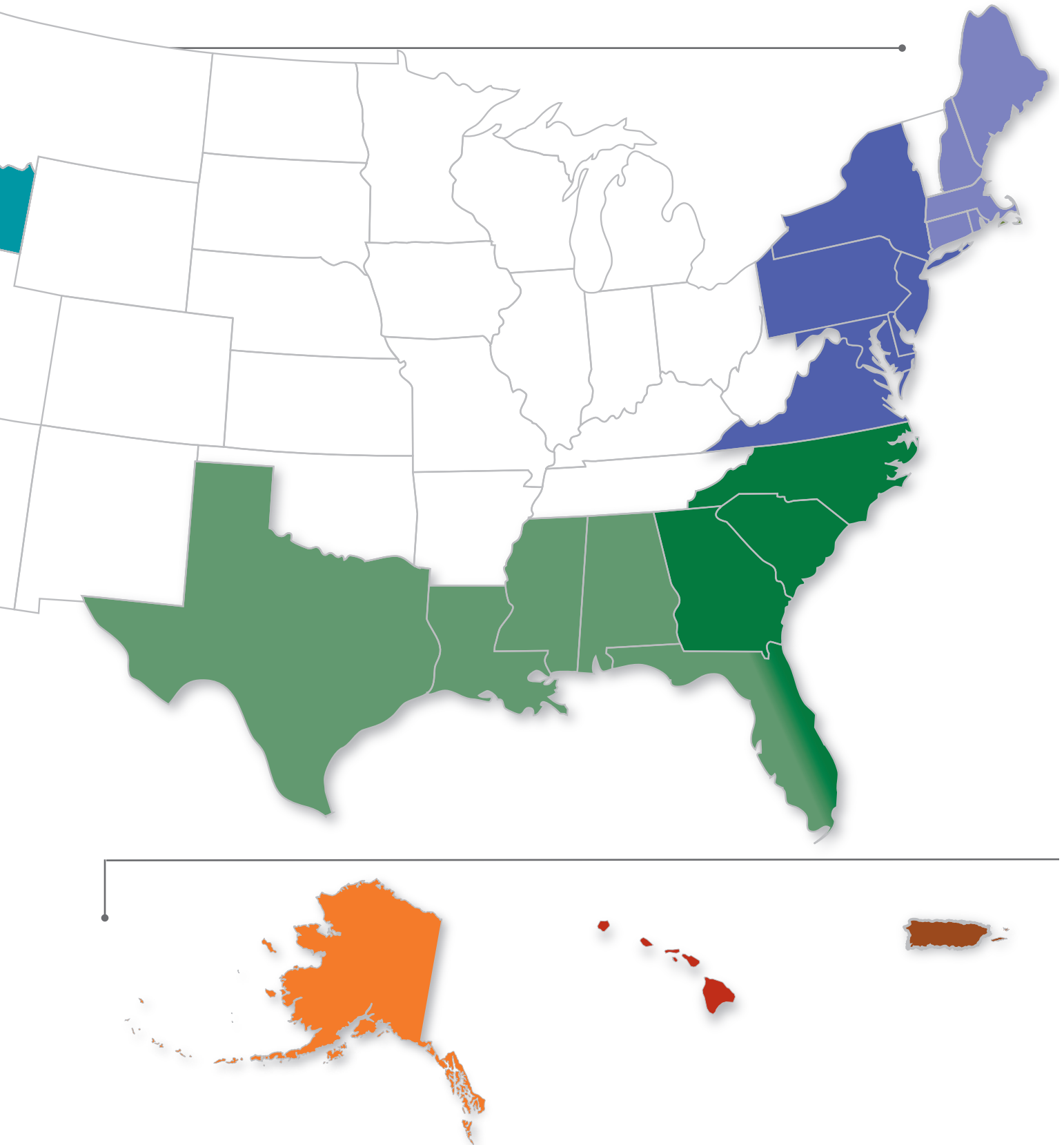
South Atlantic

- ● Hogfish – Southeast Florida
- ● Red snapper – South Atlantic
- Speckled hind
- Warsaw grouper
- Red porgy
- Snowy grouper
- Tilefish – South Atlantic
- Red grouper – South Atlantic
- Blueline tilefish – South Atlantic

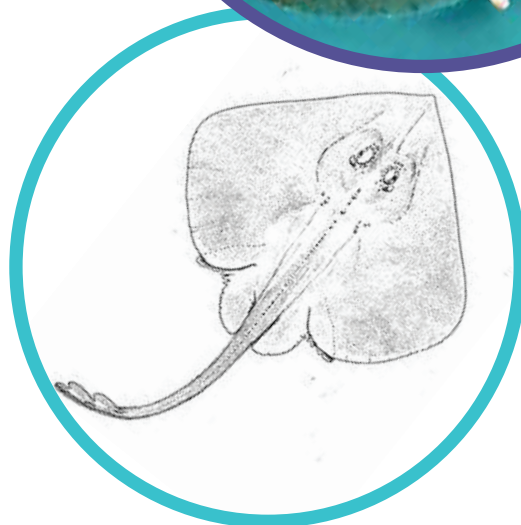


¹ Stock is fished by U.S. and international fleets under a formal international agreement

² The geographic boundary of this stock extends from Mexico south and west to the Palmyra Atoll.



Gulf of Maine Smooth Skate Rebuilt



After 9 years in a rebuilding plan with strict management, including a prohibition on landings, Gulf of Maine smooth skate was declared rebuilt in 2018. Smooth skate adds to a growing list of rebuilding accomplishments around the country, including barndoor skate, which rebuilt in 2016. The renewed fishing opportunity and market for barndoor skate wings, following its rebuilt status, may lay the market foundation for a smooth skate fishery in the future.

Adapting for the Future

NOAA Fisheries, the regional fishery management councils, and our many partners continue to build on the United States' successful fisheries management approach by implementing tools and advancing policies that will help us meet the challenges of today and tomorrow. Collectively, we are working harder than ever to meet our conservation goals in a way that maximizes revenue, increases fishing opportunities, and reduces regulatory burden on the industry. In 2018, in conjunction with the councils, we reviewed all of our fishery regulations to identify those that should be removed or revised to further reduce regulatory constraints and optimize fishery benefits. As a result, we finalized 10 deregulatory actions that resulted in \$695 million in cost-savings.

In 2018, NOAA Fisheries also released the new Stock Assessment Improvement Plan, which provides strategic guidance for the agency's stock assessment enterprise. Stock assessments are the backbone of effective fisheries management and this road map incorporates new scientific tools, such as incorporation of more ecosystem and socioeconomic factors, increasing the use of innovative data collection and analysis techniques, and creating timelier stock assessment processes. Implementing this new plan will enhance our understanding of stock dynamics and support the development of fishery management measures that will improve stock status for the next generation.

These efforts are just a few examples of how we are 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 it is 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.





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