



# *2019 Stock Overview*

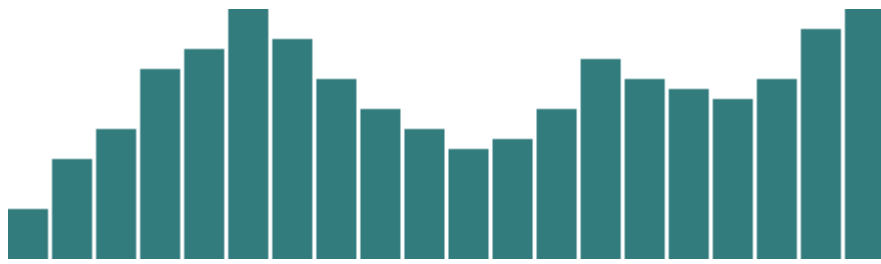


*DEPARTMENT OF ENVIRONMENTAL QUALITY*

Marine Fisheries

Marine Fisheries Commission | Lee Paramore | August 2019

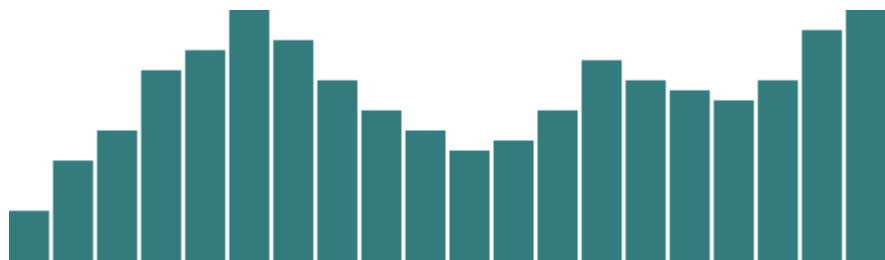




## ***STOCK OVERVIEW***

- Report issued on website annually and released in July
- Report includes data through prior calendar year
- New - Report provides a link directly to the fishery management plan updates for each species
- Linking to fishery management plan updates allows access to detailed summary and long-term trends





## ***STOCK OVERVIEW***

Fishery management plan updates provide:

- Status of Fishery Management Plan
- Life History
- Stock Status (overfished and overfishing)
- Trends in Landings
- Trends in Surveys
- Research Needs
- Schedule Change Recommendations



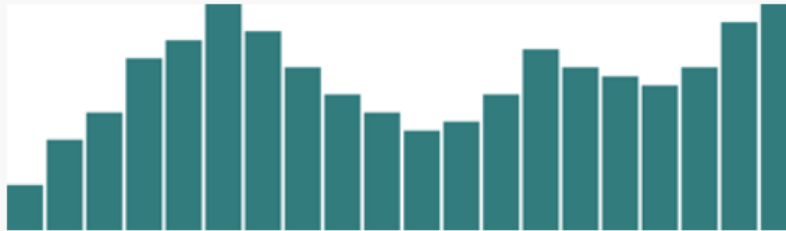
# *User-Friendly Changes to Annual Stock Overview Report*

- Stock overview on website separated by:
  - 14 state-managed stocks
  - 23 federal and interstate managed stocks
- State-managed stocks are front and center in the stock overview report
- Fishery management plan updates provided for all 37 stocks





- [North Carolina Annual Fishery Management Plan Review](#)
- [Species](#)
- [North Carolina Annual Stock Overview - State Managed Species](#)
- [Management Authority for Species](#)
- [Atlantic States Marine Fisheries Commission Managed Species](#)
- [Mid-Atlantic Fishery Management Council Managed Species](#)
- [South Atlantic Fishery](#)



## Stock Overview



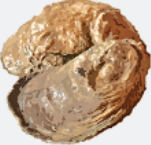



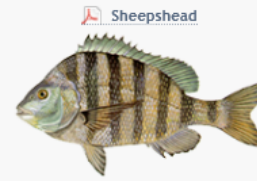
The North Carolina Division of Marine Fisheries Stock Overview is issued annually and reviews available information to determine the overall condition of North Carolina's state-managed species. The information in the report each year is based on fisheries data available from the prior year. In this year's report, data for all recreational fishing activity monitored through the Marine Recreational Information Program (MRIP) has been updated based on new MRIP methodology. Estimates across all years are now based on the MRIP new Fishing Effort Survey-calibrated estimates. For more information on MRIP methodology changes see <https://www.fisheries.noaa.gov/topic/recreational-fishing-data>.

In the report, the phrase "stock status" is used to describe the current condition of the stock relative to established reference points associated with the threshold or point where a stock is considered to be experiencing overfishing or is considered to be in an overfished state. When the rate of removals is too high, a stock is considered to be above the fishing mortality threshold and overfishing is said to be occurring. When the size of a stock is below the stock size threshold, it is said to be overfished or, sometimes, the term depleted is used if fishing mortality is not the reason for low stock size. Assignment of stock status based on this definition requires a stock assessment that provides both the values of the thresholds and the current estimates of fishing mortality and stock size to compare to those thresholds. Stock assessments are the primary tools used by managers to assist in determining the status of stocks and developing appropriate management measures for their long-term viability. Stock status in the Stock Overview is described based on overfishing and overfished/depleted status.



**2019 NORTH CAROLINA DIVISION OF MARINE FISHERIES STOCK OVERVIEW - STATE MANAGED SPECIES (July 2019, based on 2018 Data)**

Species	Comments
 <p><b>Bay Scallop</b> (Closed to fishing)</p>	<p>Bay scallops are a short-lived species that are managed as an annual crop. They are sensitive to environmental change and may experience high levels of predation, which can impact annual abundance. As a result, a stock assessment is not an effective tool for management. Harvest has not been allowed since 2013 because abundance levels have not met the thresholds to open the season. Amendment 2 to the Bay Scallop Fishery Management Plan was adopted in February 2015. For more information, contact Jeff Dobbs at <a href="mailto:Jeffrey.Dobbs@ncdenr.gov">Jeffrey.Dobbs@ncdenr.gov</a>.</p>
 <p><b>Blue Crab</b></p>	<p>Results of the 2018 benchmark stock assessment indicate the blue crab stock is overfished and overfishing is occurring. The assessment passed peer review and the model was accepted for use in management. Development of Amendment 3 to the Blue Crab Fishery Management Plan is underway in conjunction with an advisory committee and is scheduled to be completed in early 2020. For more information contact Jason Rock at <a href="mailto:Jason.Rock@ncdenr.gov">Jason.Rock@ncdenr.gov</a>.</p>
 <p><b>Eastern Oyster</b></p>	<p>A stock assessment could not be conducted due to limited data; therefore, population size and the rate of removals from the population are not known. Commercial landings from public bottom have been variable, and landings from private bottom in the past few years have increased significantly due to more interest in aquaculture. Work is underway with N. C. State University and the Nature Conservancy to develop methodologies to determine stock status. Amendment 4 to the Oyster Fishery Management Plan was adopted in February 2017. For more information, contact Joe Facendola at <a href="mailto:Joe.Facendola@ncdenr.gov">Joe.Facendola@ncdenr.gov</a>.</p>
 <p><b>Estuarine Striped Bass:</b> Albemarle Sound/ Roanoke River Management Area</p>	<p>The 2016 Albemarle/Roanoke striped bass stock assessment update indicates overfishing is not occurring and the stock is not overfished. Although the stock is not overfished, the abundance of mature females in the population has declined steadily since the peak in 2003. While very large, the estimate of abundance in the final year of the assessment (2014) is the most uncertain and should be viewed with caution. The estimate will likely decrease as additional years of data are added to the model. The fishery management plan review for estuarine striped bass is currently underway and results from a benchmark stock assessment utilizing data through 2017 are expected in late 2019. This is a joint plan with the Wildlife Resources Commission. For more information, contact Sean Darsee at <a href="mailto:Sean.Darsee@ncdenr.gov">Sean.Darsee@ncdenr.gov</a>.</p>



**Sheepshead**

No stock assessment is currently available for sheepshead. Landings trends and other biological data prompted the Marine Fisheries Commission to implement new harvest restrictions in June 2015. The division continues to monitor landings and collect data on the stock. In 2018, the commercial landings were below the 10 year average; however, recreational landings were above the 10 year average. For more information, contact Anne Markwith at [Anne.Markwith@ncdenr.gov](mailto:Anne.Markwith@ncdenr.gov).



**Shrimp**

The stock is considered an annual crop that consists of three species of shrimp (brown, pink, white). The population size is determined mainly by the number of shrimp entering the population each year, which is driven by environmental conditions. Therefore, a stock assessment is not an effective tool for management. The division is continuing to collaborate with the industry on bycatch reduction in the shrimp trawl fishery. At its May 2018 meeting, the Marine Fisheries Commission adopted management measures to reduce bycatch by implementing new gear restrictions in all shrimp trawls, except skimmer trawls, used in the Pamlico Sound and portions of the Pamlico, Bay and Neuse rivers. The management measures were effective July 1, 2019. Amendment 1 to the Shrimp Fishery Management Plan was adopted in February 2015. For more information, contact Chris Stewart at [Chris.Stewart@ncdenr.gov](mailto:Chris.Stewart@ncdenr.gov).



**Southern Flounder**

The 2019 stock assessment of southern flounder in the south Atlantic indicated that the stock is overfished and overfishing is occurring. This recent assessment passed peer review and the model was accepted for use in management. Adoption of Amendment 2 to the Southern Flounder Fishery Management Plan is scheduled for August 2019. Development of Amendment 3 will begin upon adoption of Amendment 2. For more information, contact Michael Loeffler at [Michael.Loeffler@ncdenr.gov](mailto:Michael.Loeffler@ncdenr.gov).













**Spotted Seatrout**

The 2014 stock assessment indicated that the spotted seatrout stock in North Carolina and Virginia was not overfished and that overfishing was not occurring in the terminal year (2012). Recreational and commercial landings in 2018 declined compared to the previous years but there is no indication that the stock is at risk. Due to widespread cold stun events in early 2018, the division closed the spotted seatrout fishery until the summer of 2018. Cold stuns are natural events that occur when there is a sudden drop in water temperature or prolonged periods of cold weather that make fish sluggish. Many fish die or fall prey to birds and other predators. The fishery was closed to allow surviving fish an opportunity to spawn. A benchmark stock assessment for spotted seatrout is underway in 2019 coinciding with the scheduled plan review. For more information, contact Tracey Bauer at [Tracey.Bauer@ncdenr.gov](mailto:Tracey.Bauer@ncdenr.gov).



## MANAGEMENT AUTHORITY FOR INTERJURISDICTIONAL SPECIES

Species or species groups managed under the jurisdiction of the North Carolina Marine Fisheries Commission (NCMFC), the Atlantic States Marine Fisheries Commission (ASMFC), and the South and/or Mid-Atlantic Councils (SAFMC and MAFMC) through the [North Carolina Fishery Management Plan for Interjurisdictional Fisheries](#).

Species	Stock Overview Link	NCMFC	ASMFC	SAFMC	MAFMC
 <a href="#">American Eel</a>	<a href="#">ASMFC</a>		•		
 <a href="#">American Shad</a>	<a href="#">ASMFC</a>		•		
 <a href="#">Atlantic Croaker</a>	<a href="#">ASMFC</a>		•		
 <a href="#">Atlantic Menhaden</a>	<a href="#">ASMFC</a>		•		
 <a href="#">Atlantic Sturgeon</a>	<a href="#">ASMFC</a>		•		
 <a href="#">Black Drum</a>	<a href="#">ASMFC</a>		•		
 <a href="#">Black Sea Bass</a> (North of Hatteras)	<a href="#">ASMFC, MAFMC</a>		•		•
Black Sea Bass (South of Hatteras) <i>See Snapper Grouper</i>	<a href="#">SAFMC</a>			•	
 <a href="#">Bluefish</a>	<a href="#">ASMFC, MAFMC</a>		•		•
 <a href="#">Cobia</a>	<a href="#">ASMFC</a>		•		
 <a href="#">Dolphin</a>	<a href="#">SAFMC</a>			•	



# *User-Friendly Changes to Annual Stock Overview Report*

Stock determinations based on terminology directly related to peer reviewed assessment

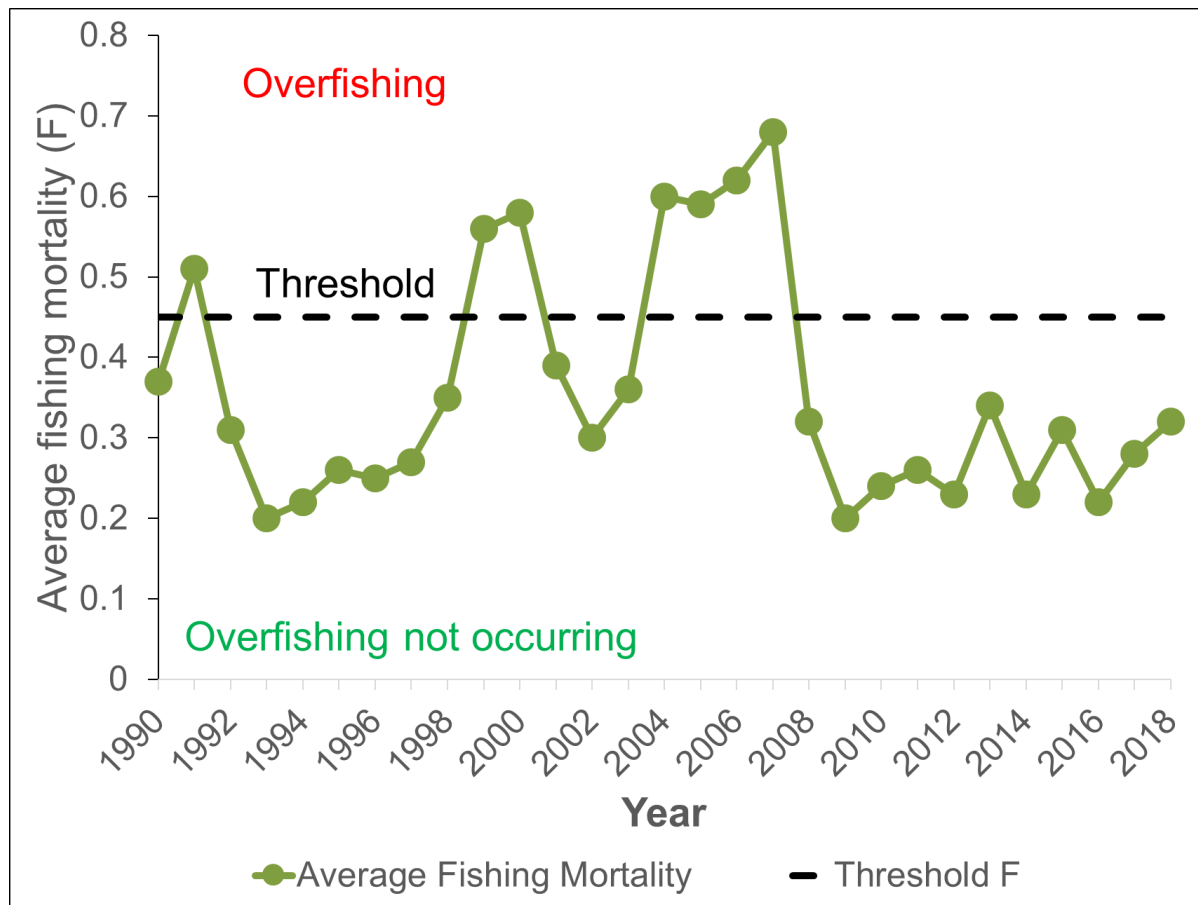
- Stock assignments consistent with overfishing and overfished terminology used in peer reviewed stock assessments
- Stocks with no assessment still provide pertinent trends in catch and surveys





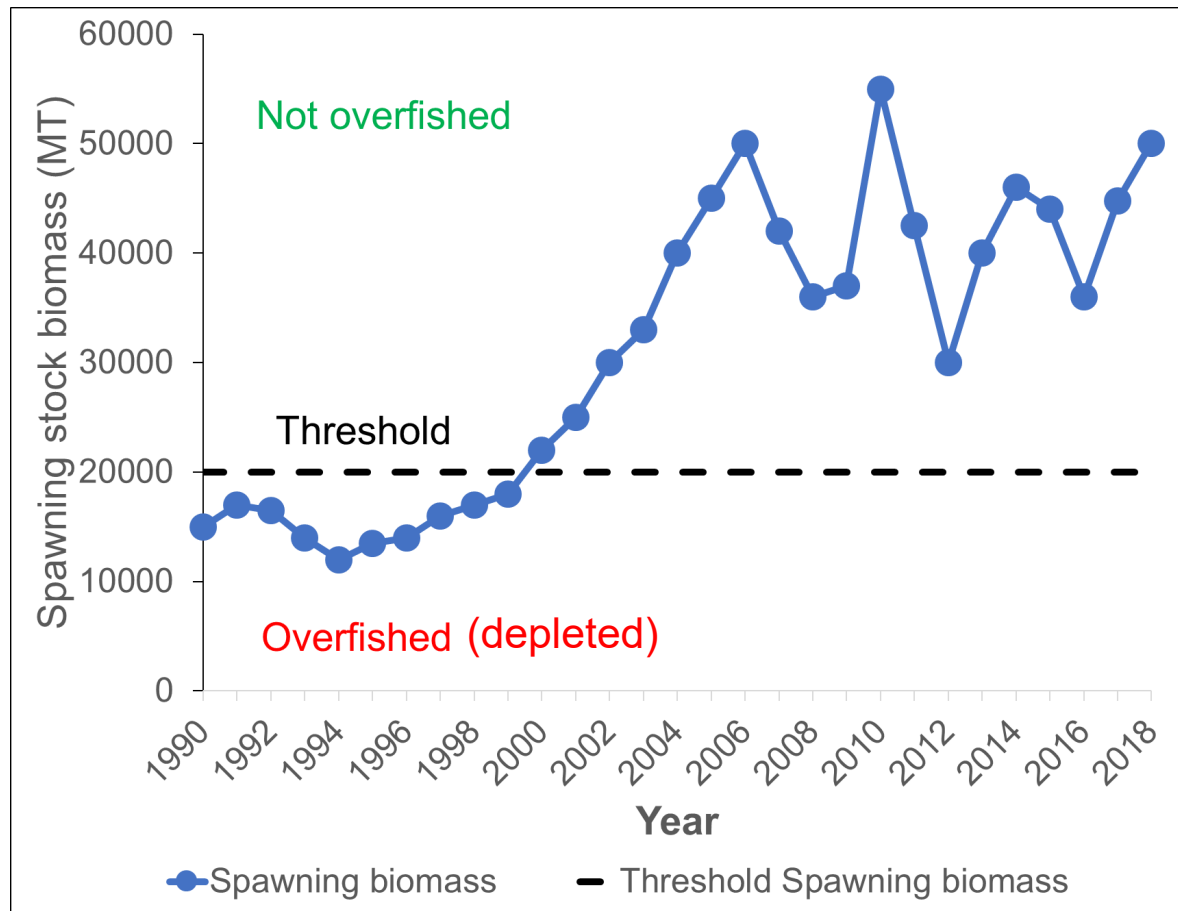
# Stock Determination based on Overfishing and Overfished (Depleted)

Overfishing occurs when the rate of removals due to fishing mortality is too high (i.e. it is above the overfishing threshold).



# Stock Determination based on Overfishing and Overfished (Depleted)

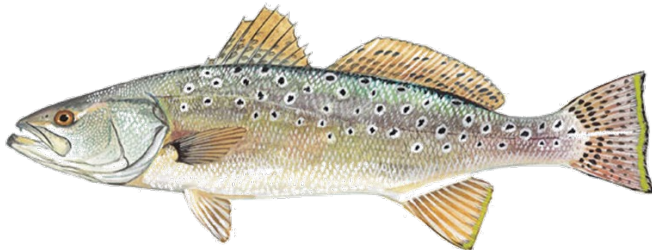
Overfished occurs when the size of the adult population is too small increasing the risk of recruitment failure.



# *Highlights of the 2019 Stock Overview Report*

## **Kingfishes**

- Annual trend analysis to monitor stock
- One of seven triggers hit in 2018 (none in 2017)
- No action required
- Plan reviewed in 2015



## **Spotted Seatrout**

- 2014 assessment not overfished with no overfishing
- Susceptible to cold stun events
- Benchmark assessment and plan review is underway

# *Highlights of the 2019 Stock Overview Report*



## **Striped Bass**

### **Albemarle/Roanoke**

- 2016 assessment not overfished with no overfishing

### **Central Southern (Tar/Pamlico, Neuse and Cape Fear rivers)**

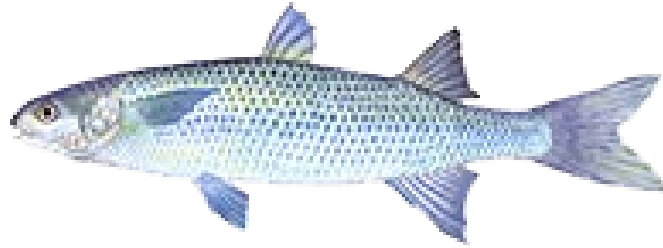
- Data from 2018 indicate two potentially naturally spawned year classes
- February 2019 - Supplement A to Amendment 1 implemented temporary moratorium to protect these year classes

Benchmark assessment and plan review underway for both stocks

*Department of Environmental Quality*



# *Highlights of the 2019 Stock Overview Report*



## **Striped Mullet**

- 2018 Assessment Update
- Overfishing is not occurring
- No management triggers were met in 2018

# *Highlights of the 2018 Stock Overview Report*

## **Blue Crab**

- 2018 Traffic Light Update
  - Adult Abundance increased and fell below the 50% red threshold
  - Recruit Abundance increased and fell below the 75% red threshold
  - Production stayed below the 50% red threshold
- 2018 assessment passed peer review
- Overfished and overfishing occurring
- Amendment 3 to the Blue Crab FMP is under development





# *Highlights of the 2019 Stock Overview Report*

## **Southern Flounder**

- 2019 stock assessment in the south Atlantic indicates stock is overfished and overfishing is occurring
- Reductions in harvest proposed through adoption of Amendment 2



# *Highlights of the 2019 Stock Overview Report*

In some situations stock assessments are not available for a stock. This is typically due to a lack of data or unaddressed research needs.



**Kingfishes**



**Sheepshead**



**Eastern Oyster**



**Hard Clam**

## *Highlights of the 2019 Stock Overview Report*

- Two stocks managed by North Carolina are annual crops
- Annual crops are not assessed due to short life-span



Bay Scallop



Shrimp  
(Brown, Pink, White)



# QUESTIONS?

*Department of Environmental Quality*

