ANNUAL REPORT

2022

Sustainable and Cooperative Management of Atlantic Coastal Fisheries

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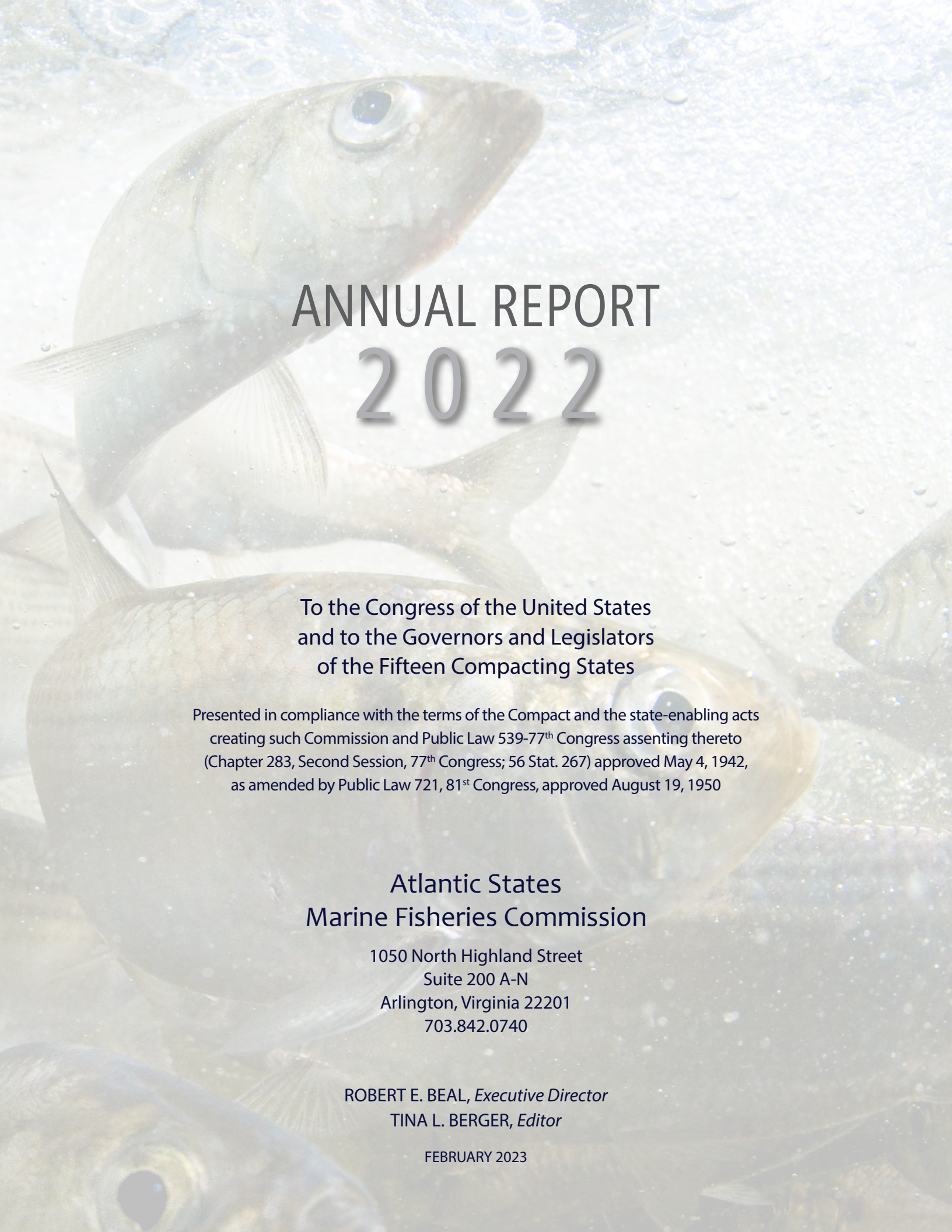
OUR MISSION:

To promote cooperative management of fisheries – marine, shell, and diadromous – of the Atlantic coast of the United States by the protection and enhancement of such fisheries, and by the avoidance of physical waste of the fisheries from any cause.



ANNUAL REPORT
2022

To the Congress of the United States
and to the Governors and Legislators
of the Fifteen Compacting States

Presented in compliance with the terms of the Compact and the state-enabling acts creating such Commission and Public Law 539-77th Congress assenting thereto (Chapter 283, Second Session, 77th Congress; 56 Stat. 267) approved May 4, 1942, as amended by Public Law 721, 81st Congress, approved August 19, 1950

Atlantic States
Marine Fisheries Commission

1050 North Highland Street
Suite 200 A-N
Arlington, Virginia 22201
703.842.0740

ROBERT E. BEAL, *Executive Director*
TINA L. BERGER, *Editor*

FEBRUARY 2023

Introduction

The Atlantic States Marine Fisheries Commission (Commission) is pleased to present our *2022 Annual Report*. The report fulfills our obligation to inform Congress on the Commission's use of public funds, and provides stakeholders with an overview of activities and progress in carrying out our cooperative stewardship responsibilities for the marine, shell, and diadromous species under our care.

In the report, you will find a quick guide to stock status for the 27 species groups the Commission manages; a fisheries management section, focusing on species which had the most significant management or stock assessment activities in 2022; and sections highlighting major accomplishments in 2022 in the areas of fisheries science and fishery-dependent data collection and management. Please visit the Commission's website at *www.asmfc.org* for additional information on all of our programs and activities.

The Commission was formed 81 years ago by the 15 Atlantic coastal states to assist in managing and conserving their shared coastal fishery resources. With the recognition that fish do not adhere to political boundaries, the states formed an Interstate Compact, which was approved by the US Congress in 1942. The Commission's mission as stated in the Compact is to promote cooperative management of fisheries – marine, shell, and diadromous – of the Atlantic coast of the US by the protection and enhancement of such fisheries, and by the avoidance of physical waste of the fisheries from any cause. The states have found that their mutual interest in sustaining healthy coastal fishery resources is best promoted by working cooperatively, in collaboration with the federal government. With this approach, the states uphold their collective fisheries management responsibilities in a cost-effective, timely, transparent, and responsive fashion.

The Commission serves as a deliberative forum for the Atlantic coastal states to come together to discuss the biological, socioeconomic, and environmental issues central to developing management programs for each species.

The Commission serves as a deliberative forum for the Atlantic coastal states to come together to discuss the biological, socioeconomic, and environmental issues central to developing management programs for each species. Each state is represented on the Commission by three Commissioners: the director of the state's marine fisheries management agency, a state legislator, and an individual appointed by the state's governor to represent fishery interests.

The task of managing finite marine resources continues to grow more complex with the consideration of changing ocean conditions, competing ocean uses, predator/prey interactions, and marine mammal interactions, in addition to the more traditional considerations of stock maintenance, rebuilding, and allocation of fisheries resources. To support these activities at both the Commission and state level, the Commission has a budget of $21.4 million, which comes from a combination of state appropriations and federal grants, including the Atlantic Coastal Fisheries Cooperative Management Act.

We remain grateful to Congress, the Administration, our Governors, and state legislators for their continued support of the Commission and its vision of Sustainable and Cooperative Management of Atlantic Coastal Fisheries. Our accomplishments would not have been possible without their trust and confidence. In addition, the technical support provided by NOAA Fisheries, US Fish and Wildlife Service, and US Geological Survey staff to the Commission and states is an invaluable component of our interstate fisheries management, science, and data collection activities.

Report from the Chair

SPUD WOODWARD

As my first report as Chair of the Commission, I want to thank my fellow Commissioners and proxies, members of Congress, our federal partners, and stakeholders for the support you continue to provide us in our important work of sustainable and cooperative management of Atlantic coast fisheries. Collectively, we have made significant strides in 2022 in the areas of fisheries management, fisheries science, and data collection and management.

We completed the revision of two of the Commission's foundational policies: our Appeals Process and our *De Minimis* Policy. The Appeals Process provides a mechanism for states to appeal a prior action made by a species management board while our *De Minimis* Policy aims to reduce the management burden for states whose measures would have a negligible effect on the conservation of a species. Both are fundamentally important to ensuring that we treat each other fairly and without undue burden in the management process.

Through the efforts of many, including Congress, NOAA Fisheries, the Commission's Finance Department, and CARES Act administrators in each state's marine fishery agency, we have been able to distribute over $200 million to thousands of people in the aquaculture, for-hire, and commercial fishing industries that suffered from the loss of opportunities and income during the pandemic. The pandemic has had such a profound impact on so many, I am glad we were able to play a part in bolstering the livelihoods of those in our fishing industries and communities along the Atlantic coast.

We have been able to distribute over $200 million to thousands of people in the aquaculture, for-hire, and commercial fishing industries that suffered from the loss of opportunities and income during the pandemic.

In 2022, we made major strides in updating and improving the management and supporting science of several species. These include approval and implementation of Amendment 7 to the Interstate Fishery Management Plan for Atlantic Striped Bass, and completion of the 2022 stock assessment update, which finds that our management measures are beginning to take effect with the stock no longer experiencing overfishing. We also approved new addenda for Atlantic menhaden and horseshoe crab. Although both address difficult issues and are not without controversy, our focus needs to be on providing the states and their stakeholders fair access to these resources while ensuring the species' health and long-term sustainability. Throughout 2022, the Commission continued to work as a member of the Atlantic Large Whale Take Reduction Team and with NOAA Fisheries to address the many challenges associated with the intersection of East Coast fisheries and Atlantic large whales.

Our working relationships with the three East Coast Regional Fishery Management Councils have never been stronger. All three Councils and NOAA Fisheries have been working hand-in-hand with the Commission on the East Coast Climate Change Planning Initiative, which explores how fisheries managers can address changing fish stock availability or distribution caused by climate change and develop a set of strategies to strengthen fisheries management while supporting fishing communities. This is an extremely important endeavor and one that I hope will lay the ground work for how we can proactively respond to changes in the ocean environment and shifts in species distribution and productivity over time.

Working collaboratively with the Mid-Atlantic Fishery Management Council, we approved changes to the management of recreational fisheries for bluefish, summer flounder, scup, and black sea bass through adoption of the harvest control rule. Discussion on recreational fisheries management reform will continue to be a focus for both management bodies. We are also closely following the South Atlantic Fishery Management Council as it works to finalize the Spanish mackerel assessment and determine whether next steps for management are needed.

In closing, we have a lot of big issues before us. Let's build upon our past accomplishments and ongoing efforts to make next year even more productive and successful than the last.

Quick Guide to ASMFC Species Stock Status

SPECIES		OVERFISHED	OVERFISHING	ASSESSMENT & MANAGEMENT OVERVIEW
	**American Eel**	Depleted	Unknown	Stock status based on 2017 stock assessment update. Measures implemented in 2013/2014 to reduce fishing mortality and prevent expansion of the fishery. Benchmark assessment and peer review to be considered for management use in 2023.
 **American Lobster**	**Gulf of Maine/ Georges Bank (GOM/GBK)**	N	N	Stock status based on 2020 benchmark assessment; abundance and recruitment near record highs. Addendum initiated with the goal of increasing protection of spawning stock.
	Southern New England	Depleted	N	Stock status based on 2020 benchmark assessment; abundance and recruitment lowest on record.
	**American Shad**	Depleted	Unknown	Stock status based on 2020 benchmark assessment. Species depleted on coastwide basis, with recovery limited by restricted access to spawning habitat. Amendment 3 established 2013 moratorium unless river-specific sustainability can be documented.
	**Atlantic Croaker**	Unknown	Unknown	2020 TLA triggered management action for the Mid-Atlantic and South Atlantic; changes to recreational and commercial fishery regulations initiated. Benchmark assessment scheduled for 2024.
	**Atlantic Herring**	Y	N	Stock status based on 2022 assessment update; SSB at 21% SSB target; 2023-2025 specifications to be set in early 2023.
	**Atlantic Menhaden**	N	N	Stock status based on 2022 assessment update; use of ERPs approved by Board in 2020. ERP and single-species benchmark assessments and peer review scheduled for 2025.
	**Atlantic Striped Bass**	Y	N	Stock status based on 2022 assessment update. Measures implemented in 2020 to achieve 18% reduction in total removals and end overfishing. At 2021 fishing mortality rate, there is a 79% chance of stock rebuilding by 2029. Amendment 7 approved in May 2022.
	**Atlantic Sturgeon**	Depleted	N	Stock status based on 2017 benchmark assessment; slow recovery occurring since 1998 and total mortality is sustainable. 40+ year moratorium implemented in 1998; listed in 2012 under the ESA.
	**Black Drum**	N	N	Stock status based on 2015 benchmark assessment; biomass declining slowly, though estimated to be well above that necessary to produce MSY. Possession and size limits implemented to prevent expansion of fishery. Benchmark assessment and peer review to be considered for management use in 2023.
	**Black Sea Bass**	N	N	Stock status based on 2021 management track stock assessment; SSB estimated to be 2.2 times the biomass target. Assessment to be considered for management use in 2023.
	**Bluefish**	Y	N	Stock status based on 2021 stock assessment. Reduced commercial quota and more restrictive recreational measures implemented in 2020 in response to stock status. Amendment 2 (2021) establishes 7-year rebuilding program. Research track stock assessment scheduled for 2022/2023.
	**Coastal Sharks**	Varies by species and species complex		
	**Cobia**	N	N	Stock status based on 2020 benchmark assessment; pattern of rapid biomass increases in strong recruitment years followed by years of decline.
	**Horseshoe Crab**	Unknown	Unknown	Stock status based on 2019 benchmark assessment; NE region and DE Bay stocks stable; NY region stock poor; and SE region stock good. Coastwide abundance has fluctuated, with many surveys decreasing after 1998 but increasing in recent years. ARM Framework used since 2013 to set harvest levels for DE Bay-origin horseshoe crabs. ARM Framework Revision adopted via Addendum VIII in 2022.
	**Jonah Crab**	Unknown	Unknown	First range-wide assessment scheduled for 2023; measures implemented to prevent the harvest of immature crabs and cap fishery to limit expansion.
	**Northern Shrimp**	Depleted	N	Stock status based on 2021 stock assessment update; abundance, biomass, SSB, and recruitment are at near time-series lows. Environmental conditions continue to be unfavorable to rebuilding. Moratorium in place since 2014 to protect remaining spawning population.
Red Drum 	**Northern Region**	Unknown	No	Stock status based on 2018 benchmark assessment; sSPR above target and threshold sSPRs. Benchmark assessment scheduled for 2024.
	Southern Region	Unknown	No	

Quick Guide to ASMFC Species Stock Status

SPECIES		OVERFISHED	OVERFISHING	ASSESSMENT & MANAGEMENT OVERVIEW
	**River Herring**	Depleted	Unknown	Stock status based on 2017 assessment update. Amendment 2 established 2012 moratorium unless river-specific sustainability can be documented. Benchmark assessment and peer review scheduled for 2023.
	**Scup**	N	N	Stock status based on 2021 assessment; SSB estimated to be two times its target. Management track assessment scheduled for 2023.
	**Spanish Mackerel**	N	N	Stock status based on 2012 stock assessment; 2022 assessment update undergoing additional review/analysis in 2023.
	**Spiny Dogfish**	N	N	Stock status based on 2018 assessment update; research & management track assessments scheduled for late 2022 and 2023, respectively.
	**Spot**	Unknown	Unknown	2020 TLA triggered management action for Mid-Atlantic and South Atlantic regions; changes to recreational/commercial fishery regulations initiated. Benchmark assessment scheduled for 2024.
	**Spotted Seatrout**	Unknown	Unknown	No range-wide assessment. Omnibus Amendment established a 12" minimum size limit to protect the spawning stock.
	**Summer Flounder**	N	N	Stock status based on 2021 assessment. SSB increasing and at 86% of the biomass target. Management track assessment scheduled for 2023.
Tautog 	**Massachusetts-Rhode Island**	N	N	Stock status based on 2021 assessment update, which found improvements in all regions.
	Long Island Sound	N	N	
	New Jersey-New York Bight	Y	N	
	Delaware/Maryland /Virginia	N	N	
	**Weakfish**	Depleted	No	Stock status based on 2019 assessment update. Species depleted since 2003; population experiencing high levels of natural mortality, preventing stock recovery. Harvest limited to 1 fish bag limit and a 100 lb commercial bycatch limit.
Winter Flounder 	**Gulf of Maine**	Unknown	N	Stock status based on 2022 management track assessment; abundance indices relatively flat over time series with an increase in 2021/2022. Management track assessment scheduled for both stocks in 2024.
	Southern New England/ Mid-Atlantic	N	N	Stock status based on 2022 management track assessment; SSB at record lows despite sustained low levels of fishing mortality. Recruitment has declined sharply since 1980s and remains near time series low. Change in overfished status due to a change in the recruitment time series used to estimate BRPs, rather than an improvement in the stock.

For more information about the Commission's fisheries management program or any of the above species, go to *http://www.asmfc.org/fisheries-management/program-overview*.

WHAT DOES A STATUS MEAN?

Unknown - There is no accepted stock assessment to estimate stock status.

Depleted - Reflects low levels of abundance though it is unclear whether fishing mortality is the primary cause for reduced stock size

Overfished - Occurs when stock biomass falls below the threshold established by the FMP, impacting the stock's reproductive capacity to replace fish removed through harvest, and that decline is driven primarily by fishing mortality

Overfishing - Removing fish from a population at a rate that exceeds the threshold established in the FMP, impacting the stock's reproductive capacity to replace fish removed through harvest

Benchmark stock assessment - A full analysis and review of stock condition, focusing on the consideration of new data sources and newer or improved assessment models. This assessment is generally conducted every few years and undergoes a formal peer review by a panel of independent scientists who evaluate whether the data and the methods used to produce the assessment are scientifically sound and appropriate for management use.

Stock assessment update - Incorporates data from the most recent years into a peer-reviewed assessment model to determine current stock status (abundance and overfishing levels)

Management track or operational assessments – Part of the Northeast Fisheries Science Center (NEFSC) stock assessment process (management track) and the Southeast Data, Assessment, and Review (SEDAR) stock assessment process (operational). Provides routine, scheduled, and updated advice to directly inform management actions. Management track and operational assessments ensure that stock status is updated on a regular and predictable basis.

Research track assessments – Part of the NEFSC and SEDAR stock assessment processes and are complex scientific efforts that are designed to be carried out over several years. They can (1) focus on research topics for one or more individual stocks, (2) evaluate an issue or new model/tool that could apply to many stocks and/or (3) consider extensive changes in data, model, or stock structure. Research assessments can provide the basis for future management assessments.

TABLE ACRONYMS

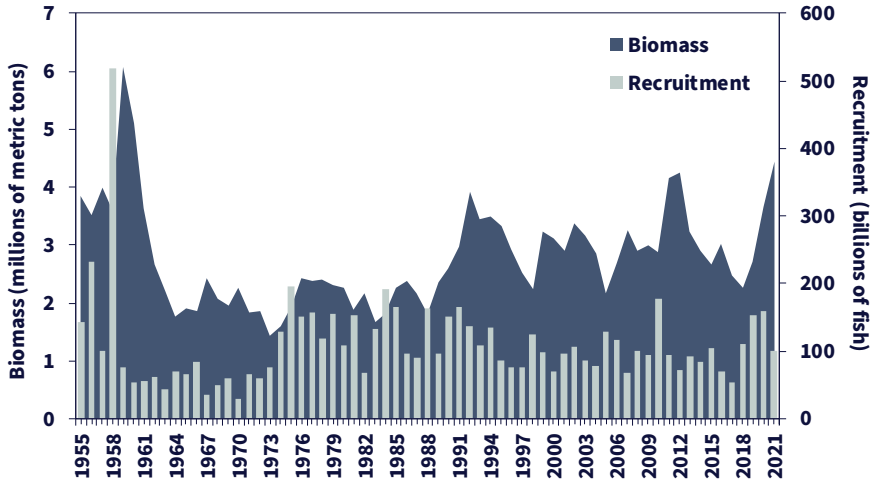
ARM Adaptive Resource Management
BRPs biological reference points
ERPs ecological reference points
ESA Endangered Species Act
MSY maximum sustainable yield
sSPR static spawning potential ratio
SSB spawning stock biomass
TLA Traffic Light Analysis

ATLANTIC MENHADEN

Atlantic menhaden (*Brevoortia tyrannus*) are small, oily, schooling fish of historical, economic, and ecological importance. Historically, menhaden supported large-scale commercial reduction fisheries, bringing considerable growth to Atlantic coastal communities. Today, the reduction fishery is a fraction of what it once was, with one processing plant and several vessels operating on the Atlantic coast. Additionally, menhaden are becoming increasingly valuable for use as bait in many important fisheries, including American lobster, blue crab, and striped bass. Ecologically, the species plays an important role in marine ecosystems as a forage fish (prey) for many fish, seabirds, and marine mammals.

The 2022 Atlantic Menhaden Stock Assessment Update indicates the Commission's ecological reference point-based management approach that was adopted in 2020 is working well, with the resource not overfished nor experiencing overfishing. In 2021, population fecundity, a measure of reproductive capacity, was above both the ecological reference point (ERP) threshold and target, and total fishing mortality was below both the ERP threshold and target.

Atlantic Menhaden Biomass and Recruitment
Source: ASMFC Atlantic Menhaden Stock Assessment Update, 2022



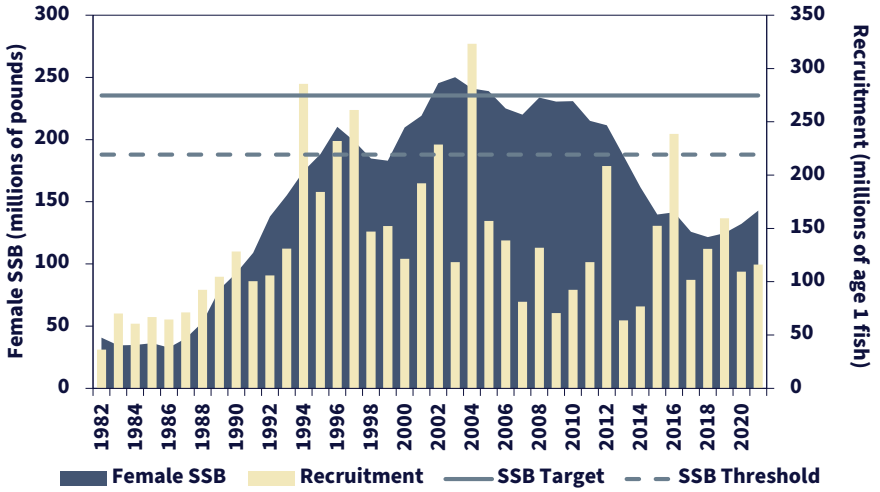
Given these positive results, the Atlantic Menhaden Management Board set the 2023-2025 total allowable catch (TAC) at 233,550 metric tons (mt), an approximate 20% increase from the 2021-2022 TAC. The increased TAC provides the states with additional fishing opportunities, while maintaining a conservative risk level with regard to the ERPs.

Additionally, the Board approved Addendum I to Amendment 3. The Addendum makes a number of changes to the management program to align state quotas with recent landings and resource availability while maintaining access to the resource for all states, reducing dependence on quota transfers, and minimizing regulatory discards.

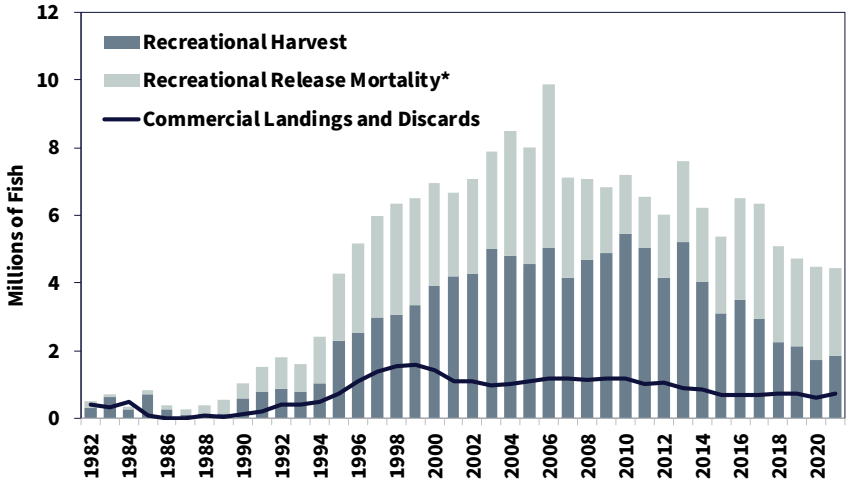
ATLANTIC STRIPED BASS

Atlantic striped bass are often referred to as America's greatest recreational fishery on the US Atlantic coast. High demand for this species among anglers, commercial harvesters, and consumers, coupled with the complexity of its seasonal distribution along the coast, makes sustainable management of the Atlantic coast striped bass population complex and challenging.

Atlantic Striped Bass Female Spawning Stock Biomass and Recruitment
Source: ASMFC Atlantic Striped Bass Stock Assessment Update, 2022



Atlantic Striped Bass Commercial Landings and Discards and Recreational Landings and Release Mortality
Source: ASMFC Atlantic Striped Bass Stock Assessment Update, 2022



* 9% of fish released alive are assumed to die because of being caught.

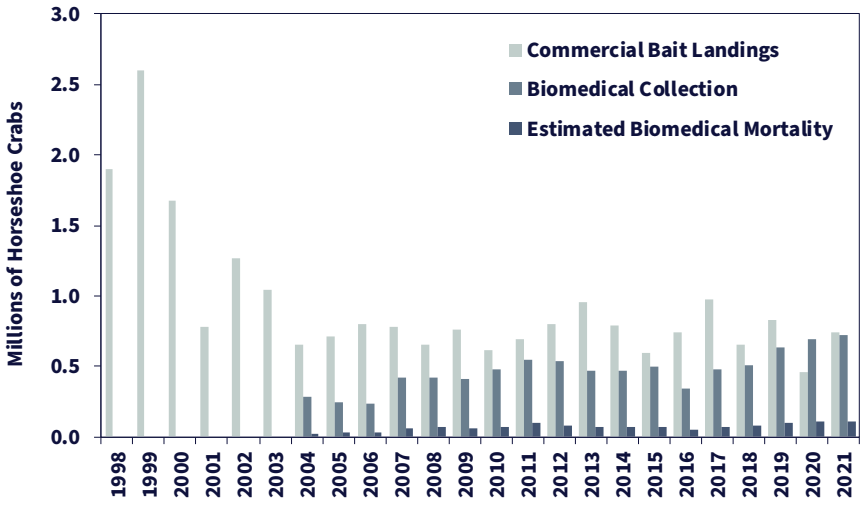
In 2022, the Commission approved Amendment 7 to the Atlantic Striped Bass Plan. The Amendment establishes new requirements for management triggers, conservation equivalency, measures to address recreational release mortality, and the stock rebuilding plan. The 2018 benchmark stock assessment found the stock was overfished and experiencing overfishing. This finding required the Board to end overfishing within one year and rebuild the stock by 2029. Amendment 7 strengthens the Commission's ability to reach the rebuilding goal by implementing a more conservative recruitment trigger, providing more formal guidance around uncertainty in the management process, and implementing measures designed to reduce recreational release mortality. This Amendment builds upon the 2019 Addendum VI action to address overfishing and initiate rebuilding in an immediate response to the 2018 assessment findings.

The 2022 Stock Assessment Update, which was released in late 2022, finds that management measures put in place through Addendum VI to Amendment 6 are beginning to take effect, with the stock no longer experiencing overfishing. While the species is still overfished, spawning stock biomass (SSB) is slowly increasing due to the 2011 and 2015 above average year-classes that continue to grow, mature, and contribute to SSB. The update also included short-term projections to determine the probability of SSB being at or above the SSB target by 2029, which is the stock rebuilding deadline. The projections also took into account the period of low recruitment the stock has experienced in recent years. Under the current fishing mortality rate, there is an estimated 79% chance the stock will be rebuilt by 2029.

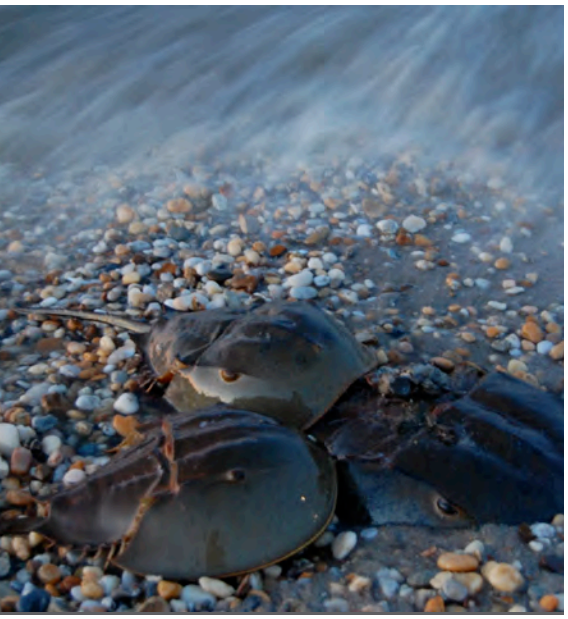
HORSESHOE CRAB

Horseshoe crabs provide the backdrop for one of the most interesting marine resource management issues along the Atlantic coast. Horseshoe crab eggs are a primary food source for red knots, a shorebird that is listed as threatened under the Endangered Species Act, as they pass through the Delaware Bay on their long migration from South America to the Arctic. Recognizing this important ecological connection, the Adaptive Resource Management (ARM) Framework incorporates both shorebird and horseshoe crab abundance levels to set harvest levels for horseshoe crabs of Delaware Bay-origin. Since 2012, this Framework has been used to ensure

Horseshoe Crab Bait Landings and Biomedical Collection
Source: State Compliance Reports, 2021



Please note the following details regarding biomedical collection numbers:
* Biomedical collection numbers, which are annually reported to the Commission since 2004, include all horseshoe crabs brought to bleeding facilities except those that were harvested as bait and counted against state bait quotas.
* Most of the biomedical crabs collected are returned to the water after bleeding; a 15% mortality rate is estimated for all bled crabs.



that horseshoe crab harvesting in the Delaware Bay region does not impede the recovery of migratory shorebirds. Horseshoe crabs are also economically important, providing bait for commercial American eel and conch fisheries along the coast. Their bright blue blood is also used by the biomedical industry to produce Limulus Amoebocyte Lysate (LAL), a critical reagent for detecting contaminants in medical devices and drugs.

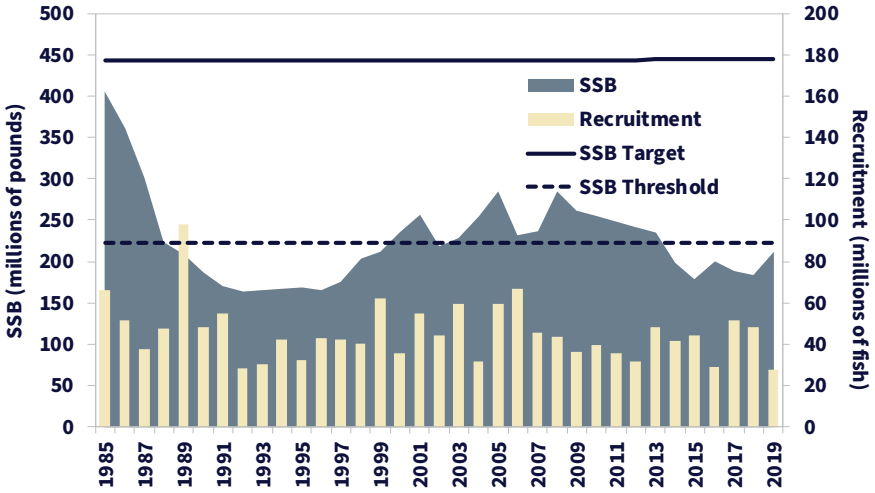
In 2022, the Horseshoe Crab Management Board approved Addendum VIII to the Interstate FMP. The Addendum adopts the changes to the ARM Framework as recommended in the peer-reviewed 2021 ARM Framework Revision, and allows its use in setting annual bait harvest specifications for horseshoe crabs of Delaware Bay-origin. The ARM Framework Revision is a considerable scientific advancement in how horseshoe crabs are managed in the Delaware Bay Region. It represents years of effort by both fishery scientists and shorebird experts to improve the model and data inputs for both species to ensure that ecosystem needs are adequately addressed.

Maintaining its conservative management program, the Board set a harvest limit of 475,000 male and zero female horseshoe crabs in the Delaware Bay for the 2023 season. In making its decision, the Board considered the recommendations of the recently revised ARM Framework and the extensive public comment it received concerning the status of the red knot population in the region and the harvest of female horseshoe crabs.

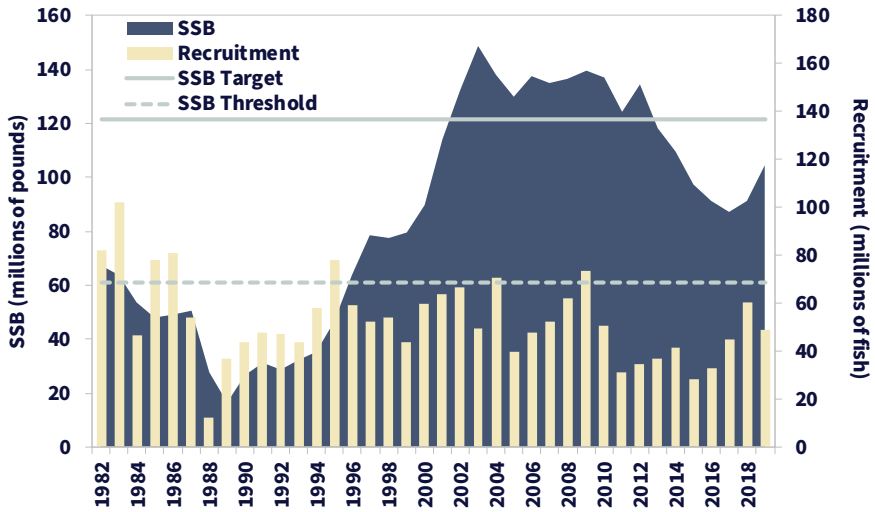
MID-ATLANTIC SPECIES

Since the 1980s, the Commission has been working jointly with the Mid-Atlantic Fishery Management Council on the management of four species: bluefish, summer flounder, scup, and black sea bass. All four species are highly sought after by commercial harvesters and recreational anglers throughout Southern New England and the Mid-Atlantic. Through the joint management efforts of the

Bluefish Spawning Stock Biomass (SSB) and Recruitment
Source: Northeast Fisheries Science Center, 2021

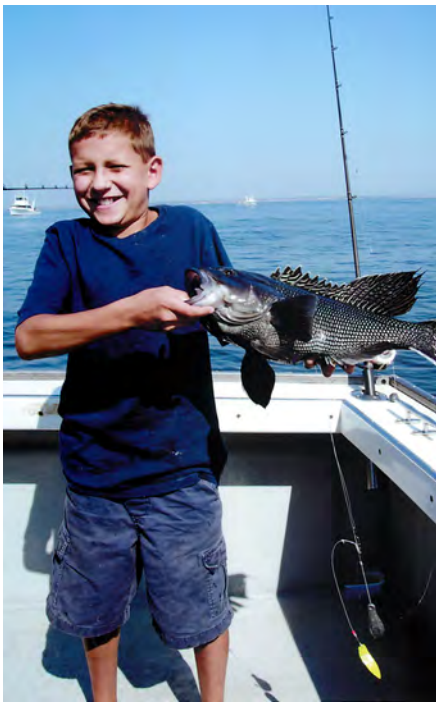


Summer Flounder Spawning Stock Biomass (SSB) and Recruitment
Source: Northeast Fisheries Science Center, 2021

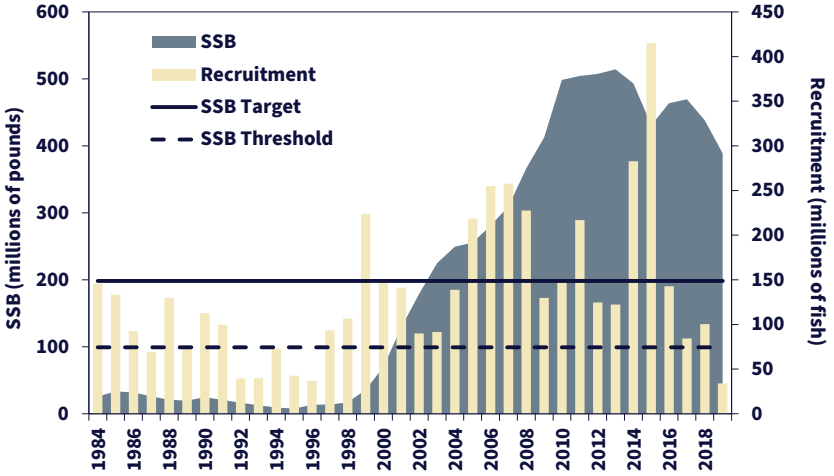


Commission and Council, summer flounder, scup, and black sea bass are not overfished nor experiencing overfishing, while bluefish are overfished but not experiencing overfishing. To address bluefish's overfished condition, a seven-year rebuilding program was initiated in 2021 through Amendment 2 to the Bluefish Plan.

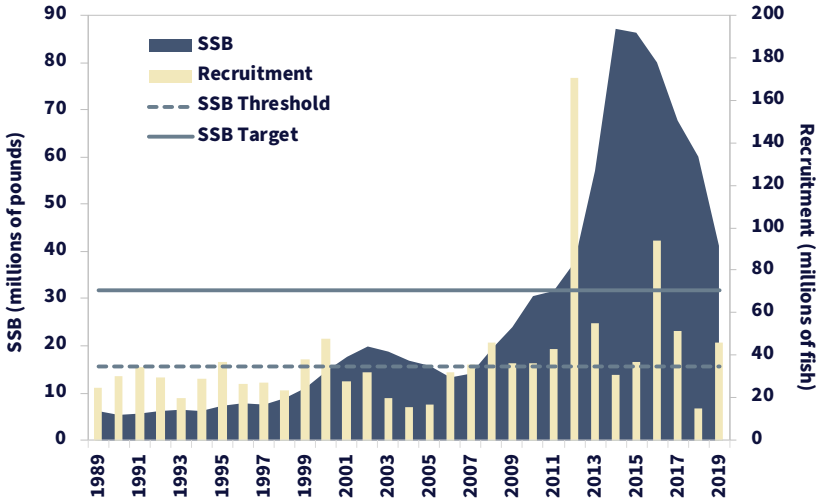
Over the past two years, the majority of the joint management activity has focused on the Recreational Reform Initiative, which considers improvements to the management of recreational fisheries for summer flounder, scup, black sea bass, and bluefish. The goal of the Initiative is to establish a process for setting recreational measures (bag, size, and season limits) for all four species such that measures aim to prevent overfishing, are reflective of stock status, appropriately account for uncertainty in the recreational data, take into consideration angler preferences, and provide an appropriate level of stability and predictability in changes from year-to-year.



Scup Spawning Stock Biomass (SSB) and Recruitment
Source: Northeast Fisheries Science Center, 2021



Black Sea Bass Spawning Stock Biomass (SSB) and Recruitment
Source: Northeast Fisheries Science Center, 2021



As part of this Initiative, the Commission and Council approved changes to the recreational fisheries management programs for the four species. The changes include a new process for setting recreational measures and modifications to the recreational accountability measures. The Commission adopted the new process through Addendum XXXIV to the Summer Flounder, Scup, and Black Sea Bass FMP and Addendum II to the Bluefish FMP, while the Council addressed this process through framework action. The new management program aims to provide greater stability and predictability in recreational measures from year-to-year while accounting for uncertainty in recreational catch estimates.

Starting in 2023, the Commission and Council has prioritized the development of new actions that aim to improve upon and replace the current recreational measures setting process by 2026, as well as a Recreational Sector Separation and Catch Accounting Amendment.

Fisheries Science to Support Management

Management of sustainable fisheries relies on accurate and timely scientific advice. The Commission strives to produce sound, actionable science through a technically rigorous, peer-reviewed stock assessment process. Assessments are developed using a broad suite of fishery-independent surveys and fishery-dependent monitoring, as well as research products developed by a network of fisheries scientists at state, federal, and academic institutions. The Commission's scientific goals include the development of innovative scientific research and methodology, and enhancement of the states' stock assessment capabilities. Achieving these goals ensures sound science is available as the foundation for the Commission's evaluation of stock status and adaptive fisheries management actions.

STOCK ASSESSMENTS & NOTABLE SCIENCE ACTIVITIES

Commission stock assessment teams completed multiple assessments in 2022 to support significant management decisions and advance the state of Commission science. Notably, benchmark assessments for American eel and a novel red drum simulation assessment framework were completed, as well as assessment updates for Atlantic menhaden and Atlantic striped bass. Commission stock assessment scientists also contributed to the 2022 federal research track assessments for bluefish and spiny dogfish. The Commission continues to seek new data and develop innovative methods to support the black drum, Jonah crab, and river herring stock assessments currently being developed for completion in 2023.

Red Drum Assessment Model Performance

Red drum have a unique life history and fisheries management framework that contribute to data limitations and challenges for determining stock status. Red drum fisheries harvest mostly immature fish that have not reproduced, causing suspected population crashes prior to the 1990s. In response, regulations have narrowed the size range and the number of fish that can be harvested. Since red drum support fisheries with high numbers of participants, the regulations have resulted in a significant proportion of catch that is released and ultimately dies due to capture-induced stress and injury. There are no monitoring efforts to adequately describe how catch and release mortality affects different age classes in the population. This data limitation has contributed to highly uncertain stock status estimates, particularly for the reproductive potential of the population, that cannot be easily confirmed by observations on the water.

As the first part of a road map developed by fishery scientists and managers to improve red drum stock status estimates, a simulation study was completed in 2022 to better understand and compare the performance of several assessment modeling options. Simulation testing was done by using a hypothetical population with known population dynamics, under various fishery harvest scenarios. Data were sampled from the population in a manner consistent with existing red drum data collection programs from Maryland to Florida. Sampled data sets were then run through different types of assessment models to estimate population dynamics. Estimates were compared to the known population dynamics to determine how accurately each assessment model performed. Based on the results, a model was selected for the second part of the road map, a benchmark assessment to provide management advice in 2024. This achievement marked the first simulation study conducted by the Commission and represents a significant milestone in assessing red drum.

American Eel International Collaboration

Beginning in 2022, scientists from the Commission and state and federal partners began a three-year collaborative project with scientists in Canada to evaluate data and methods for assessing American eel. Through the International Council for the Exploration of the Seas (ICES, *www.ices.dk*), the Working Group on American Eels (WGAMEEL) was formed with a mutually agreed-upon task list. Together, the group will collate and evaluate data on American eel abundance, distribution, habitat, and biology in the two countries, with the intention of identifying potential stock assessment methods or management approaches. Integrating indigenous knowledge, searching for previously unused data sources, and comparing methods for assessing eel around the world are integral to the tasks of the working group as well. WGAMEEL is co-chaired by Commission staff and includes US representatives from the US Fish and Wildlife Service in the Mid-Atlantic and

Great Lakes regions, US Geological Service, Louisiana Department of Wildlife and Fisheries, North Carolina Division of Marine Fisheries, and Maine Department of Marine Resources.

American eel is considered depleted along the US Atlantic coast and threatened in Canada. The species is challenging to conserve, assess, and manage in both countries for a myriad of reasons. For one, the life history characteristics, such as age of maturity or length-at-age, differ greatly along its distribution from Brazil to Canada, complicating efforts to model eel population trends. Additionally, eel navigate through and reside in a wide range of habitats from the oceanic waters of the Sargasso Sea to the brackish waters of coastal estuaries to inland freshwater river systems. Throughout their journey, American eels inhabit areas under many management authorities, from international to multiple federal, state, and local governments. It is therefore critical for international scientists to collaborate to find the best path forward to manage and conserve eels while providing for fisheries harvests. The WGAMEEL represents an important step forward for international collaboration, assessment, and management.

CLIMATE AND FISHERIES

Using Annual Fishery Indicators to Monitor Species

Due to a rapidly changing marine environment and its impacts on fishery resources, managers now require scientific advice for more species on a more frequent basis in order to adapt and respond to changing conditions. For species like American lobster, northern shrimp, Atlantic croaker, and spot, Commission species technical committees have expanded the use of biological and socioeconomic indicators (e.g., abundance trends, dockside prices) to provide information to managers on a shorter timeframe. The indicator-based approach has been used in the past to provide management advice for species like spot and croaker. The Commission has also implemented the indicator approach for species with sophisticated assessment models as a way for managers and stakeholders to stay informed about stock conditions in between periodic stock assessments. Fishery-independent surveys of abundance, spawning stock biomass, and recruitment provide information on the current stock status; socioeconomic indicators provide information on the health of the fishery under existing management; and environmental indicators provide information on the potential future productivity of the stock. Indicators are based on a long time series of consistently collected data from state and federal fisheries agencies and selected to reflect the important dynamics of each stock in question. They allow fishery managers to keep a close eye on population and fishery status and respond accordingly in between the more comprehensive and resource-intensive stock assessments conducted every 3 to 5 years.

East Coast Climate Change Scenario Planning Initiative

Throughout 2022, fishery management bodies have been collaborating on a Climate Change Scenario Planning Initiative designed to explore how climate change might affect fisheries along the East Coast, and to identify consequences for the future of fisheries management and governance. While climate change is clearly having an impact on Atlantic fisheries and the communities that rely on them, it is impossible to predict exactly what future changes will be. The Initiative recognizes it is critical to plan now by identifying the possible climate-induced impacts on fisheries and fishing communities in the years to come and determine ways to address the challenges.

The Initiative is exploring how fisheries managers can address changing fish stock distributions caused by climate change. Together the group will develop a set of strategies to strengthen fisheries management while supporting fishing communities as the ocean environment changes over time. In order to accomplish this, the scenarios take into account how climate-induced changes to oceanographic, biological, and social/economic conditions could create future challenges and opportunities for East Coast fisheries. In working on the project, fisheries managers and hundreds of fisheries stakeholders from coastal communities are banding together to create a more resilient future for coastal fisheries.

The multi-agency project is in the fifth of six phases that consists of developing management strategies to draft scenarios. In the current phase, the discussion is focused on adaptiveness, using sound data and science, acknowledging alternative ocean uses, and encouraging cross-jurisdictional management efforts. In late 2022, the group conducted brainstorming sessions with fisheries managers from the Commission and the three East Coast Regional Fishery Management Councils to discuss possible strategies and actions managers can take to address concerns raised in the various draft scenarios. The outcome of these sessions will provide the context for further discussions at a Summit in early 2023.

In addition to the Indicator and Scenario Planning work, the Commission's Habitat Committee released the *2022 Report on Atlantic States' Climate Change Initiatives*. The report contains information on current climate change initiatives underway by each of the Atlantic coast state agencies, such as offshore wind energy generation, and strategic actions to address sea level rise. The report is a great informational tool for stakeholders to better understand the initiatives underway in their respective areas.

Dependable and Timely Fisheries Statistics

Effective management depends on quality fishery-dependent data (e.g., information collected from recreational, for-hire, and commercial fisheries, such as landings, effort, or discards) and fishery-independent data (e.g., information collected through monitoring programs and research surveys) to inform stock assessments and fisheries management decisions. Just as fisheries management responsibilities are divided among agencies, so too are fisheries data collection efforts across different agencies with varying data needs.

The Atlantic Coastal Cooperative Statistics Program (ACCSP) was established in 1995 as one of five regional Fisheries Information Networks (FINs) to address the issues of inconsistent temporal and spatial coverage and dataset compatibility by standardizing and centralizing fisheries-dependent data collection and data management along the Atlantic coast. FINs are collaborative state-federal programs that supply dependable and timely marine fisheries data in their respective regions. ACCSP is composed of representatives from marine fisheries management agencies coastwide, including the Commission, the 3 Atlantic coast fishery management councils, the 15 Atlantic states, Potomac River Fisheries Commission (PRFC), D.C. Fisheries and Wildlife Division, NOAA Fisheries, and US Fish and Wildlife Service. ACCSP plays a critical role in supporting effective resource management through its efforts to standardize data collection and dissemination across jurisdictions and to efficiently provide Atlantic coast data to the state, regional, and national data systems.

In 2022, ACCSP collaborated with committee members and partner staff to modernize data systems. Major accomplishments include (1) providing funding at the state, regional, and federal levels to help partners complete projects that address the current goals and priorities of ACCSP; (2) building software that meets specific partner needs, reduces the burden on industry, and meets the reporting requirements of multiple jurisdictions in a single report; and (3) collecting, standardizing, and disseminating data in a timely fashion while maintaining the necessary levels of confidentiality.

FUNDED PROJECTS

Each year, ACCSP provides funding to its program partners to support improvements to data collection and management activities. In 2022, ACCSP awarded $1.2 million to several projects along the Atlantic coast, including electronic reporting, biological sampling, and economic efficiency (see figure on next page). Staff frequently collaborate with partners to execute funded projects. One such project included working with PRFC to prepare partner-specific customizations to their reporting application to allow captains to capture their catch and effort data while on the water, independent of an internet connection, as well as conduct training sessions with early adopters. This multi-year project will transition PRFC harvesters from 100% paper reporting to a goal of near 100% electronic reporting by 2026. The anticipated benefits include a faster, more streamlined trip submission for the harvesters, reduction in data entry errors, and decreased PRFC staff hours.

For another project, ACCSP staff worked with the Massachusetts Department of Marine Fisheries and the Rhode Island Department of Environmental Management to develop an application that allows administrators to view vessel location tracks, associated trips, compliance reports on trips without locations and locations without trips, and set the annual opt-in and device status for a permit. This project is part of the implementation of tracking devices in the federal American lobster and Jonah crab fleets in response to issues such as interactions with North Atlantic right whales and wind farms.

To find out more about the funded projects, visit *https://www.accsp.org/what-we-do/partner-project-funding/*.

SAFIS APPLICATIONS

ACCSP provides partners with electronic commercial dealer reporting and commercial, for-hire, and recreational harvester catch

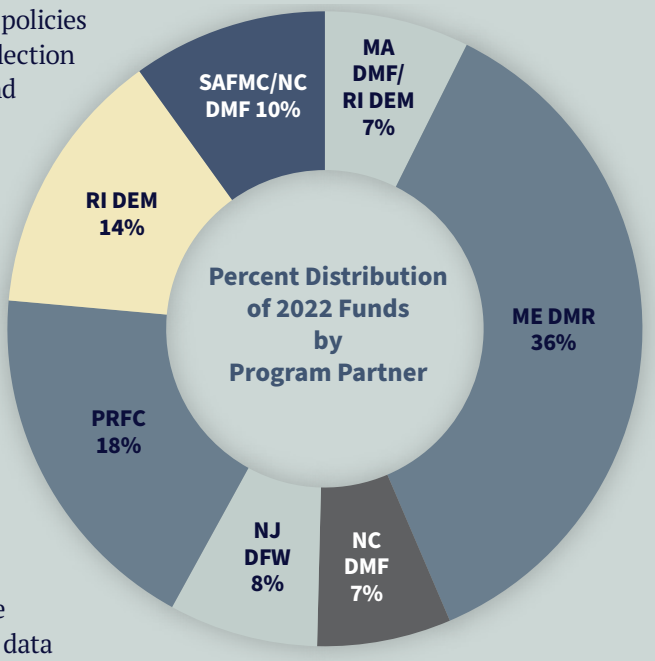
reporting through the Standard Atlantic Fisheries Information System (SAFIS) suite of applications that are available to dealers and harvesters at no cost. In 2022, SAFIS eTRIPS was expanded to include new features to streamline the reporting process, provide more detailed data submission confirmation messages, and facilitate the sharing of trip information with dealers at the time of sale. Complementing work on implementing and integrating tracking device data collection as part of American Lobster Addendum XXVIX, the mobile version of eTRIPS now incorporates a voluntary mapping feature that allows users to plot and store a map of their trip that remains on their device for future reference.

The online, web browser version now collects all relevant data across federal reporting jurisdictions, making all SAFIS eTRIPS versions the only applications that meets the Atlantic One Stop Reporting (OSR) federal requirements. The OSR initiative is funded through the Fisheries Information System to enable the submission of a single eVTR, or electronic vessel report, to satisfy the reporting requirements of all the affected fishing management authorities along the East Coast. This is in response to long-standing criticisms of redundant and duplicative reporting voiced by constituents, Regional Councils, and federal and state agency staff and aligns with NOAA Fisheries Regional Electronic Technology Implementation Plans.

SAFIS e-1Ticket was designed specifically for South Carolina and Georgia permitted dealers, who may also have federal dealer permits. Originally released in 2011, it creates a commercial trip ticket for the harvester selected, and a dealer report for the dealer. ACCSP staff has worked with the states and NOAA's Division of Highly Migratory Species to migrate the features and capabilities of the e-1Ticket into eTRIPS/online, updating the interface and functionality, providing increased future flexibility, and standardizing data collection across jurisdictions. This will be launched in 2023 in conjunction with state outreach to dealers.

DATA COLLECTION AND DISSEMINATION

ACCSP compiles data from the Atlantic states and federal fisheries to support regional data needs, NOAA commercial landings databases, and NOAA's annual publication, *Fisheries of the United States*. In 2022, ACCSP performed two coastwide data refreshes to allow for the loading of new 2021 data and changes to historical data as necessary to ensure consistency among datasets at the state, federal, and regional levels so that scientific and management analyses are based on consistent and best available data. Also, ACCSP technical committees worked with staff to update the Atlantic coast standards that define ACCSP's policies for fisheries data collection and management and provide direction on future improvements for Atlantic coast commercial, for-hire, and recreational fisheries statistics. ACCSP cooperatively developed standards are the cornerstone of modernizing state and federal fisheries data collection.



KEY

MA DMF/RI DEM
Massachusetts Division of Marine Fisheries/ Rhode Island Department of Enviornmental Management

ME DMR
Maine Department of Marine Resources

NC DMF
North Carolina Division of Marine Fisheries

NJ DFW
New Jersey Division of Fish and Wildlife

PRFC
Potomac River Fisheries Commission

RI DEM
Rhode Island Department of Environmental Management

SAFMC/NC DMF
South Atlantic Fishery Management Council/ North Carolina Division of Marine Fisheries

Annually, ACCSP administers state data collection for the Marine Recreational Information Program along the Atlantic coast. In 2022, staff also supported the collection of data for the Socio-economic Add-on Survey (SEAS) portion of the Marine Recreational Fishing Expenditure Survey, conducted every 5 years in cooperation with NOAA Fisheries, Atlantic state partners, and the Gulf States Marine Fisheries Commission. Through ACCSP coordination, the 2022 SEAS was conducted electronically for the first time, streamlining the survey to reduce angler burden and minimize implementation costs. Additionally, the ACCSP Recreational Technical Committee and Coordinating Council completed the Atlantic Recreational Implementation Plan for 2023-2027, which establishes recreational data priorities at the state and federal level to guide activities and projects over the next 5 years along the coast. The plan was submitted to NOAA Fisheries.

Financial Report

The Commission's fiscal year 2023 budget is $21.4 million. The base funding ($733,444) is provided by the member states' annual appropriations, which are determined by the value of commercial fishing landings and saltwater recreational trips within each state. The bulk of the Commission's funding is received through federal cooperative agreements funded by line-item appropriations in the NOAA budget to implement the Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA) and the ACCSP, as well as provide oversight and management for state conduct of the Access Point Angler Intercept Survey, the survey component of the Marine Recreational Information Program. The Commission also receives funds from NOAA Fisheries to carry out the provisions of the Interjurisdictional Fisheries Act (IFA) (P.L. 99-659). The accompanying graph illustrates the benefits states receive from ACFCMA and IFA. The majority of the Commission's budget goes directly to support the fisheries management, monitoring, and science activities of the states.

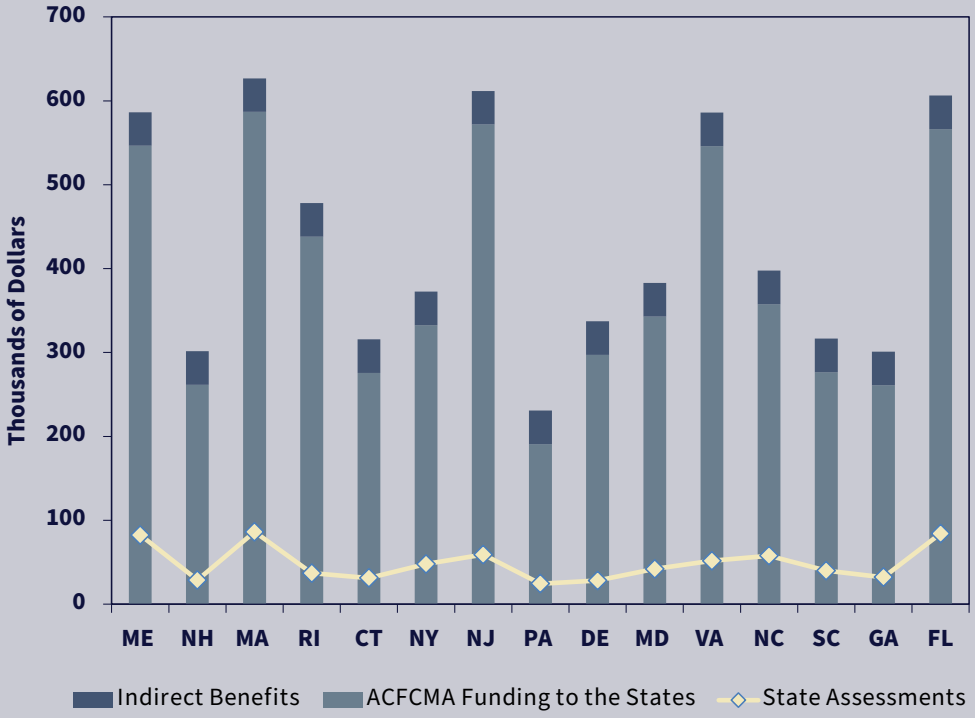
The US Fish and Wildlife Service also provides funding to the Commission through its Federal Aid in Sport Fish Restoration Program (Wallop/Breaux).

The following two pages provide a condensed statement of financial position information for the years ended June 30, 2022 and 2021.

2023 Return on State Assessments to the Commission

Source: FY23 ASMFC Assessments and FY22 ACFCMA & IFA Allocations

*Indirect Benefits include travel and per diem for 6 people from each state to participate in Commission meetings. Please note that this figure does not include the collective benefits derived from the work of the FMP Coordinators and Science Staff.



Atlantic States Marine Fisheries Commission

Condensed Statement of Financial Position Information

For the Years Ended June 30, 2022 and 2021

ASSETS

	2022	2021
CURRENT ASSETS:		
Cash and cash equivalents	$ 285,669	$ 331,999
Grants and accounts receivable	3,527,881	3,266,668
Prepaid expenses	30,299	42,413
Total Current Assets	3,843,849	3,641,080
Investments	845,310	862,604
Property and Equipment, Net	2,934,373	3,045,489
TOTAL ASSETS	$ 7,623,532	$ 7,549,173

LIABILITIES AND NET ASSETS

CURRENT LIABILITIES:		
Accounts payable and accrued expenses	$ 2,148,640	$ 2,216,927
Deferred revenue and contract advances	209,985	303,578
Due to CARES Act recipients	9,915	27,074
Current maturities of long term debt	—	—
Total Current Liabilities	2,368,540	2,547,579
OTHER LIABILITIES:		
Obligation under interest rate swap	—	—
Total Other Liabilities	—	—
TOTAL LIABILITIES	2,368,540	2,547,579
NET ASSETS WITHOUT DONOR RESTRICTIONS	5,254,992	5,001,594
TOTAL LIABILITIES AND NET ASSETS	$ 7,623,532	$ 7,549,173

Atlantic States Marine Fisheries Commission

Condensed Statement of Activities Information

For the Years Ended June 30, 2022 and 2021

	2022	2021
REVENUE:		
Contract reimbursements	$ 96,930,614	$ 126,016,034
Contributions from member states	733,444	733,443
Other	(17,138)	(1,114)
Total Revenue	97,646,920	126,748,363
EXPENSES:		
CARES Act pass through	78,170,560	110,327,085
Salaries and fringe benefits	6,614,893	6,201,347
Subcontracts	11,188,746	9,103,889
Travel	571,199	177,641
Other	848,124	742,051
Total Expenses	97,393,522	126,552,013
OTHER INCOME (EXPENSES):		
Interest rate swap obligation adjustment	—	—
Total Other Income (Expenses)	—	—
CHANGE IN NET ASSETS	253,398	196,350
NET ASSETS, BEGINNING OF YEAR	5,001,594	4,805,244
NET ASSETS, END OF YEAR	$ 5,254,992	$ 5,001,594

Staff

EXECUTIVE DIRECTORATE

Robert E. Beal, *Executive Director*
Alexander Law, *Legislative Program Coordinator*

ATLANTIC COASTAL COOPERATIVE STATISTICS PROGRAM

Geoffrey White, *Director*
Julie Defilippi Simpson, *Deputy Director*
Marisa Powell, *Program Assistant*

DATA TEAM

Mike Rinaldi, *Data Team Lead*
Anna-Mai Christmas-Svajdlenka, *Data Coordinator*
Adam Lee, *Data Coordinator*
Joe Myers, *Senior Data Coordinator*
Jennifer Ni, *Data Analyst*
Heather Power, *Senior Data Coordinator*

RECREATIONAL DATA TEAM

Alex DiJohnson, *Recreational Data Team Lead*
Trevor Scheffel, *Data Coordinator*
Gabe Thompson, *Data Coordinator*

SOFTWARE TEAM

Ed Martino, Ph.D., *Software and IT Team Lead*
Kranthi Mumar Palla, *Software Developer*
Daniel Mestawat, *Programmer*
Jamal Oudiden, *Programmer*

COMMUNICATIONS

Tina L. Berger, *Director*
Madeline Musante, *Fisheries Outreach Assistant*

FINANCE AND ADMINISTRATION

Laura C. Leach, *Director*
Lisa B. Carty, *Deputy Director of Administration*
Lindsey Aubart, *Cooperative Projects Coordinator*
Cecilia Butler, *Human Resources Administrator*
Jayran Farzanegan, *Accounting Manager*
Lisa Hartman, *Staff Assistant*
Chris Jacobs, *Facilities and Technology Administrator*
Cynthia Robertson, *Meetings Assistant*

FISHERIES SCIENCE PROGRAM

Pat Campfield, *Director*
Katie Drew, Ph.D., *Stock Assessment Team Lead*
Kristen Anstead, Ph.D., *Stock Assessment Scientist*
Lisa Havel, Ph.D., *ACFHP and Habitat Coordinator*
Jeff Kipp, *Senior Stock Assessment Scientist*

INTERSTATE FISHERIES MANAGEMENT PROGRAM

Toni Kerns, *Director*
Caitlin Starks, *Senior Fishery Management Coordinator*
Tracey Bauer, *Fishery Management Coordinator*
James Boyle IV, *Fishery Management Coordinator*
Emilie Franke, *Fishery Management Coordinator*
Dustin Colson Leaning, *Fishery Management Coordinator*

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Atlantic menhaden captured as part of Maryland's Estuarine Fish Community Sampling Study © Frank Marenghi, Maryland Department of Natural Resources

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Mating horseshoe crabs © Kevin Kalasz, Delaware Department of Natural Resources and Environmental Conservation

Page 9
Young angler with black sea bass © Steve Witthuhn

Page 10
Annual glass eel sampling in Mid-Atlantic state waters © Kristen Anstead, ASMFC

Page 12
Rod and reel used as part of the SEAMAP Hook and Line Tagging Survey © Tom Crews, USFWS

ATLANTIC STATES
MARINE FISHERIES COMMISSION
1050 North Highland Street, Suite 200 A-N
Arlington, Virginia 22201
703.842.0740 • www.asmfc.org