

# Director's Report







Annual Report 2015

**Atlantic States Marine  
Fisheries Commission**

*Sustainably Managing Atlantic Coastal Fisheries*



**2015 Annual Report**  
of the  
**Atlantic States**  
**Marine Fisheries Commission**

**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*

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Executive Director

**February 2016**

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Editor

# Commonly Used Acronyms

<b>AAE</b>	Annual Awards of Excellence	<b>ITC</b>	Interstate Tagging Committee	<b>RSA</b>	Research Set-Aside Program
<b>ACCSP</b>	Atlantic Coastal Cooperative Statistics Program	<b>IUCN</b>	International Union for the Conservation of Nature	<b>SAFMC</b>	South Atlantic Fishery Management Council
<b>ACFHP</b>	Atlantic Coastal Fish Habitat Partnership	<b>LCS</b>	Large coastal shark complex	<b>SAS</b>	Stock Assessment Subcommittee
<b>ACFCMA</b>	Atlantic Coastal Fisheries Cooperative Management Act	<b>MAFMC</b>	Mid-Atlantic Fishery Management Council	<b>SAW/SARC</b>	Northeast Regional Stock Assessment Workshop and Stock Assessment Review Committee, respectively
<b>ACLs</b>	Annual catch limits	<b>MSP</b>	Maximum spawning potential	<b>SCA</b>	Statistical catch-at-age
<b>ARM</b>	Adaptive Resource Management	<b>MSTC</b>	Multispecies Technical Committee	<b>SCS</b>	Small coastal shark complex
<b>ASMFC</b>	Atlantic States Marine Fisheries Commission (also referred to as the Commission)	<b>MSVPA-X</b>	Extended Multispecies Virtual Population Analysis	<b>SEAMAP</b>	Southeast Area Monitoring and Assessment Program
<b>BRDs</b>	Bycatch reduction devices	<b>MSY</b>	Maximum sustainable yield	<b>SEDAR</b>	SouthEast Data, Assessment, and Review Process
<b>CPUE</b>	Catch-per-unit-effort	<b>MT</b>	Metric tons	<b>SFMPs</b>	Sustainable fishery management plans
<b>DPS</b>	Distinct population segments	<b>NEAMAP</b>	Northeast Area Monitoring and Assessment Program	<b>SNE</b>	Southern New England
<b>DW</b>	Dressed weight	<b>NEFMC</b>	New England Fishery Management Council	<b>SNE/MA</b>	Southern New England/Mid-Atlantic
<b>ERPs</b>	Ecological-based reference points	<b>NEFSC</b>	Northeast Fisheries Science Center	<b>SPR</b>	Spawning potential ratio
<b>ESA</b>	Endangered Species Act	<b>NFHAP</b>	National Fish Habitat Action Plan	<b>SSB</b>	Spawning stock biomass
<b>F</b>	Fishing mortality	<b>NFWF</b>	National Fish and Wildlife Foundation	<b>SSC</b>	Scientific and Statistical Committee
<b>FMP</b>	Fishery Management Plan	<b>NMFS</b>	National Marine Fisheries Service; also known as NOAA Fisheries	<b>TAC</b>	Total allowable catch
<b>GBK</b>	Georges Bank	<b>NOAA</b>	National Oceanic and Atmospheric Administration	<b>TAL</b>	Total allowable landings
<b>GOM</b>	Gulf of Maine	<b>PDT</b>	Plan Development Team	<b>TLA</b>	Traffic Light Analysis
<b>GOM/GBK</b>	Gulf of Maine/Georges Bank	<b>PRT</b>	Plan Review Team	<b>USFWS</b>	U.S. Fish and Wildlife Service
<b>HMS</b>	Highly Migratory Species	<b>RHL</b>	Recreational harvest limit	<b>TEWG</b>	Technical Expert Working Group
<b>ISFMP</b>	Interstate Fisheries Management Program				
<b>IFA</b>	Interjurisdictional Fisheries Act				

# Table of Contents



2	<b>Commonly Used Acronyms</b>	40	<b>Fisheries Science to Support Management</b>
4	<b>Guiding Principles</b>	40	Fishery-Independent Data Collection
5	<b>ASMFC Commissioners</b>	41	Research Initiatives
6	<b>Preface</b>	44	Cooperative Tagging
7	<b>Report to Our Stakeholders</b>	44	Multispecies Models and Assessments
8	<b>Report from the Chair</b>	44	Stock Assessment Peer Review
9	<b>Stock Status Overview and Quick Guide to Stock Status</b>	45	Stock Assessment Training
12	<b>Species Highlights</b>	45	Habitat Protection, Restoration, and Enhancement
12	American Eel	48	<b>Dependable and Timely Fisheries Statistics</b>
13	American Lobster	49	<b>Awards</b>
14	Atlantic Croaker	53	<b>Staff</b>
15	Atlantic Herring	54	<b>Financial Reports</b>
16	Atlantic Menhaden		<b>Acknowledgements</b> (back cover)
18	Atlantic Striped Bass		
19	Atlantic Sturgeon		
21	Black Drum		
22	Black Sea Bass		
23	Bluefish		
24	Coastal Sharks		
25	Horseshoe Crab		
26	Jonah Crab		
27	Northern Shrimp		
28	Red Drum		
29	Scup		
30	Shad & River Herring		
32	Spanish Mackerel		
33	Spiny Dogfish		
34	Spot		
35	Spotted Seatrout		
36	Summer Flounder		
37	Tautog		
38	Weakfish		
38	Winter Flounder		

# Guiding Principles

## 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

## Vision

Sustainably Managing Atlantic Coastal Fisheries

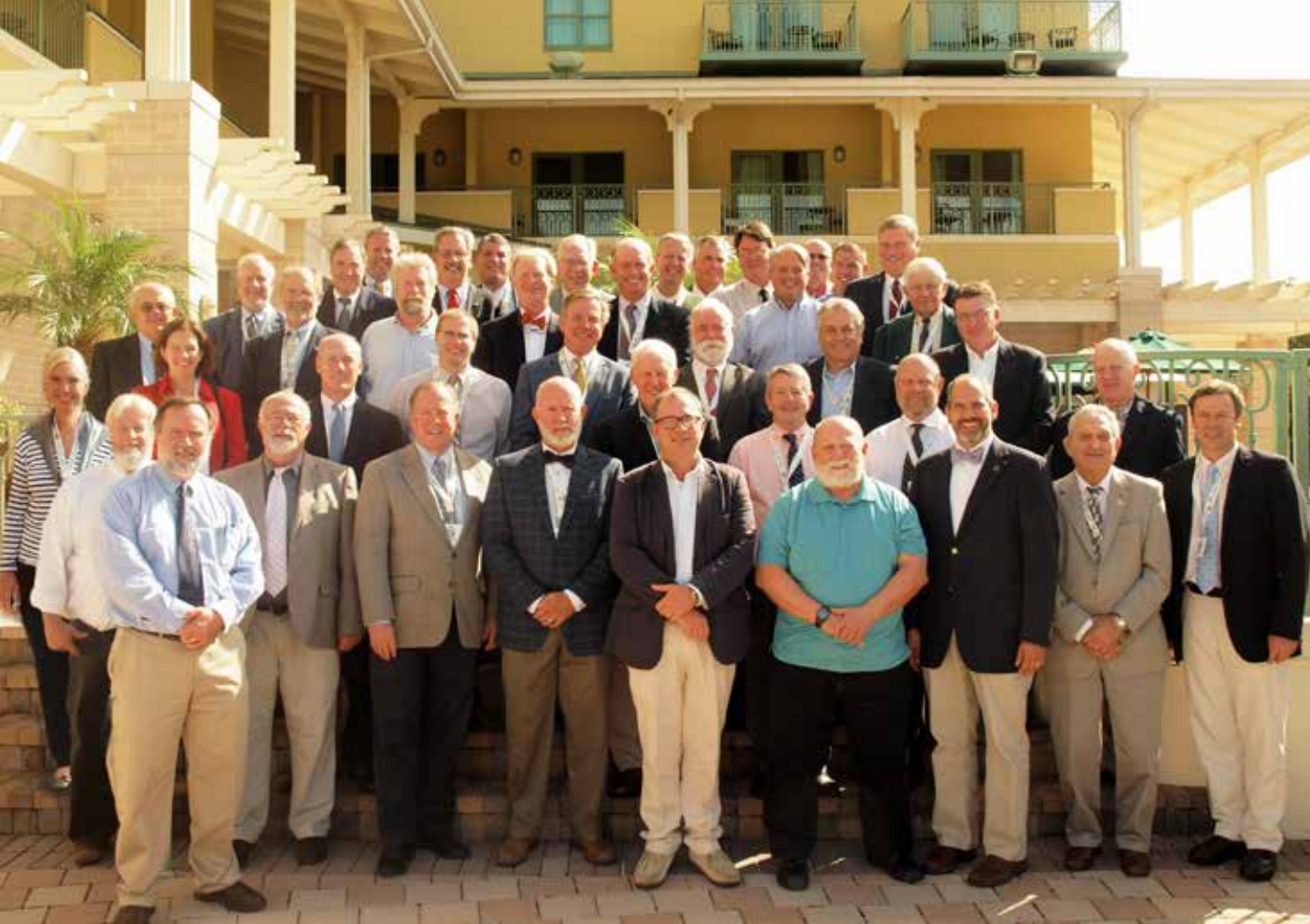
## Goals

- Rebuild, maintain, fairly allocate, and promote Atlantic coastal fisheries
- Provide the scientific foundation for, and conduct stock assessments to support, informed management actions
- Promote compliance with fishery management plans to ensure sustainable use of Atlantic coast fisheries
- Protect and enhance fish habitat and ecosystem health through partnerships and education
- Strengthen stakeholder and public support for the Commission
- Advance Commission and member states' priorities through a proactive legislative policy agenda
- Ensure the fiscal stability and efficient administration of the Commission

## Commissioner Values

- Effective stewardship of marine resources through strong partnerships
- Decisions based on sound science
- Long-term ecological sustainability
- Transparency and accountability in all actions
- Timely response to new information through adaptive management
- Balancing resource conservation with the economic success of coastal communities
- Efficient use of time and fiscal resources
- Work cooperatively with honesty, integrity, and fairness





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# Preface

*The Commission was formed 73 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 U.S. Congress in 1942. 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's current budget is \$73 million. The base funding (\$665,255) comes from the member states' 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 comes from a combination of state and federal grants, the largest being a line-item in the NOAA Fisheries budget appropriated to implement the Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA). 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.

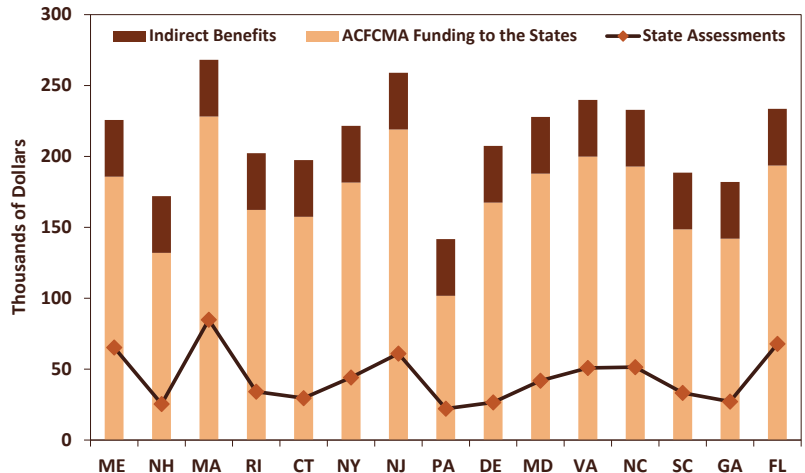
The U.S. Fish and Wildlife Service (USFWS) also provides grant funding to the Commission through its Federal Aid in Sport Fish Restoration Program (Wallop/Breaux). Also, since 1999 the Commission has overseen the administration of the Atlantic Coastal Cooperative Statistics Program (ACCSP), a state and federal partnership for Atlantic coastal fisheries data collection and management. Funding for this program is provided by ACFCMA and Fisheries Information Network line in the NOAA Fisheries budget.

The Commission serves as a deliberative body of the Atlantic coastal states, coordinating the conservation and management of nearshore fishery resources, including marine, shell, and diadromous species. The 15 member

states of the Commission are (from north to south): Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, and Florida. 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. These Commissioners participate in deliberations in the Commission's main policy arenas: interstate fisheries management, fisheries science, habitat conservation, and law enforcement. Through these activities, the states collectively ensure the sound conservation and management of Atlantic coastal fishery resources and the resulting benefits that accrue to their fishing and non-fishing public.

**2016 Return on State Assessments to the Commission**

Source: FY16 ASMFC Assessments and FY15 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.

On behalf of the Atlantic States Marine Fisheries Commission (Commission), I am pleased to present our 2015 Annual Report. The report fulfills our obligation to inform Congress on the use of public funds provided to the Commission and provides our stakeholders with a summary of activities and progress in carrying out our cooperative stewardship responsibilities. In addition to detailing our 2015 activities, this report includes figures displaying the historical trends in stock status or catch for each managed species.

These figures reflect our Commissioners' commitment to accountability and transparency in all they do to manage and rebuild fisheries under their care.

We remain grateful to the Administration, Members of Congress, our governors, and state legislators for their continued support. Many of the Commission's most important accomplishments would not have been possible without their trust and confidence. In addition, the fiscal, staff, and technical support provided by NOAA Fisheries and USFWS to the Commission and states is an important part of our interstate fisheries management program and science activities.

2015 was one of the busiest years on record at the Commission with a whopping six benchmark stock assessments approved for management use – American lobster, Atlantic menhaden, black drum, bluefish, scup and tautog. Atlantic menhaden, in particular, spent much of the year in the public spotlight. In May, the Atlantic Menhaden Board began to look at ecological-based reference points that reflect menhaden's role as a forage species. Moving forward, the Commission has begun an unprecedented socioeconomic analysis of the bait and reduction fisheries to help describe the tradeoffs of various allocation strategies.

2015 was also the first year under new Addendum IV fishing mortality reference points approved by the Atlantic Striped Bass Board. Coastal states implemented a 25% harvest reduction from 2013 levels, while Chesapeake Bay states/jurisdictions implemented a 20.5% harvest reduction from 2012 levels. These reductions are in response to a number of below average year classes that occurred in the 2000s. Under reduced fishing pressure, the stocks are projected to rebuild to target levels.

American lobster, which is featured on the cover of this Report, will face a complicated year on the management

front. While stocks in the Gulf of Maine are booming, the once productive Southern New England grounds are at the lowest levels on record. In 2016, we will begin development of an addendum for Southern New England to respond to the results of the 2015 benchmark stock assessment and address just one of our fisheries that is being impacted by warming ocean waters.

The Commission has continued to work closely with its sister Commissions in the Gulf of Mexico and Pacific. The three Commission alliance has shown to be an effective approach to unify the messages of 24 U.S. coastal states through one strong voice on national fisheries issues. This year our Annual Meeting was held in conjunction with the Gulf Commission where new relationships were forged and many policies, especially law enforcement, are now stronger thanks to the collaboration

Over the past 12 months, the three Commission alliance continued to work with our state and federal partners to reinforce the social and economic returns that come from investing in marine fisheries management and science. The overall investment is

relatively modest; however, the returns are impressive. Commission-managed marine resources generate billions of dollars in economic activity annually and provide tens of thousands of jobs within our coastal communities. Our previous management successes have demonstrated the economic returns and jobs that can result from abundant and healthy coastal fisheries. This lesson reinforces the relevance and importance of the Commission's Vision today and in the years to come.

I continue to be amazed by the staff's commitment to healthy marine fisheries, and appreciate the devotion of Commissioners to our Vision, *Sustainably Managing Atlantic Coastal Fisheries*. It is always worth remembering the Legislative Commissioners and Governors' Appointees provide their time and expertise to the Commission without compensation. The Commission also elected new leadership at our Annual Meeting in St. Augustine, Florida. Doug Grout of New Hampshire will serve as Chair and James Gilmore of New York will serve as Vice Chair. We are grateful to outgoing Chair Dr. Louis Daniel of North Carolina for his many contributions.

Thank you all for your commitment to the Commission and the successful management of marine resources along the Atlantic coast.



*We remain grateful to the Administration, Members of Congress, our governors, and state legislators for their continued support. Many of the Commission's most important accomplishments would not have been possible without their trust and confidence.*

**ROBERT E. BEAL, EXECUTIVE DIRECTOR**

# Report from the Chair

As my last report as Chair of the Commission, I want to thank my fellow Commissioners for the support they have given me and Doug Grout over the past two years in carrying out our collective goals of ending overfishing and rebuilding depleted fishery resources, seeking outcomes that support the economic success of coastal communities, working toward long-term ecological sustainability, and being transparent and accountable in all our actions. Over the past year alone, we have made significant strides in furthering these goals.

2015 was a banner year in advancing the science behind our management decisions. We successfully completed benchmark stock assessments for Atlantic menhaden, black drum, tautog, American lobster, scup and bluefish, with the last two assessments being conducted in close coordination with our federal partners from NOAA Fisheries and the Mid-Atlantic Fishery Management Council. We continued to make progress on benchmark stock assessments for red drum, weakfish, spot and Atlantic croaker – all of which will have been peer-reviewed by the end of 2016. We have continued to invest in long-term fisheries-independent data collection activities through our support of the Northeast Area Monitoring and Assessment Program (NEAMAP) and the South Atlantic component of Southeast Area Monitoring and Assessment program (SEAMAP). We were able to secure funding to conduct the Virginia Tech Horseshoe Crab Trawl Survey, a critical input to our specifications setting process for horseshoe crab. This important long-term survey has been unfunded for the last two years, however, we are hopeful that long-term funding will be secured to allow this survey to be conducted for many years to come.

On the recreational data collection front, the Commission and ACCSP have worked hard this year to prepare for a significant change in the way recreational catch data will be collected along the Atlantic coast. Beginning in 2016, all coastal states from Maine through Georgia will transition to conducting the catch

estimate portion of Marine Recreational Information Program, also known as APAIS. To prepare for this transition, new staff have been hired by the states and ACCSP, the Commission offices were reconfigured to accommodate the new hires, and the Commission readied itself to address the administrative and human resource challenges of an increased workforce. While NOAA Fisheries will retain primary accountability for APAIS and will be responsible for survey design, catch and effort estimation, and public dissemination, the Commission and ACCSP will act as the central coordinators of the state-conducted APAIS and will be responsible for data entry, compilation, quality control/quality assurance, as well as formatting and delivering intercept data to NOAA Fisheries. States will oversee and manage field collection, which will be conducted by state or Commission employees in accordance with APAIS standard data collection protocols.

From a fisheries management perspective, Commissioners adopted a new Interstate Fishery Management Plan (FMP) for Jonah Crab to manage growth in this expanding fishery with the intent of ensuring the sustainability of the resource. Given the linkages between the Jonah crab and American lobster fisheries and the predominance of the Jonah crab fishery in federal waters, we will continue to work closely with the New England Fishery Management Council and NOAA Fisheries on managing this shared resource. Based on the findings of the benchmark stock assessments for American lobster, tautog, and Atlantic menhaden, Commissioners have begun to discuss possible changes to management programs for these species. For American lobster, Commissioners will wrestle with what is the best approach to manage the severely depleted Southern New England stock unit given the environmental constraints placed on this resource that limit rebuilding efforts.



DR. LOUIS B. DANIEL, III

Responding to the positive findings of the Atlantic menhaden assessment, Commissioners have begun to move forward with the next stage on menhaden management. This new management regime will not only seek to fairly allocate the resource among the states and between fishery sectors

but to also establish ecological based reference points that reflect Atlantic menhaden's role as a forage species. While working groups of Commissioners, scientists, and stakeholders have met throughout this year to lay the groundwork for future Board discussions, substantial work is still ahead of us. Luckily, we are not alone as we navigate the complex terrain of ecosystem management as our counterparts with the New England and Mid-Atlantic Fishery Management Councils explore ecosystem and forage species management as well.

2015 was the first year we implemented new management measures to reduce the coastwide harvest of Atlantic striped bass in order to assure a more rapid increase in the abundance of spawning fish which has been declining in recent years. Based on recent projections, the implemented management measures appear to meet, if not exceed, the required harvest reductions, with the resource not overfished and overfishing not occurring. This, coupled with the news of Maryland's above average juvenile index and Virginia's average juvenile index, offer promising news for the future of the striped bass resource.

USFWS's recent decision to not list American eel under the Endangered Species Act is also welcome news. The decision affirms the significant work and resources invested by the Commission, its member states, and federal partners over the past several years to conduct the first coastwide benchmark stock assessment for American eel and implement a management program in response to the assessment findings. However, given the current depleted status of the resource, there is still considerable

work to be done to rebuild American eel. The Commission will continue to closely monitor American eel fisheries and the status of the resource, and make adjustments to the management program as necessary, to ensure stock rebuilding.

The Commissioners and staff continue to work to secure the necessary resources to support important scientific, management, and enforcement activities. A critical component of this work is strengthening our partnerships with NOAA Fisheries and USFWS. The three interstate commissions continue to meet jointly with NOAA Fisheries leadership to communicate the states' budget priorities. This effort was successful in getting nearly one million dollars to support unfunded data collection programs. As the 2016 budget is finalized by Congress, staff and our government relations firm will continue to communicate the importance of supporting the interstate fishery management process.

In closing, I want to thank my fellow Commissioners for the trust they have placed in Doug Grout and me to serve as your Vice-Chair and Chair. We are grateful for their support and sustained commitment to the Commission and its programs. I am also deeply appreciative of the support and dedication of the Commission's talented staff. We have seen a lot of staff transitions over the past two years, with some well-respected veteran staff leaving some big shoes to fill. I am pleased to say that our new hires, who include three FMP Coordinators, one stock assessment scientist, and an accounting manager and HR manager, have admirably stepped into their new positions without missing a beat. This seamless transition is in large part due to the outstanding leadership of the senior staff and the remarkable teamwork exhibited by the remaining staff who have stepped in to mentor and contribute to the increased workload. It has been an honor to serve as your Chair. I look forward to continuing to work with you all over the coming years to sustainably manage Atlantic coastal fisheries. ♦

In 2015, the Commission maintained sustainable fisheries for a number of rebuilt species such as Gulf of Maine/Georges Bank American lobster, Atlantic herring, Atlantic menhaden, bluefish, scup, and spiny dogfish. The Commission approved a new Jonah Crab FMP, updated management programs for two species (via addenda), and initiated four plan amendments in response to stock assessment information and changes in the fisheries. Two of the plan amendments will seek to improve resource sustainability for northern shrimp and tautog, while the other two amendments will seek to improve management of Atlantic herring and Atlantic menhaden fisheries. The Commission and Mid-Atlantic Fishery Management Council also initiated the development of new plan amendments for summer flounder and black sea bass. While these are positive steps forward, there is still substantial work ahead to rebuild valuable Atlantic coastal fishery resources such as American shad, river herring, Southern New England American lobster, winter flounder, and weakfish.
















The Commission maintains its role as the 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 task of managing finite marine resources continues to grow more complex with the consideration of climate change, predator/prey interactions, habitat, and competing ocean uses, in addition to the more traditional considerations of stock maintenance, rebuilding, and the allocation of fisheries resources.

The following section provides a summary of the status of species managed by the Commission and highlights management activities that occurred throughout 2015. For this summary, **overfishing** occurs when fish are removed from a population at a rate that exceeds the threshold established in the FMP, which over the long-term will lead to declines in the population. A stock that is experiencing overfishing has fish removed at a rate faster than the population can sustain in the long run. Over the long-term, this will lead to declines in the population. An **overfished** determination occurs when stock biomass falls below the threshold established by the FMP, significantly reducing the stock's reproductive capacity to replace fish removed through harvest. The term **depleted** reflects low levels of abundance though it is unclear whether fishing mortality is the primary cause for reduced stock size. **Recovering/rebuilding** occurs when stocks exhibit stable or increasing trends, and stock biomass is between the threshold and the target level established by the FMP. A **rebuilt/sustainable** stock is one whose biomass is equal to or above the biomass level established by the FMP to ensure population sustainability. When between benchmark assessments a stock can still be considered rebuilt/sustainable if it drops below the target but remains above the threshold. **Concern** is when a stock develops emerging issues, e.g., increased effort, declining landings, or impacts due to environmental conditions. **Unknown** stock status occurs when there is no accepted stock assessment to estimate the stock condition.












Some other terms used throughout this report are benchmark stock assessment, peer-reviewed stock assessment, and stock assessment update. A **benchmark stock assessment** is a full analysis and review of the stock condition, focusing on the consideration of new data sources and newer or improved assessment models. This assessment is generally conducted every three to five years and undergoes a formal peer review by a panel of independent fisheries scientists who evaluate whether the data and methods used to produce the assessment are scientifically sound and appropriate for management use (**peer-reviewed stock assessment**). A **stock assessment update** incorporates data from the most recent years into the peer-reviewed assessment model to determine current stock status (abundance and overfishing level).



# Quick Guide to Stock Status

STATUS/TRENDS	SPECIES		OVERFISHED	OVERFISHING	REBUILDING STATUS & SCHEDULE
↓		American Eel	Depleted	Unknown	Harvest restrictions adopted for glass, yellow, and silver eel fisheries in response to 2012 benchmark assessment
✓		Gulf of Maine (GOM)/ Georges Bank (GBK)	Not Depleted	N	GOM and GBK stocks rebuilt
↓		Southern New England (SNE)	Depleted	N	Board approved 10% reduction in exploitation on SNE stock in 2012 as 1 <sup>st</sup> phase in rebuilding program, as well as trap reductions in Areas 2 & 3. Board considering additional restrictions for SNE in response to 2015 benchmark assessment.
↓		American Shad	Depleted	Unknown	Amendment 3 establishes 2013 moratorium unless sustainability can be documented
?		Atlantic Croaker	Unknown	N	Overfished status unknown; however, biomass has been increasing & age structure has been expanding since late 1980s; benchmark assessment scheduled for 2016
✓		Atlantic Herring	N	N	Rebuilt; 2015 stock assessment update indicated SSB is above the target and F is below the threshold
✓		Atlantic Menhaden	N	N	Board set a TAC for the 2015 and 2016 fishing seasons at 187,880 mt per year, a 10% increase from the 2014 TAC
*		Atlantic Striped Bass	N	N	Rebuilt since 1995, although female SSB has continued to decline since 2004; Board adopted harvest reductions for implementation in 2015 in response to 2013 benchmark assessment
?		Atlantic Sturgeon	Y	N	40+ year moratorium; to be rebuilt by ~2038; listed in 2012 under the ESA; benchmark assessment scheduled for 2017
✓		Black Drum	N	N	FMP approved in 2013; status based on 2015 benchmark assessment which found 2012 median biomass well above median biomass that produces MSY
*		Black Sea Bass	N	N	Benchmark assessment scheduled for 2016; may change stock status
✓		Bluefish	N	N	Biomass above threshold but below target
*		Coastal Sharks	Varies by species and species complex		
*		Horseshoe Crab	Unknown	Unknown	2013 assessment update found New England & NY stocks to have declined, while DE Bay & Southeast stocks have increased over time series; since 2013, ARM Framework has been used to set harvest levels for horseshoe crabs of DE Bay origin
?		Jonah Crab	Unknown	Unknown	No range-wide assessment; Interstate FMP adopted in August 2015
↓		Northern Shrimp	Depleted	N	Abundance & biomass indices lowest on record; recruitment indices also very low; fishery moratorium in place for 2014-2016 fishing seasons to protect remaining spawning population

✓ = Rebuilt /Sustainable    ⇔ = Recovering/Rebuilding    ↓ = Depleted    ? = Unknown    \* = Concern

STATUS/TRENDS	SPECIES		OVERFISHED	OVERFISHING	REBUILDING STATUS & SCHEDULE
↔	Red Drum 	Northern Region	Unknown	N	SPR above target and threshold SPRs; benchmark assessment scheduled for completion in 2016
		Southern Region	Unknown	N	SPR above threshold SPR; benchmark assessment scheduled for completion in 2016
↓		River Herring	Depleted	Unknown	Depleted on coastwide basis; Amendment 2 established 2012 moratorium unless river-specific sustainability can be documented
✓		Scup	N	N	Rebuilt
✓		Spanish Mackerel	N	N	Rebuilt
✓		Spiny Dogfish	N	N	Rebuilt
?		Spot	Unknown	Unknown	Traffic light approach adopted to assess stock trends & initiate management response if necessary; benchmark assessment scheduled for 2016
?		Spotted Seatrout	Unknown	Unknown	Omnibus Amendment includes measures to protect spawning stock & establishes 12" minimum size limit
★		Summer Flounder	N	Y	2015 assessment update indicates biomass trending downward since 2010; 2014 F is 16% above threshold
★		Tautog	Y	Varies by region	Overfished on coastwide basis; 2015 benchmark assessment presented stock status based on 3 regions; Board has initiated amendment to address regional stock units and reference points
↓		Weakfish	Depleted	N	6-year rebuilding period if spawning stock biomass < threshold level; Board approved further harvest restrictions in 2009; benchmark assessment scheduled for 2016
★	Winter Flounder 	Gulf of Maine	Unknown	N	Stock biomass is unknown; assessment not accepted due to concerns with large retrospective pattern; unknown why stock is not responding to low catches and low exploitation rates
↓		South New England/ Mid-Atlantic	Y	N	Current biomass at 23% of SSB target; recruitment continues to decline

✓ = Rebuilt /Sustainable   ↔ = Recovering/Rebuilding   ↓ = Depleted   ? = Unknown   ★ = Concern

# Species Highlights

## American Eel

2015 marks the first year of the implementation of Addendum IV to the American Eel FMP. Addendum IV establishes a 907,671 pound coastwide quota for yellow eel commercial fisheries, sets Maine's glass eel quota at 9,688 pounds, and allows for the continuation of New York's silver eel weir fishery in the Delaware River. In concert with Addendum III, Addendum IV seeks to reduce mortality and increase conservation of American eel stocks across all life stages.

For yellow eel commercial fisheries, the coastwide quota was implemented in the 2015 fishing year, but will not initially include state-specific allocations. Instead, Addendum IV establishes two management triggers: (1) exceeding the coastwide quota by more than 10% in a given year, or (2) exceeding the coastwide quota for two consecutive years, regardless of the overage amount. If either trigger is met, then states would implement state-specific allocation. The Commission prepared for the potential implementation of state-

specific allocation through the approval of state implementation plans in 2015. A major theme of those plans was improved catch monitoring in order to timely track harvest relative to an imposed quota (if triggered).

For the glass eel fishery, Maine vastly improved its catch monitoring program through the implementation of a dealer and harvester swipe card system. The swipe card program serves two purposes: (1) it is an effective fish management tool used to track individual fishing quotas, and (2) it is used as a daily quota monitoring tool. The results of the swipe card system were significant, reducing the number of fishery related infractions reported by the Maine Marine Patrol from 200 in 2013 to under 20 in 2014 and 2015. Maine will continue to use the swipe card program and require a pound-for-pound payback in the event of quota overages in its glass



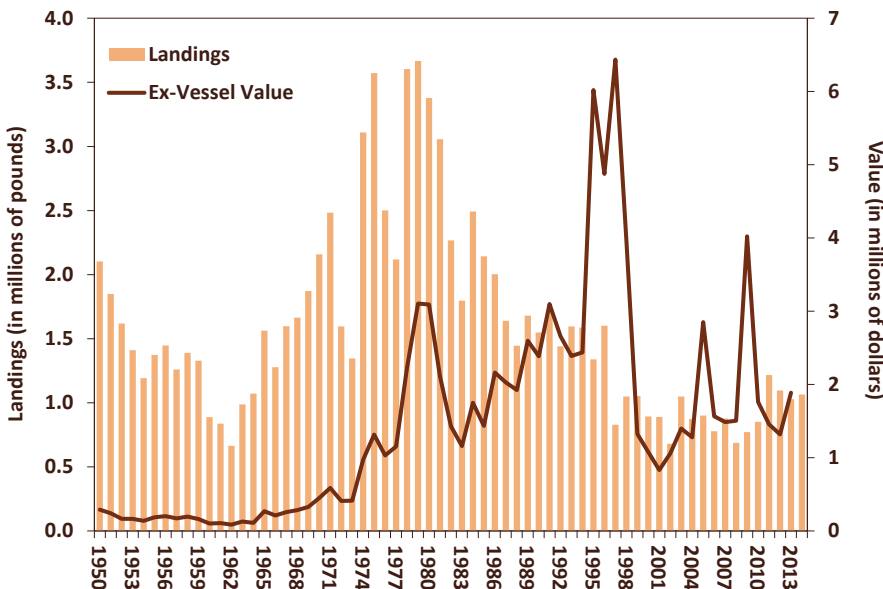
eel fishery. Additionally, the state plans to implement a Technical Committee and Board approved fishery-independent life cycle survey covering glass, yellow, and silver eels within the Cobboosecontee River system. The Addendum requires implementation of daily reporting and a life cycle survey for any jurisdiction with a commercial glass eel fishery harvesting more than 750 pounds.

From the 1970s to the mid-1980s, American eel supported significant commercial fisheries, with landings ranging from 2.5 -3.6 million pounds. Landings dropped to 1.6 million pounds in 1987 and have remained at low levels since then, ranging from 1.5 million to 700,000 pounds. State reported landings of yellow and silver eels in 2014 totaled just over one million pounds, 4% higher than 2013. Since 2010, increased demand for glass eels by foreign markets has led to a dramatic increase in the value of glass eels and record high prices of \$2,000 per pound. In 2014, glass eel harvest from Maine and South Carolina totaled 12,515 pounds, a decrease from 2013 due to the new quota in Maine. In 2014, total eel landings (glass, yellow, and silver eel combined) were valued at approximately \$9.8 million.

In 2011, USFWS initiated a status review of American eel under the Endangered Species Act (ESA) to assess the health of the population and the magnitude of threats facing the species. On October 7, 2015,

**American Eel Total Commercial Landings and Value**

Source: ASMFC 2012 American Eel Benchmark Stock Assessment Report (2012), ASMFC State Compliance Reports, and NMFS Fisheries Statistics Division, 2015



Timeline of Management Actions: FMP ('99); Addendum I ('06); Addendum II ('08), Addendum III ('13); Addendum IV (2014)

USFWS announced American eel is stable and does not need protection under the ESA. Nonetheless, for the species' long-term stability, the agency recommended continuing efforts to maintain healthy habitats, monitor harvest levels, and improve river passage for migrating eels. In 2014, the International Union for the Conservation of Nature (IUCN) listed American eel as "Endangered" on the Red List. The IUCN assesses flora and fauna globally to determine their conservation status. While the IUCN list has no legal implications, it is an important metric that accounts for a variety of factors including habitat, threats, potential stresses, and research status. Given these findings and recent actions taken by the Commission and its member states, the Commission remains committed to closely monitoring American eel fisheries and the status of the resource, and making adjustments to the management program as necessary to ensure stock rebuilding.

## American Lobster

With roughly 148 million pounds of lobster landed in 2014 at an estimated value of \$567 million, American lobster continues to be one of the most valuable species harvested throughout New England. While the fishery has experienced significant growth over the past 40 years, the results of the 2015 benchmark stock assessment showed a mixed picture of stock status. In the Gulf of Maine/Georges Bank (GOM/GBK), the stock is experiencing record high abundance and recruitment. In contrast, the Southern New England (SNE) stock is at record low abundance and is experiencing recruitment failure. The stock assessment found while the GOM/GBK stock is not overfished and not experiencing overfishing, the SNE stock is severely depleted with poor prospects of recovery. Declines in the SNE

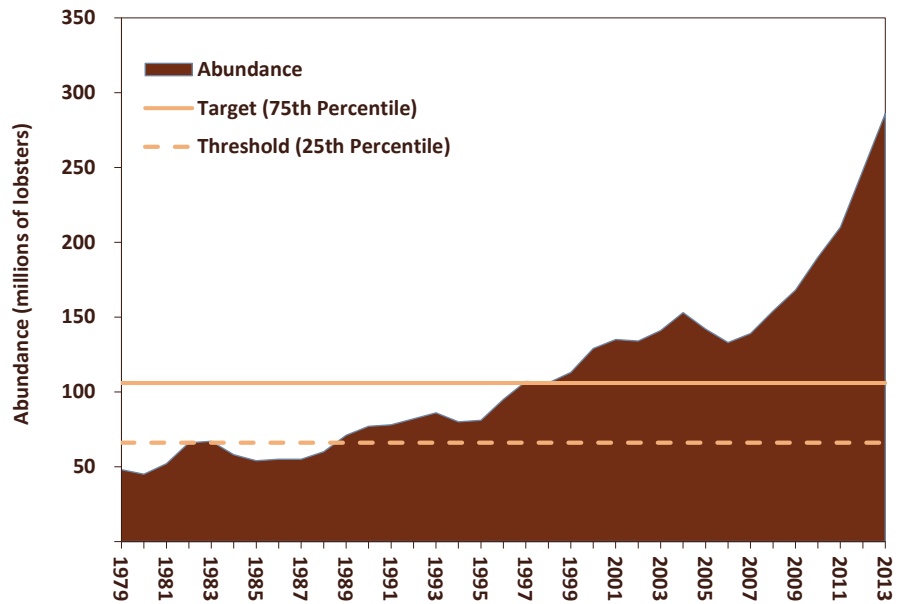
population abundance are most pronounced in the inshore portion where environmental conditions have remained unfavorable to lobster since the late 1990s. The Peer Review Panel recommended close monitoring of the SNE stock along with implementing measures to protect the remaining lobster resource. Approval of the stock assessment combined the GOM and

GBK stocks into a single biological unit given extensive data that lobsters migrate between the two areas.

In response to the stock assessment findings, the American Lobster Management Board is evaluating potential management measures to respond to the poor condition of the SNE stock. As a first step, the Board convened a SNE

### American Lobster Gulf of Maine/Georges Bank Abundance

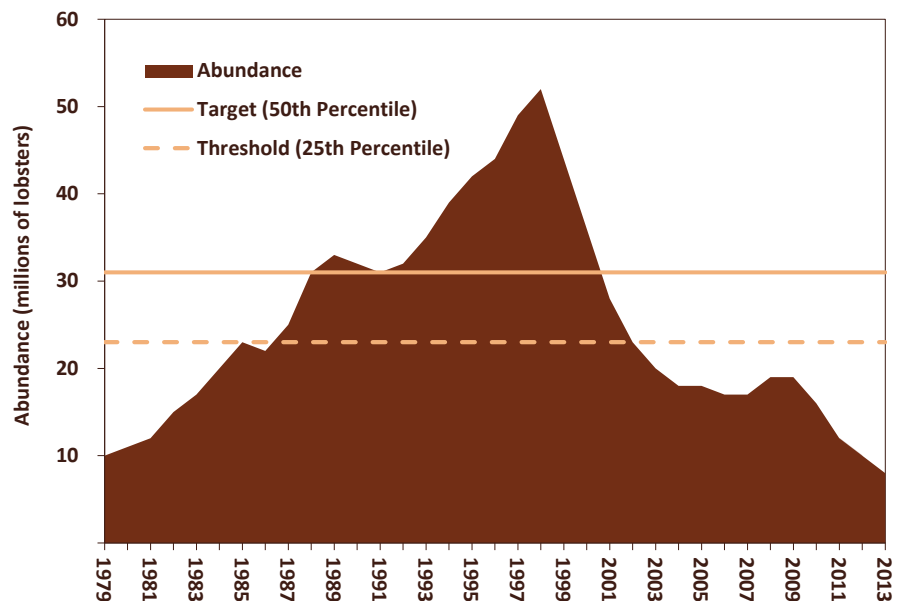
Source: ASMFC American Lobster Benchmark Stock Assessment Report, 2015



Timeline of Management Actions: Amendment 3 ('97); Addendum I ('99); Addendum II ('01); Addendum III ('02); Addenda IV & V ('04); Addenda VI & VII ('05); Addenda X & XI ('07); Addendum XIII ('08); Addendum XIV ('09); Addendum XV ('09); Addendum XVI ('10); Addendum XVII ('11); Addendum XVIII ('12); Addenda XIX - XXII ('13); Addendum XXIII ('14); Addendum XXIV ('15)

### American Lobster Southern New England Abundance

Source: ASMFC American Lobster Benchmark Stock Assessment Report, 2015





Working Group, comprised of a subset of industry representatives, Technical Committee members, Commissioners, and federal representatives. The Working Group discussed a suite of management objectives for the stock ranging from stabilizing the stock through reductions in fishing mortality to preserving fishery infrastructure at the expense of stock rebuilding. Preliminary projections of the SNE stock presented to the Working Group showed large reductions in fishing mortality would be needed to stabilize the stock. Furthermore, these projections suggested that, under current conditions, it may not be possible to rebuild the stock to its current reference point.

In November 2015, the Board reviewed the objectives of the Working Group and charged the Technical Committee with completing several tasks, including a review of preliminary stock projections and a recalculation of reference points. The goal of these tasks is to gain more information on the SNE stock and management options moving forward.

In 2015, the Board also approved Addendum XXIV, which aligns

state and federal measures for trap transfer programs in Lobster Conservation Management Areas 2, 3, and Outer Cape Cod. The Addendum removes the 10% conservation tax on full business transfers and specifies that traps shall be transferred in 10 trap increments in all areas that currently have a trap transferability program, unless otherwise specified. Addendum XXIV also allows dual permit holders to transfer allocation with dual permit holders from other states. If a dual permit holder chooses to purchase a federal trap allocation from a dual permit holder from another state, only the federal allocation will transfer.

### Atlantic Croaker

Atlantic croaker are a popular bottom-dwelling species, which gets its name from the croaking noises it makes during mating rituals. The species is most abundant from the Chesapeake Bay to northern Florida and is sought by recreational anglers and commercial fishermen. An estimated 10.1 million pounds of croaker were landed in 2014, with approximately 70% landed by the commercial sector and 30% harvested by recreational anglers.

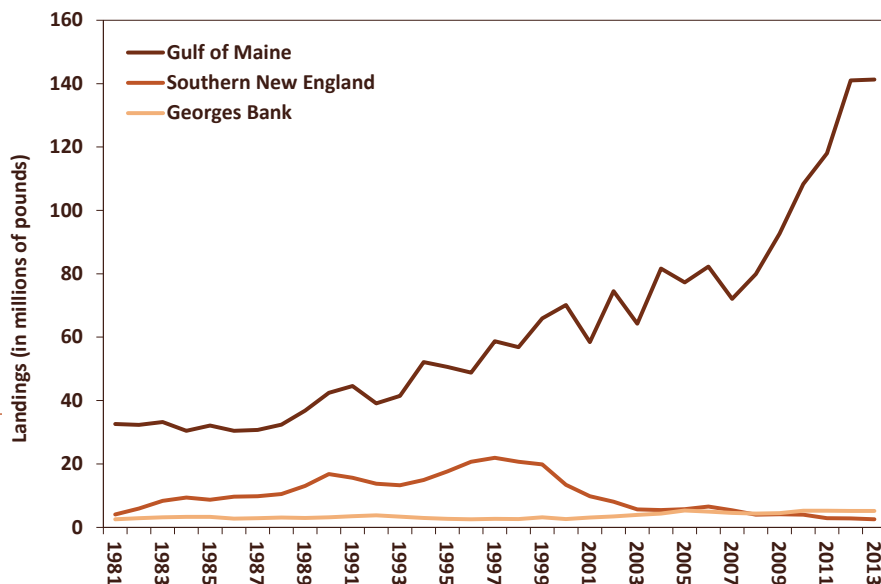


The majority of these landings occurred in the Mid-Atlantic region.

In 2015, the South Atlantic State/Federal Fisheries Management Board reviewed the Traffic Light Analysis (TLA) for Atlantic croaker. The TLA evaluates fishery trends and develops state-specific management actions (e.g. bag limits, size restrictions, time & area closures, and gear restrictions) when harvest and abundance thresholds are exceeded for three consecutive years. The name comes from assigning a color (red, yellow, or green) to categorize relative levels of indicators which reflect the condition of the fish population (abundance metric) or fishery (harvest metric). For example, as harvest or abundance increase relative to their long-term mean, the proportion of green in a given year increases and as harvest or abundance decrease, the amount of red in that year becomes more

American Lobster Landings by Area

Source: ASMFC American Lobster Benchmark Stock Assessment Report, 2015



predominant. The TLA improves the management approach as it illustrates long-term trends in the stock and includes specific management recommendations in response to declines in the stock or fishery.

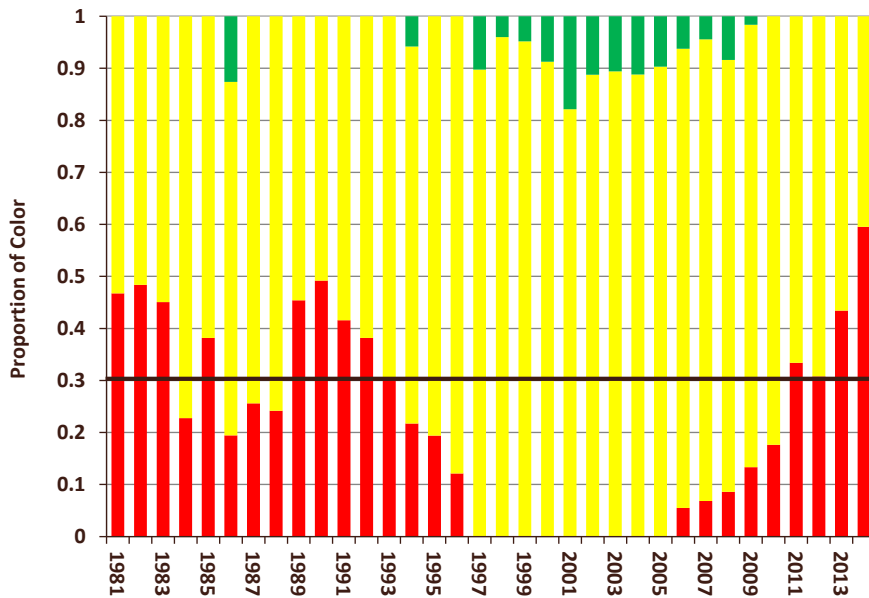
The TLA showed a significant decrease in Atlantic croaker harvest in both the commercial

and recreational sectors. Data from fishery-independent surveys also showed a slight decrease in the abundance of Atlantic croaker. Management measures were not triggered in 2014 since the abundance index did not exceed the management threshold; however, the TLA does show a declining trend in the fishery which warrants monitoring in the future.

In 2015, the South Atlantic Board also initiated a benchmark stock assessment for Atlantic croaker. The previous stock assessment was completed in 2010 and found Atlantic croaker was not experiencing overfishing. Although model estimates of spawning stock biomass (SSB) were too uncertain to be used to determine an overfished stock status, biomass was increasing and the age structure of the population was expanding. The new assessment hopes to address a major source of uncertainty in previous assessments – the magnitude of croaker bycatch in the South Atlantic shrimp trawls. A data workshop was held in September 2015, and the stock assessment and peer review are scheduled for completion in late 2016.

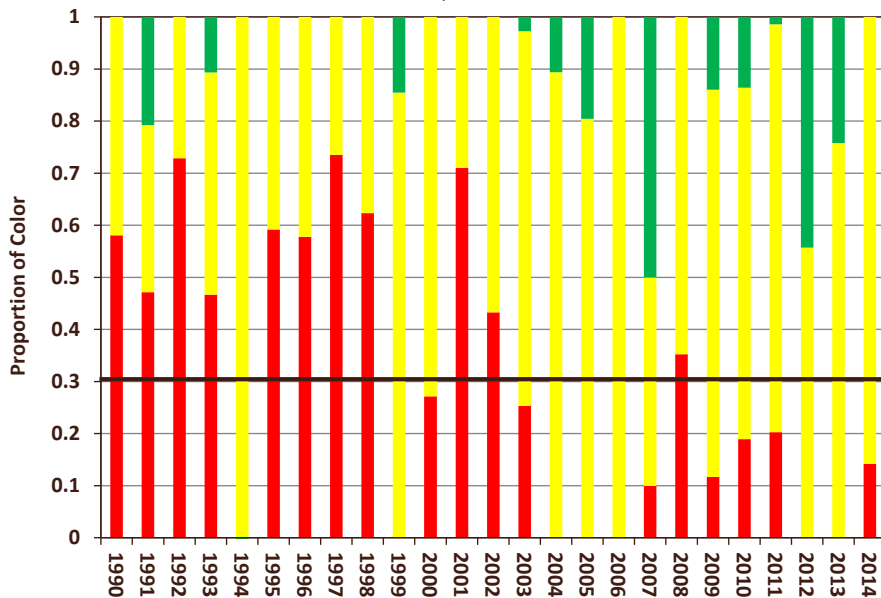
**Traffic Light Analysis of Atlantic Croaker (Harvest Metric)**

Solid line represents 30% threshold



**Traffic Light Analysis of Atlantic Croaker (Abundance Metric)**

Solid line represents 30% threshold



Management response is triggered when proportion of red exceeds the 30% threshold level for three consecutive years in both fishery characteristics (harvest and abundance metrics).

Timeline of Management Actions: FMP ('87); Amendment 1 ('05); Addendum I ('11); Addendum II ('14)

## Atlantic Herring

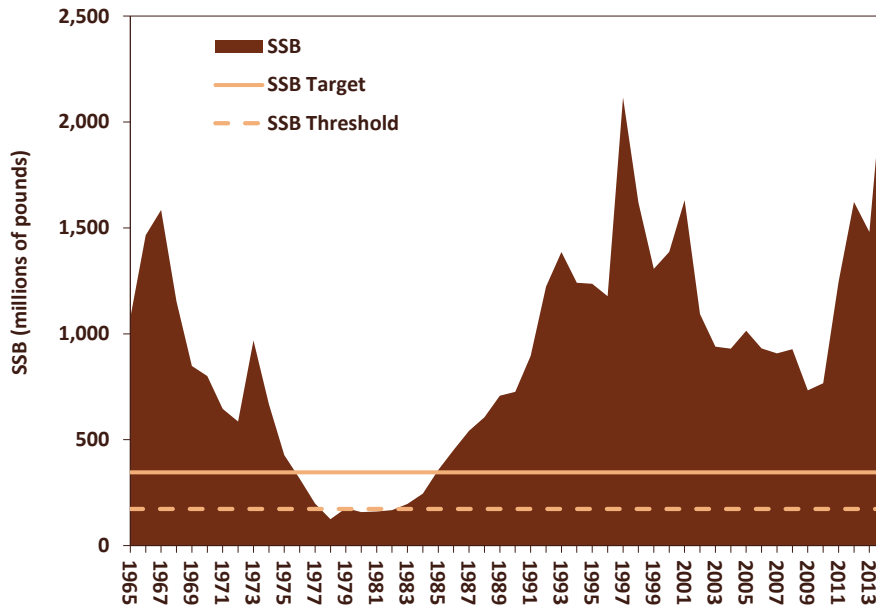
The Atlantic herring fishery is managed cooperatively by the Commission through its Atlantic Herring Section and the New England Fishery Management Council (NEFMC). Commission management extends from the shore out to 3 miles, while NEFMC oversees management in federal waters (3-200 miles from shore).

Commercially, Atlantic herring are used as both bait and food. Currently, the herring fishery is thriving, with total domestic harvest (203 million pounds) valued at \$28.8 million in 2014. These values are the third highest since the 1950s. As a baitfish, herring supports the American lobster fishery and tuna fishery. The majority of landings are taken from GOM, but fisheries also occur in GBK and areas south and west of Cape Cod.

The 2015 stock assessment indicates Atlantic herring are not overfished and overfishing is not occurring. Spawning stock biomass in 2014 is estimated at 1.3 billion pounds, well above the spawning stock biomass

### Atlantic Herring Spawning Stock Biomass (SSB)

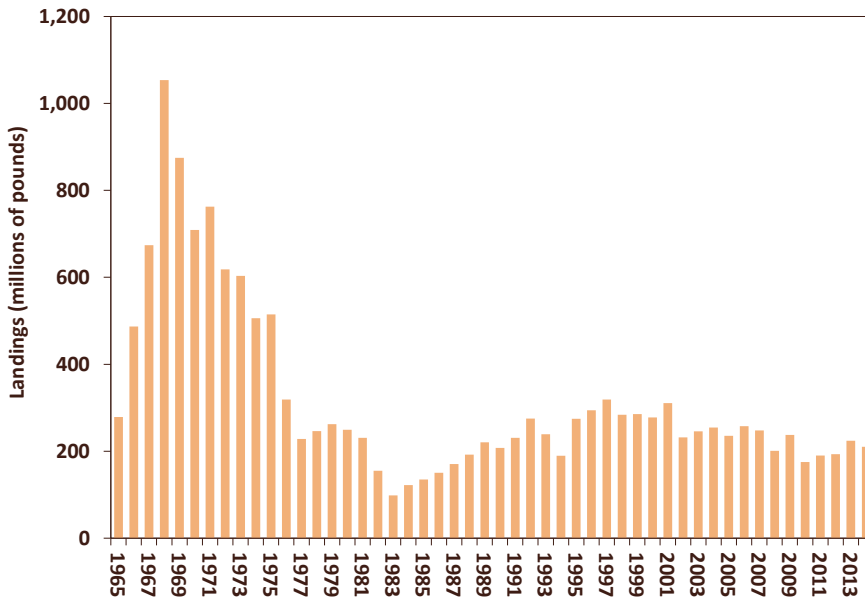
Source: Northeast Regional Stock Assessment Update, 2015



Timeline of Management Actions: FMP ('93); Amendment 1 ('99); Amendment 2 ('06); Addendum I ('09); Addendum II ('10); Addendum V; ('12); Addendum VI ('13)

### Atlantic Herring Commercial Landings

Source: ACCSP Data Warehouse, 2015



(SSB) threshold and target of 343 million pounds and 686 million pounds, respectively. Current fishing mortality is estimated at 0.16, below the fishing mortality threshold of 0.24.

Although the Atlantic herring stock complex is assessed as a whole, catch limits are allocated among four management areas based on estimates of stock composition and relative biomass. The Section set the 2016-2018 annual catch limit (ACL) at

231 million pounds per year. The ACL was further subdivided by Atlantic herring management areas as follows: Area 1A (inshore GOM) = 66.79 million pounds, Area 1B = 9.9 million pounds, Area 2 = 64.1 million pounds, and Area 3 = 90.16 million pounds. For the 2016 fishing season, as in previous years, Area 1A's sub-ACL will be distributed seasonally with 72.8% available from June 1-September 30 (Trimester 2) and 27.2% available from October 1-December 31

(Trimester 3). Directed fisheries within a management area will close when 92% of the sub-ACL has been harvested, and the stock-wide fishery will close when 95% of the ACL is projected to be reached.

During the 2015 fishing year, Maine, New Hampshire, and Massachusetts continued to modify days-out of the Area 1A fishery during the season, setting seven landing days for Trimester 2 (June 1 – September 30), which was subsequently lowered to zero landing days in mid-August due to an accelerated rate of landings. Landing days were increased to three days at the start of Trimester 3 (October 1 – December 31). On November 2, 2015, the Area 1A fishery was closed, having reached 92% of the management area's ACL.

Throughout 2015, the Atlantic Herring Section worked on the development of Draft Amendment 3 to the Atlantic Herring FMP. The Draft Amendment proposes changes to the spawning regulations and the fixed gear set-aside rollover provision, and considers a requirement for vessel holds to be empty of fish prior to departing on a trip. Based on over a decade of sampling data and literature review, the Draft Amendment proposes adjusting the method that informs the closure of spawning areas. The proposed method would forecast the expected onset of spawning and give advance notice when a spawning closure is likely to occur, allowing industry to plan their activities accordingly. The Draft Amendment was released for public comment in early December, with state hearings scheduled for early January 2016. The Section will consider final action on the amendment in early 2016.

### Atlantic Menhaden

In 2015, the Atlantic Menhaden Management Board approved a total allowable catch (TAC) for

the 2015 and 2016 fishing seasons at 187,880 metric tons (mt) per year, a 10% increase from the 2014 TAC. The increase responds to the positive findings of the 2015 Atlantic menhaden benchmark assessment, which indicates the resource is not overfished nor experiencing overfishing relative to the biological reference points that were used in the 2015 stock assessment and accepted for management use. Population fecundity, a measure of reproductive capacity, is estimated to be 10% below the revised target value (189 trillion eggs) and fishing mortality is estimated to be 0.22, below both the revised fishing mortality threshold (1.26) and target (0.38). The 2015 stock assessment results were markedly different from those of the 2012 assessment due to improvements in both the datasets used and modeling approaches that split the resource by fishery and area.

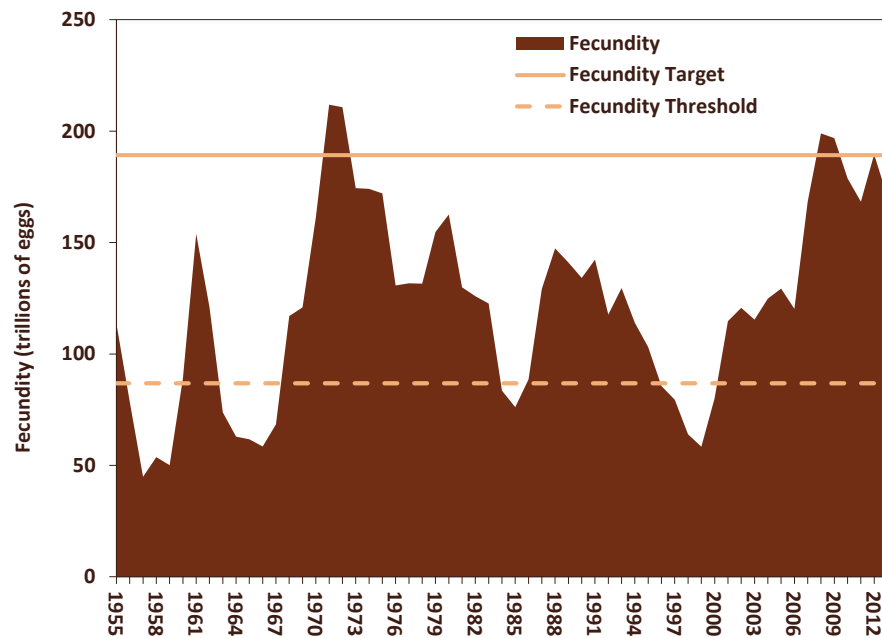
The preliminary estimate of 2014 coastwide harvest, which includes the reduction and bait fisheries, and episodic event set asides is 168,607 mt, representing a 1.3% underage from the coastwide TAC of 170,800 mt. Additional bycatch landings of 3,101 mt accounted for approximately 1.8% of the coastwide harvest, but do not count towards the TAC. These bycatch landings were harvested under the 6,000 pound bycatch allowance. Combining total landings (including bycatch) is estimated at 171,709 mt.

In 2015, the Board committed to moving forward with the development of Amendment 3 to the Atlantic Menhaden FMP. Amendment 3 will consider both ecosystem reference points (ERPs) and allocation. Throughout 2015, the Board made progress on both topics through the establishment of two working groups. The first group was tasked with developing a complete list of potential allocation options for the menhaden fishery,



### Atlantic Menhaden Fecundity

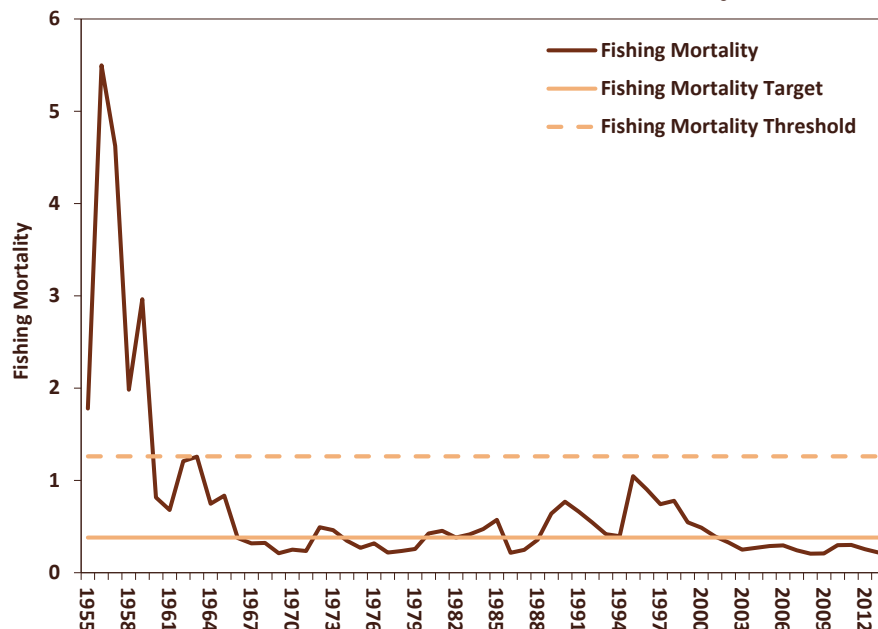
Source: SEDAR Atlantic Menhaden Stock Assessment, 2015



Timeline of Management Actions: FMP ('81); FMP revision ('91); Amendment 1 ('01); Addendum I ('04); Addendum II ('05); Addendum III ('06); Addendum IV ('09); Addendum V ('11); Amendment 2 ('12); Addendum I ('13)

### Atlantic Menhaden Fishing Mortality (Ages 2-4)

Source: SEDAR Atlantic Menhaden Stock Assessment, 2015





while the second group identified potential ecosystem goals and objectives that will be used to advance ERP development by the Biological Ecological Reference Point Working Group. The next step of the amendment process will be development of a public information document to scope both allocation options and available ERPs in late 2016/early 2017, followed by a Draft Amendment document in mid-2017 for potential implementation of final measures in 2018.

The above timeframe will allow for the completion of a socioeconomic analysis to further characterize the Atlantic menhaden fishery. This analysis will provide much needed information on the importance of menhaden to its stakeholders to help inform allocation discussions. The analysis will be conducted throughout 2016, and will rely on stakeholder engagement to obtain socioeconomic data to conduct the analysis. The results are expected to assist fishery managers, industry, and stakeholders as they contemplate difficult allocation decisions through Amendment 3.

### Atlantic Striped Bass

In 2015, the states and jurisdictions involved in the management of Atlantic striped bass (i.e., Maine through North Carolina, including Pennsylvania, the District of Columbia and the Potomac River Fisheries Commission) implemented the

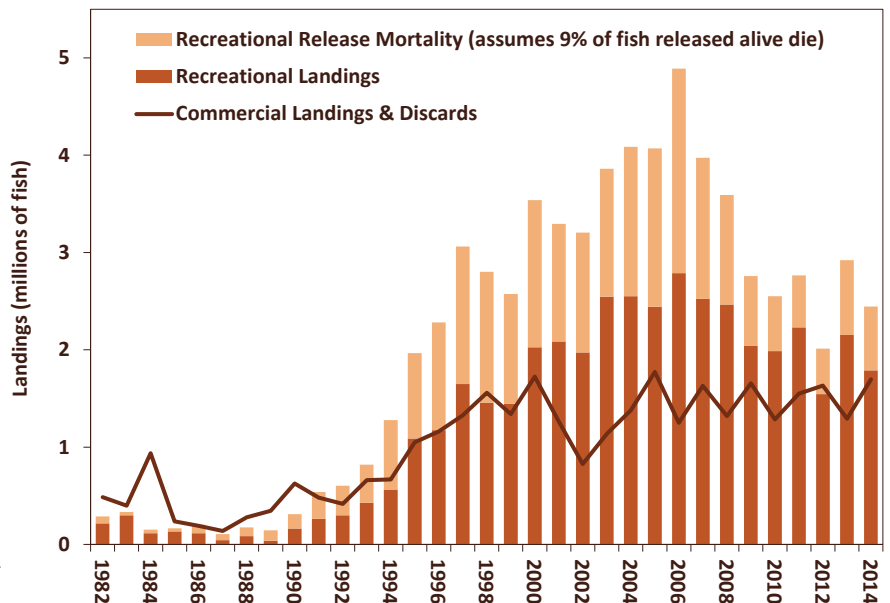
required harvest reductions of Addendum IV to Amendment 6 to the Atlantic Striped Bass FMP. Specifically, commercial state quotas were reduced by 25% from 2013 levels for coastal fisheries, and by 20.5% from 2012 levels for Chesapeake Bay commercial fisheries. To reduce recreational harvest, states implemented a one fish bag limit while keeping a 28" minimum size limit. Eight states and jurisdictions submitted conservation equivalency proposals (e.g., alternative measures that achieve the same reduction but are designed to meet the state's fishery needs) for at least one of their fisheries. These proposals were approved by both the Technical Committee and

Atlantic Striped Bass Management Board. The projected harvest estimate based on previous years' fishing indicates that the combined measures implemented by the states and jurisdictions should reduce the 2015 coastwide harvest by 25.6%. The 2016 stock assessment update is expected to provide more accurate information regarding the performance of Addendum IV regulatory changes.

Addendum IV responds to the 2013 benchmark assessment which indicated fishing mortality was above the new target (0.18) and female SSB has been steadily declining below the target of 158.8 million pounds since 2006. While the stock

Atlantic Striped Bass Commercial Landings and Discards and Recreational Landings and Release Mortality

Source: ASMFC Atlantic Striped Bass Stock Assessment Update, 2015



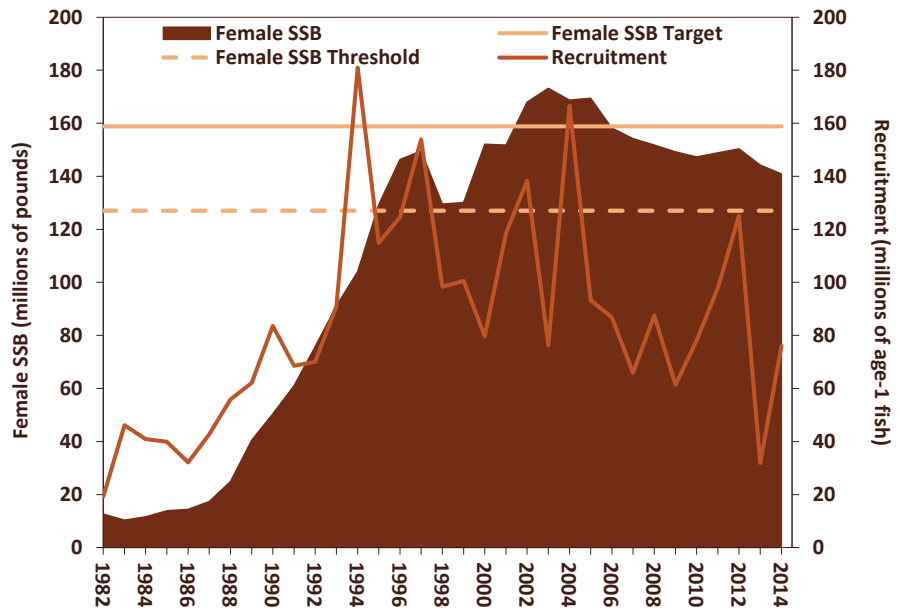
Timeline of Management Actions: Amendment 1 & 2 ('84); Amendment 3 ('85); Amendment 4 ('90); Amendment 5 ('95); Amendment 6 ('03); Addendum I ('07); Addendum II ('10); Addendum III ('12); Addendum IV ('14)

was not overfished and overfishing was not occurring, the Addendum established new fishing mortality reference points and required coastwide harvest reductions in order to reduce fishing mortality to a level at or below the new target. The 2015 stock assessment update results similarly indicated that the Atlantic striped bass stock was not overfished nor experiencing overfishing. Additionally, given the Albemarle Sound/Roanoke River (A/R) stock of striped bass contributes minimally to the coastwide complex when compared to the Chesapeake Bay, Delaware, and Hudson stocks, Addendum IV defers management of this stock to the State of North Carolina using stock-specific biological reference points. These stock-specific reference points, which have been approved by the Board, will result in a separate quota that is set to maintain fishing mortality for the A/R stock at its target level. The quota for the A/R stock in 2014 was 305,762 pounds.

From 2005 to 2014, total recreational harvest has ranged from a high of 31 million pounds (2.79 million fish) in 2006 to a low of 19.2 million pounds (1.55 million fish) in 2012, with an average of 26.2 million pounds. Landings from New York (29%), Massachusetts (19%), New Jersey (18%), and Maryland (12%) have comprised approximately 78% of annual recreational landings since 2005. Recreational harvest in 2014 is estimated at 24.1 million pounds. The number of fish released alive increased annually after the passage of Amendment 6 (2003) to a high of 23.3 million fish in 2006. Since then, the number of fish released alive has decreased by 77% to a low of 5.2 million fish in 2012. Reasons for the decline may be attributed to a reduction in stock size from the peak in 2003, a decreased availability of fish staying in nearshore areas, and changes in angler behavior in response to socioeconomic factors. The number of fish released alive

### Atlantic Striped Bass Female Spawning Stock Biomass (SSB) and Recruitment (Age-1)

Source: ASMFC Atlantic Striped Bass Stock Assessment Update, 2015



in the recreational sector for 2014 is estimated to be 7.3 million fish.

Total commercial harvest from 2005 to 2014 ranged between 5.8 and 7.2 million pounds (765,101 and 1.1 million fish, respectively), and averaged 6.7 million pounds. The Chesapeake Bay jurisdictions accounted for approximately 59% of total commercial harvest over the same time period, ranging between 3.3-4.4 million pounds and averaging 4.1 million pounds. Other primary contributors to coastwide commercial landings include Massachusetts (17%) and New York (11%). Commercial landings in 2014 were estimated at 5.9 million pounds.

Within the A/R management area, total harvest in 2014 was estimated at 121,956 pounds with 71,372 pounds coming from the Albemarle Sound commercial fishery, and 61,642 pounds from the A/R recreational fisheries.

### Atlantic Sturgeon

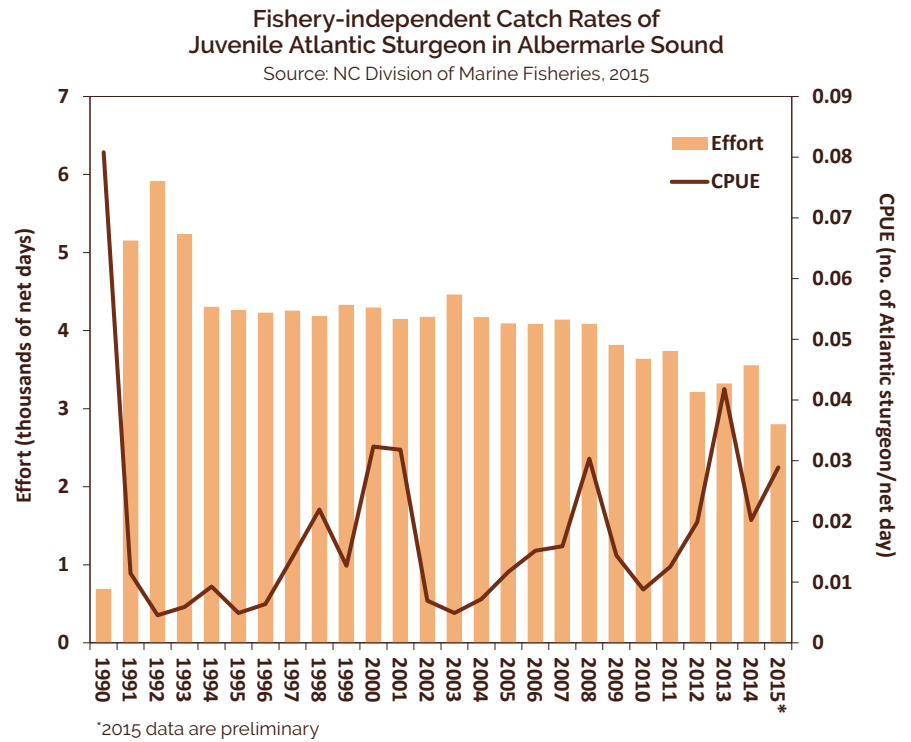
Atlantic sturgeon are one of the oldest fish species in the world, dating back to the Cretaceous period over 120 million years ago, and can

be found along the entire Atlantic coast from Florida to Labrador, Canada. Atlantic sturgeon may live up to 70 years and utilize a wide range of habitats throughout their lifetime. They are an anadromous species that undergo extensive coastal migrations which take them from the ocean into coastal estuaries and rivers to spawn every two to five years. Females typically reach sexual maturity between the ages of seven to 30, and males between the ages of five to 24. These life history characteristics, coupled with excessive overfishing from the late 1800s to the mid-1900s and impediments to fish passage, have challenged species' rebuilding efforts. The Commission implemented a 40-year coastwide moratorium on harvest in 1998 to protect and rebuild this ancient species. Additionally, states have invested considerable resources to increase understanding of sturgeon biology and life history through research and fishery-independent surveys.

Very little is known about Atlantic sturgeon's stock status. Reliable data are difficult to obtain because many river systems have few fish, and rivers

with more fish are often not easily sampled. The last benchmark stock assessment, conducted in 1998, found the resource to be overfished coastwide. Several states have been conducting long-term monitoring of Atlantic sturgeon. Data from two of these efforts are provided in the accompanying graphs, which depict catch and effort data for fishery-independent surveys conducted by North Carolina and New Jersey. North Carolina has surveyed for juvenile Atlantic sturgeon in the Albemarle Sound since 1990. Although catch rates have fluctuated considerably over the time series, catch per unit effort (CPUE) in 2013 was the highest observed value since 1990. New Jersey has conducted trawl surveys in their coastal waters since 1989. Although Atlantic sturgeon catch has been below average in recent years, the survey has seen a steady increase over the years following the 1998 coastwide moratorium. Additionally, catch in 2015 looks promising for Atlantic sturgeon considering the data is preliminary and catch is already the third highest on record.

NOAA Fisheries investigated the status of Atlantic sturgeon with regard to its listing under the ESA three times since the Commission's implementation of Amendment 1 in 1998. The 1998 and 2005 reviews



concluded listing was not warranted. In 2012, NOAA Fisheries published a final rule declaring the Gulf of Maine distinct population segment (DPS) as threatened and the remaining four DPSs (New York Bight, Chesapeake Bay, Carolina and South Atlantic) as endangered (effective April 2012). The status review determined the most significant threats to all of the DPSs are bycatch mortality, poor water quality, lack of adequate state and federal regulatory mechanisms, and dredging activities. Additional stressors include habitat

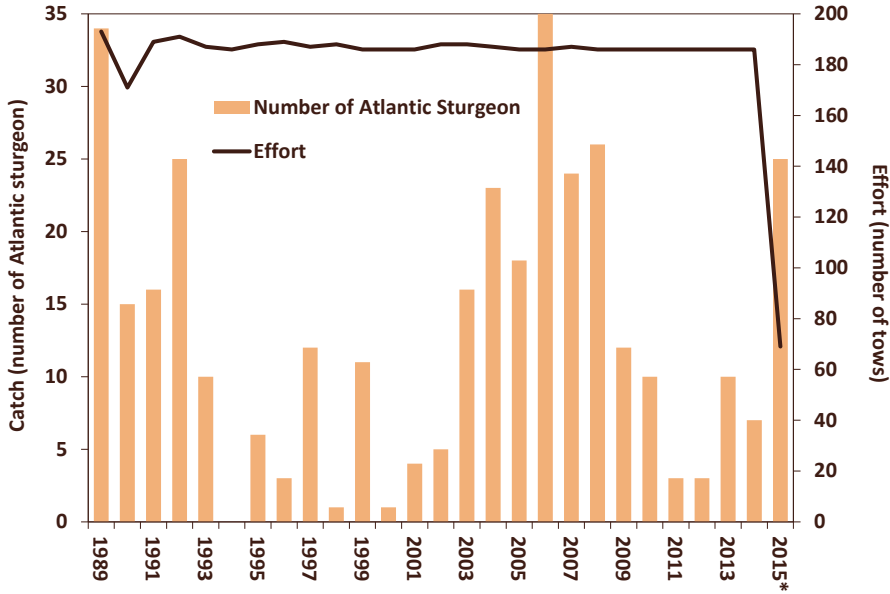
impediments and ship strikes. In 2013, NOAA Fisheries published an Interim Final Rule for the threatened Gulf of Maine DPS which essentially provides the same protection as an endangered listing.

In response to the ESA listing, the Atlantic Sturgeon Management Board initiated the development of a coastwide benchmark stock assessment for Atlantic sturgeon to evaluate stock status, stock delineation, and bycatch. In order to allow for the most comprehensive



### Effort and Number of Atlantic Sturgeon Caught in New Jersey's Coastal Waters

Source: NJ Division of Fish and Wildlife Ocean Trawl Survey, 2015



\*2015 data are preliminary

Timeline of Management Actions: FMP ('90); Amendment 1 ('98); Addendum I ('01); Addendum II ('05); Addendum III ('06)

( $B_{MSY}$ : 47.26 million pounds). Given the assessment findings, the Board choose to not make any additional changes to the management program at this time.

The Black Drum FMP was adopted in 2013 to address a number of concerns, including increased harvest on juvenile fish and a lack of consistent coastwide regulations for the stock. In 2014, all the states within the management unit (New Jersey to Florida) implemented a minimum size limit of at least 12" and a maximum possession limit which varies by state. The FMP requires all states to further increase the minimum size limit to at least 14" by January 1, 2016.

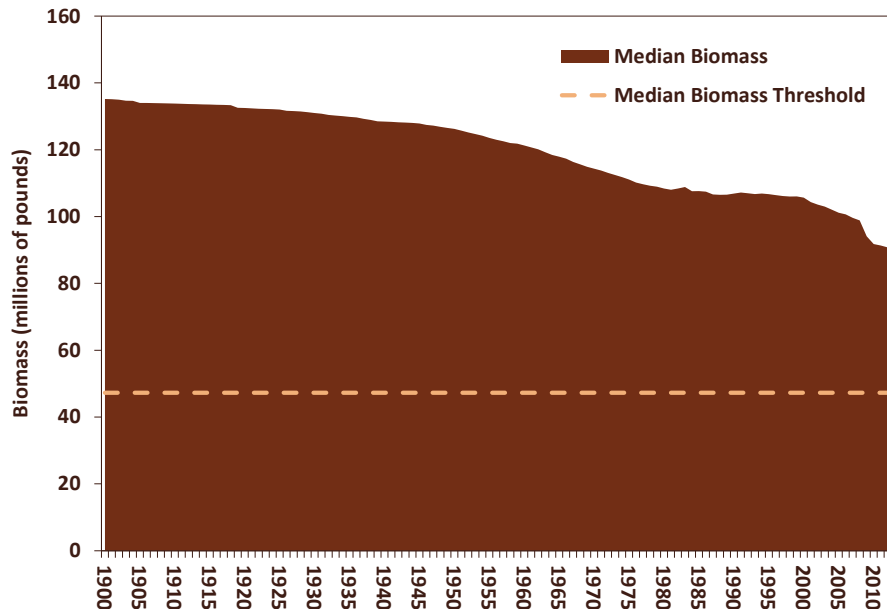
The black drum fishery is predominantly recreational, with anglers landing about three times the fish (by weight) than the commercial fishery. From 2000-2008, recreational harvest trended upward with harvest peaking at 5.4 million pounds in 2008. Harvest has been on the decline since then with an estimated 1.15 million pounds harvested in 2014. Florida and South Carolina fisheries comprised the majority of recreational harvest in 2014.

assessment, the Board set a 2017 completion date so the most recent data from studies currently underway can be incorporated. For example, several assessment approaches at the DPS or stock-level would become possible from the analysis of genetic samples currently underway at the U.S. Geological Survey's Leetown Science Center in West Virginia. In May 2015, the Stock Assessment Subcommittee (SAS) identified each task of the assessment from data needs to modeling approaches, and the time it will take to complete each task to ensure the benchmark assessment is completed on schedule. Currently, the Bycatch and Tagging Working Groups are developing methodologies for their respective parts of the assessment, while each state actively updates its data through the terminal year of the assessment.

first coastwide assessment of this species, determined black drum are not overfished and not experiencing overfishing. Median biomass was estimated to have declined slowly and steadily from 135.2 million pounds in 1900 to 90.78 million pounds in 2012; however, the median biomass estimate in 2012 is still well above the median biomass that produces maximum sustainable yield

### Black Drum Biomass

Source: ASMFC Black Drum Benchmark Stock Assessment, 2015



Timeline of Management Actions: FMP ('13)

## Black Drum

In 2015, the South Atlantic Board approved the Black Drum Benchmark Stock Assessment and Peer Review Report for management use. The assessment, which is the



Historically, commercial landings averaged approximately 368,000 pounds in the 1950s and 1960s and then declined to an average of approximately 211,000 pounds in the 1970s and 1980s. The commercial fishery landed about 262,000 pounds in 2014. Since 2000, the majority of commercial landings have occurred in Virginia, North Carolina, and Florida, while a smaller portion is landed in New Jersey, Maryland, and Delaware.

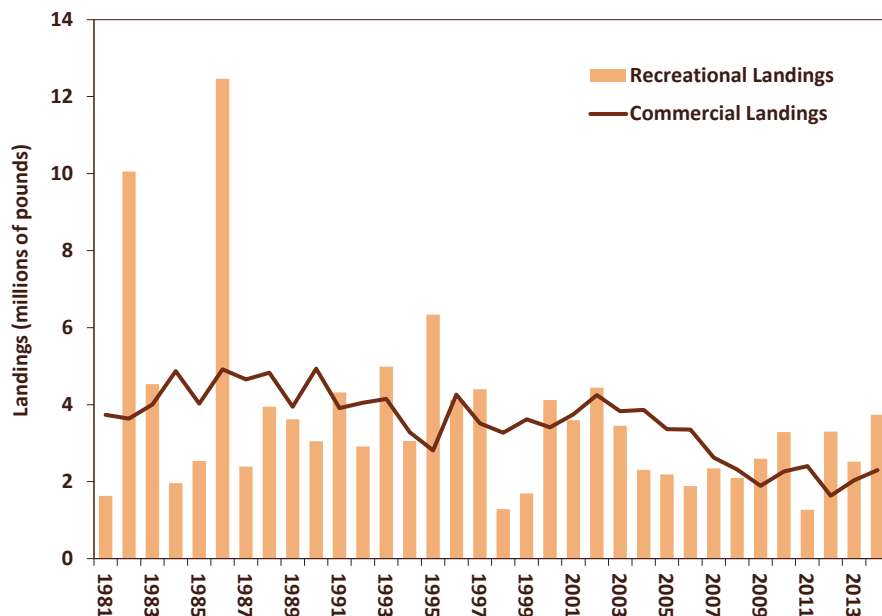
## Black Sea Bass

For nearly two decades, the Commission and the Mid-Atlantic Fishery Management Council (MAFMC) have jointly managed the black sea bass stock north of Cape Hatteras, NC. The latest stock assessment update, completed in 2012, indicates black sea bass are not overfished and not experiencing overfishing, with biomass estimated to be 102% of the biomass target. Although the black sea bass resource was declared rebuilt in 2009, the unique life history characteristics of the species (e.g., it is a protogynous hermaphrodite, which means it changes sex from female to male) contributes to some level of uncertainty about the size of the stock. The response of this species, as well as other hermaphroditic species, to exploitation is not fully understood; therefore, management of the fishery has been conservative.

In the absence of a new benchmark stock assessment to address life history uncertainties, data limited methods were used to determine a new fishing level for the 2016 fishing season. Based on analysis undertaken in 2015, there is evidence that an increase in the quota could be done without jeopardizing conservation of the stock. As a result, the acceptable biological catch (ABC) for 2016 was increased to 6.67 million pounds, a 21% increase from 2015.

## Black Sea Commercial and Recreational Landings

Source: NMFS Fisheries Statistics Division, 2015



Timeline of Management Actions: FMP ('86); Amendment 10 ('97); Amendment 11 ('98); Amendment 12 ('99); Amendment 13 ('03); Addenda II & III ('04); Addendum XVI ('05); Addendum XIX ('07); Addendum XX ('09); Addendum XXI ('11); Addendum XXIII ('13); Addendum XXV ('14)

This ABC was further divided into a 2.71 million pound commercial quota and a 2.88 million pound recreational harvest limit (RHL). Management measures include quotas to restrict the commercial fishery and possession limits, seasons, and minimum sizes to control recreational landings.

The 2015 black sea bass recreational fishery continued to be managed under regional and state-by-state approaches in order to mitigate potential disproportionate impacts to individual states that coastwide

measures may cause. Since the 2014 regulations resulted in a harvest of 3.61 million pounds, approximately 1.35 million pounds over the 2014 RHL, 2015 regulations were modified to reduce harvest by 33% to achieve the 2015 RHL. The Board approved Draft Addendum XXVII for public comment to consider extending the current ad hoc regional management for recreational fisheries into 2016. Board action on final management measures is expected to occur in early 2016.



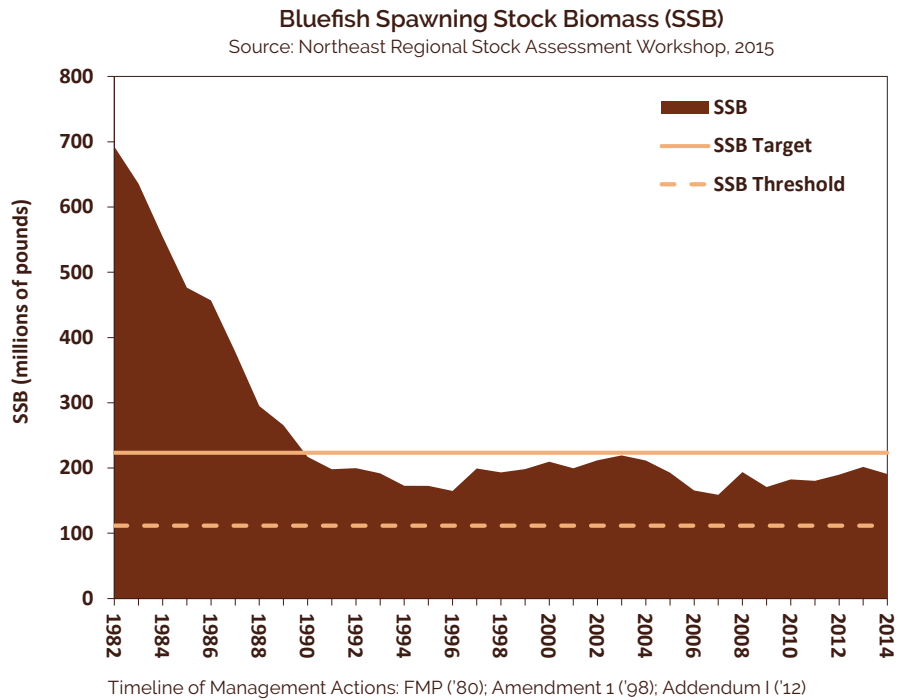
Recreational harvest peaked in 1985 at 12.35 million pounds, and then averaged 3.75 million pounds annually from 1988 to 1997. Since the implementation of recreational harvest limits in 1998, harvest has ranged from 1.1 to 4.4 million pounds from 1998-2012.

After peaking at 22 million pounds in 1952, commercial landings markedly decreased in the 1960s and have since ranged from 1.3 to 4.4 million pounds. In 1998, a quota system was incorporated into the management program and state-by-state commercial shares were introduced in 2003. Since 1998, landings have ranged from 2.86 to 3.53 million pounds, with 2014 landings estimated at 3.73 million pounds. The principal gears used in the fishery are pots, otter trawl, and handline.

The Board and MAFMC also initiated an amendment to address management strategies for commercial and recreational fisheries. Scoping for this amendment will occur in 2016. A benchmark stock assessment is underway for completion in December 2016.

## Bluefish

Jointly managed by the Commission and MAFMC since 1998 through state-specific quotas for the commercial fishery and a maximum



possession limit to constrain the recreational fishery, bluefish were declared rebuilt in 2009. The 2015 benchmark stock assessment finds the resource to be in good condition; it is neither overfished nor experiencing overfishing relative to the biological reference points defined in the 2015 assessment. SSB is estimated at 191 million pounds, approximately 85% of its target. Fishing mortality is estimated to be 0.157, below the fishing mortality threshold (0.19). The Commission and MAFMC approved an ABC of 19.45 million pounds for the 2016 fishing season, an approximate

10% decrease from 2015 levels due to the updated SSB estimate and SSB target defined in the 2015 assessment. These changes in the SSB estimate and target are due to improvements in the assessment model. The 2016 commercial quota and recreational harvest limit will be set once final recreational harvest estimates for 2015 have been released in 2016.

Since reaching a low of 8.2 million pounds in 1999, recreational harvest has averaged approximately 15.9 million pounds annually. In 2014, anglers harvested a total of 10.5 million pounds of bluefish, a 32% decrease from 2013. Landings from the commercial fishery have been consistently lower than the recreational harvest. Commercial landings decreased from 16.5 million pounds in 1981 to 7.3 million pounds in 1999. The commercial fishery has been regulated by a quota (allocated to the States through the state shares) since implementation of Amendment 1 in 2000, and has since averaged around 6.7 million pounds annually. In 2014, landings were 4.8 million pounds, three-quarters of which were harvested in New York, New Jersey, and North Carolina.



## Coastal Sharks

Sharks are a vital part of the ocean ecosystem. As apex predators, sharks reside at the top of the food chain and keep food webs in balance. Not only do they target healthy fish, but also old, sick, or slower fish in a population.

Relative to other marine fish, sharks have very low reproductive potential. The low reproductive rate is due to sharks' slow growth, late sexual maturity, one to two-year reproductive cycles, a small number of young per brood, and selective nursery areas. Frequently, the nursery areas are in highly productive coastal or estuarine waters where abundant small fish and crustaceans provide food for the growing pups. These shallow areas have fewer large predators than deeper waters, thus enhancing the chances of survival of the young sharks.

Forty species of Atlantic coastal sharks are managed cooperatively throughout their range by the Commission's Interstate Atlantic



Coastal Sharks FMP and NOAA Fisheries' 2006 Consolidated Highly Migratory Species (HMS) FMP for Coastal Sharks. The Interstate FMP establishes management measures for recreational and commercial shark fisheries in state waters. The FMP, approved in 2008 and fully implemented by the states in 2010, was developed to complement federal shark management and ensure consistency between state and federal management measures.

In 2015, the Board approved a fishery opening date of January

1, 2016 and a variable possession limit, which will start at 36 fish per vessel per trip for those species within the aggregated large coastal sharks (LCS) species group (silky, tiger, blacktip, spinner, bull, lemon, nurse) and the hammerhead species group (scalloped hammerhead, great hammerhead, and smooth hammerhead sharks) for 2016. The Commission will follow NOAA Fisheries for in-season changes in the possession limit.

Stock status is assessed by species complex or by species group for species without enough data for an individual assessment. In summary, 14 species have been assessed domestically, three species have been assessed internationally, and 28 species have not yet been assessed. Most of the species that have been assessed and all of those that have not been assessed require a 'benchmark' stock assessment due to new data, changing information on stocks, and improved assessment methodologies. The accompanying table outlines the stock status of each species or species group. In 2015,

Stock Status Information by Species and Species Group			
Species or Complex Name	Stock Status		References/Comments
	Overfished	Overfishing is Occurring	
<b>Pelagic</b>			
Porbeagle	Yes	No	Porbeagle Stock Assessment, ICCAT Standing Committee on Research and Statistics Report ('09); Rebuilding ends in 2108 (HMS Am. 2)
Blue	No	No	ICCAT Standing Committee on Research and Statistics Report ('08)
Shortfin mako	No	No	ICCAT Standing Committee on Research and Statistics Report ('12)
All other pelagic sharks	Unknown	Unknown	
<b>Large Coastal Sharks (LCS)</b>			
Blacktip	Unknown	Unknown	SEDAR 11 ('06)
Aggregated Large Coastal Sharks - Atlantic Region	Unknown	Unknown	SEDAR 11 ('06); difficult to assess as a species complex due to various life history characteristics/ lack of available data
<b>Non-Blacknose Small Coastal Sharks (SCS)</b>			
Atlantic Sharpnose	No	No	SEDAR 34 ('13)
Bonnethead	Unknown	Unknown	SEDAR 34 ('13)
Finetooth	No	No	SEDAR 13 ('07)
<b>Hammerhead</b>			
Scalloped	Yes	Yes	SEFSC Scientific Review ('09); Rebuilding ends in 2023 (HMS Am. 5a)
<b>Blacknose</b>			
Blacknose	Yes	Yes	SEDAR 21 ('10); Rebuilding ends in 2043 (HMS Am. 5a)
<b>Smoothhound</b>			
Smooth Dogfish	No	No	SEDAR 39 ('15)
<b>Research</b>			
Sandbar	Yes	No	SEDAR 21 ('10)
<b>Prohibited</b>			
Dusky	Yes	Yes	SEDAR 21 ('10); Rebuilding ends in 2108 (HMS Am. 2)
All other prohibited sharks	Unknown	Unknown	

the smoothhound shark complex was assessed, results indicate the two distinct stocks within the complex (smooth dogfish and Florida smoothhound) are not overfished and overfishing is not occurring.

In December 2015, the final rule for Amendment 9 to the 2006 Consolidated HMS FMP, which is specific to smoothhound sharks, was released. The Amendment brings smoothhound sharks (which in the Atlantic means smooth dogfish) under federal management effective March 15, 2016. Since this action initiates a commercial quota, the Commission will implement the allocation of smooth dogfish state shares as described in Addendum II of the FMP.

Commercial LCS landings in 2014 were approximately 503,594 pounds dressed weight (dw), a 14% increase from 2013, while landings of SCS species in 2014 were approximately 269,252 pounds dw, a 3% increase from 2013. Total U.S. landings of Atlantic pelagic species of sharks were 358,549 pounds dw in 2014, a 49% increase from 2013, which is largely attributed to increased thresher shark landings as well as blue, porbeagle and shortfin mako.

Approximately 102,000 sharks were harvested during the 2014 recreational fishing season in the Atlantic region, compared to 70,000 and 44,007 sharks in the 2013 and 2014 season. The SCS complex largely dominates the recreational fishery for sharks. In 2014, approximately 91,627 fish from the SCS complex were recreationally harvested, which represents the largest harvest over a six-year timeframe (2009-2014). Sharpnose sharks represents 61 percent of the 2014 SCS harvest. The LCS complex, including hammerheads, had 10,785 fish harvested in 2014.



## Horseshoe Crab

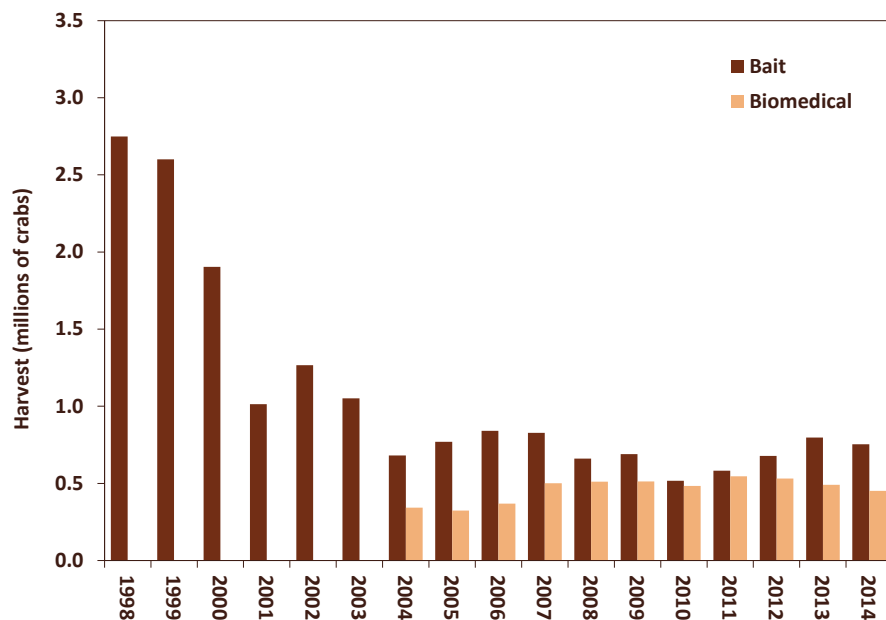
With its eggs playing an important ecological role in the food web of migrating shorebirds, horseshoe crab is the first Commission managed species to incorporate ecosystem principles into its management program. The Delaware Bay not only supports the largest spawning population in the world, it is also the largest staging area for shorebirds in the Atlantic Flyway, with an

estimated 425,000 to one million migratory shorebirds converging on the Delaware Bay to feed and rebuild energy reserves prior to completing their northward migration.

To address this food web dynamic, the species is managed under the Adaptive Resource Management (ARM) Framework, which incorporates both shorebird and horseshoe abundance levels into the horseshoe crab specifications for

Horseshoe Crab Bait Landings and Biomedical Harvest

Source: ASMFC State Reports, 2015



Note: 2014 harvest numbers for both bait and biomedical are preliminary

Please note the following details regarding biomedical harvest numbers:

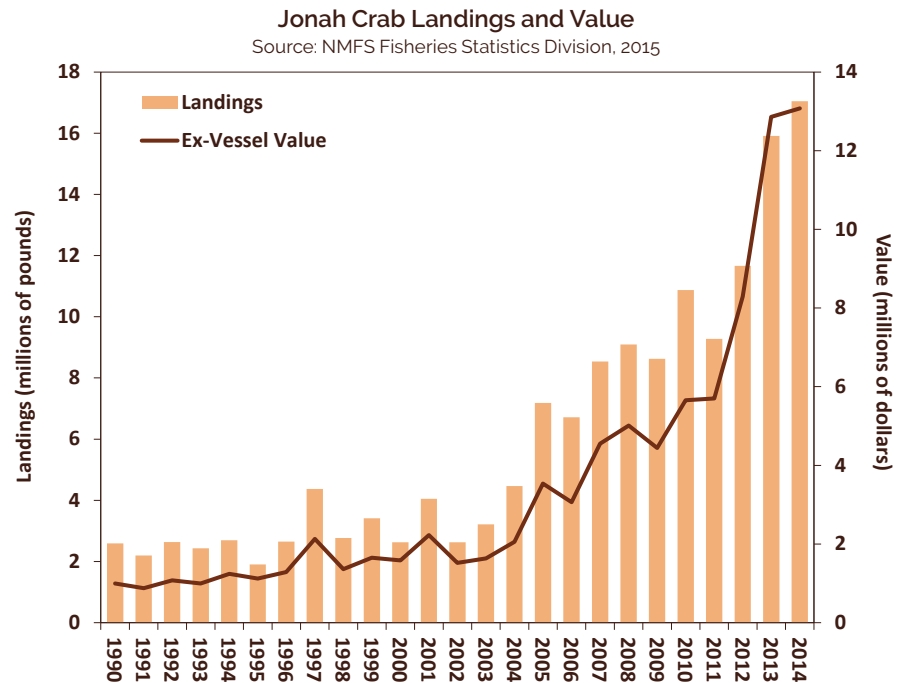
- \* Harvest numbers include all horseshoe crabs brought to bleeding facilities, including those that were harvested as bait and counted against state quotas.
- \* Most of the biomedical crabs harvested are returned to the water after bleeding; a 15% mortality rate is estimated for all bled crabs.

Timeline of Management Actions: FMP ('99); Addendum I ('00); Addendum II ('01); Addendum III ('04); Addendum IV ('06); Addendum V ('08); Addendum VI ('10); Addendum VII ('12)

the Delaware Bay states. Red knots, the shorebird that most relies on horseshoe crab eggs for food, was listed as threatened under the ESA in 2014. The ARM Framework was cited as one of the main reasons the species was not listed as endangered (due to adequate management in place). Funding for surveys that contribute abundance data on horseshoe crabs for us in the ARM Framework has been inconsistent in recent years. The Commission has secured funding for 2016 and will continue working with state and federal partners to secure long-term funding for this important survey.

For the 2015 and 2016 fishing seasons, harvest in the Delaware Bay area was limited to 500,000 male horseshoe crab. The ARM Framework will be evaluated in 2016 with particular attention paid to the recent change to red knots' status as threatened under the ESA, current monitoring programs, and model configuration based on the recommendation of the ARM Subcommittee and Horseshoe Crab Technical Committee. Horseshoe crab are also valuable to the conch and American eel fisheries and the pharmaceutical industry. A chemical in the horseshoe crab tissue makes it an ideal bait to catch conch and eel. Horseshoe crab blood is used by the biomedical industry to produce *Limulus Amoebocyte Lysate*, an important tool in the detection of contaminants in patients, drugs, and medical supplies.

Reported coastwide bait landings in 2014 remained well below the



coastwide quota at 729,869 crabs. Biomedical harvest in 2014 was estimated at 452,014 crabs, with 15% of those harvested assumed to die as part of the harvesting and post-bleeding release process. As required by the FMP, bled crabs are returned to the water from where they were harvested except in some states where bled crabs are sold to the bait industry to minimize the impact on the population.

### Jonah Crab

In August 2015, the Commission approved the Interstate FMP for Jonah Crab. The FMP seeks to cap effort and protect spawning stock biomass in the absence of a range-wide stock assessment. The Plan was initiated in response to concern about increasing targeted fishing pressure for Jonah crab, which has

long been considered a bycatch in the American lobster fishery. Since the early 2000s, landings of Jonah crab have increased 650% creating a mixed crustacean fishery that can target lobster or crab at different times of the year based on slight legal modifications to the gear and small shifts in the areas in which traps are fished. This rapid and recent increase in demand can be attributed to an increase in the price of other crabs (such as Dungeness), creating a substitute market for Jonah crab, as well as a decrease in the abundance of lobster in Southern New England, causing fishermen to supplement their income with Jonah crab. In response to this growing demand, the Commission approved an FMP for Jonah crab to support the implementation of a unified coastal management program which promotes the conservation and full



utilization of the Jonah crab resource. The FMP establishes commercial, recreational, and fishery-dependent monitoring measures for the Jonah crab fishery. The Plan limits participation in the trap fishery to only those vessels and permit holders that already hold an American lobster permit or can prove prior participation in the crab fishery. All other harvesters using nontrap gear must obtain an incidental permit. It also establishes a 4.75" coastwide minimum size and requires the landing of whole crab, except individuals from New Jersey, Delaware, Maryland, and Virginia who can prove a history of claw landings before June 2, 2015. The Plan also establishes a nontrap incidental bycatch limit of 200 crab per calendar day, 500 crab per trip for trips three days or longer, and prohibits the retention of egg-bearing females. For fishery-dependent sampling, the plan requires 100% harvester reporting and 100% dealer reporting with port and sea sampling. Jurisdictions that currently require less than 100% harvester reporter are required to, at a minimum, maintain their current programs and extend them to Jonah crab. In the recreational sector, the FMP establishes a possession limit of 50 whole crabs per person per day. Finally, the FMP specifies that states whose commercial landings are less than 1% of the three-year coastwide average may qualify for *de minimis* status. *De minimis* states are not required to implement fishery-independent or port/sea sampling.

In November 2015, the American Lobster Management Board discussed three aspects of the Jonah Crab FMP: effort control measures for Jonah crab only trap fishermen; claw exemptions; and the incidental bycatch limit for non-trap gear. In order to understand the scale of the Jonah crab only trap fishery, the Board tasked the Plan Development Team (PDT) to examine catch and landings records to characterize

participants in this segment of the fishery. Similarly, the PDT was asked to review Jonah crab claw landings given the number of claw fishermen is greater than expected and the current claw exemption may no longer be appropriate.

Finally, in response to concerns that the incidental bycatch limit does not capture all current participants in the fishery, the Board initiated Draft Addendum I to consider changes to the incidental bycatch limit for non-trap gear. Data submitted by the NEFMC and NOAA Fisheries illustrated that while 97-99% of trips from 2010 through 2014 were within the current limit, there were a number of trips above the limit. Given a goal of the Jonah Crab FMP is to prevent expansion of the fishery while including all current participants, the Board initiated an addendum to consider altering the incidental bycatch limit with options to increase the limit to 1,000 crab

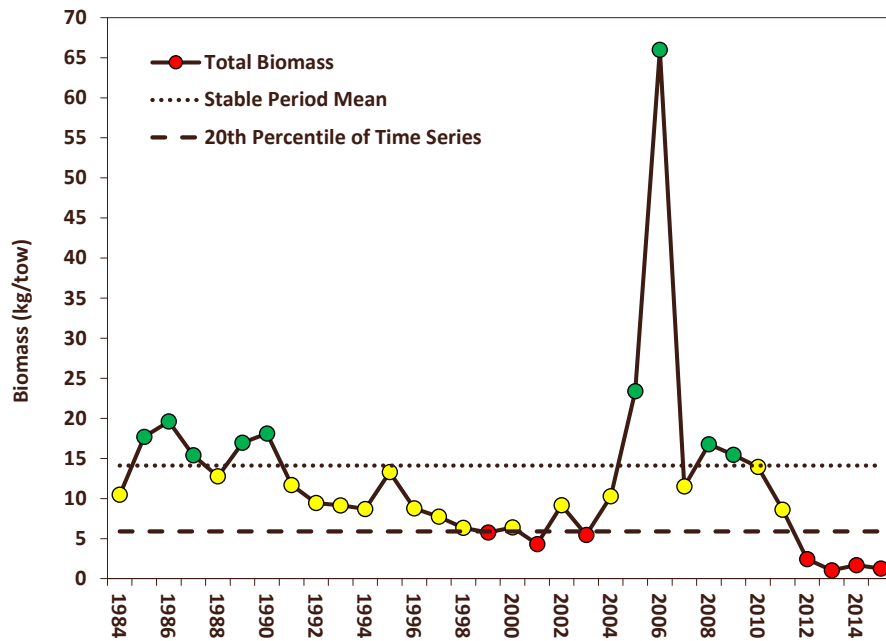
per trip or eliminate the bycatch limit for non-trap gear. Draft Addendum I will be presented to the Board in February 2016. If approved, the Board will release the Draft Addendum for public comment and consider its final approval in May 2016.

## Northern Shrimp

In response to the depleted condition of the northern shrimp resource, the Northern Shrimp Section extended the moratorium on commercial fishing for the 2016 fishing season, continuing the closure of the fishery which began in 2014. The 2015 Stock Status Report for GOM Northern Shrimp indicates abundance and biomass indices for 2012 to 2015 were the lowest on record of the 32-year time series. Recruitment indices for the 2010 to 2014 year classes were also well below average, and included the three smallest year classes on record. As a result, the

**Total Biomass of Northern Shrimp from the Gulf of Maine Northern Shrimp Trawl Survey**

Source: Stock Status Report for Gulf of Maine Northern Shrimp, 2015



The graph represents the annual biomass index relative to the reference period (dotted line) and to the 20th percentile of the time series (dashed line). The reference period (1985-1994) is the time period during which the fishery experienced stable landings and value. Green dots are values that are equal to or above the stable period mean (SPM); red dots are values that are equal to or below the 20th percentile of the time series; yellow dots are values between the SPM and the 20th percentile.

Timeline of Management Actions: FMP ('86); Amendment 1 ('04); Amendment 2 ('11); Addendum I ('12)



index of current fishable biomass is the lowest on record. The recruitment index increased slightly in the 2014 survey, however in 2015, the index dropped to the lowest in the time series. Recruits from the 2013 and 2014 year classes are not expected to reach exploitable size until 2017 and 2018, respectively. Despite the marginal increase in the recruitment index in 2014, the population continues to meet the criteria defining a collapsed stock.

In an effort to maintain the time series of data collected from northern shrimp commercial fishery catches in the absence of an open season, a cooperative winter sampling program was implemented beginning in 2015 and for continuation in 2016. The goal of the program is to continue the winter time series of biological data (e.g. size composition, egg hatch timing) collected from GOM northern shrimp fishery catches when a moratorium is in place. For 2016, the Section approved a 22mt research set aside quota for the program. Four trawl vessels will be contracted to fish four regions with a maximum trip limit of 1,800 pounds, and two trappers with a weekly trap limit of 40 traps and a 600 pound per week limit. Participating trawlers and trappers will be able to sell their catch. Trawlers will also be compensated \$500/trip. The states have issued a solicitation for participants. Participants will be selected by early January to allow for sampling to begin in mid-January.

Recruitment of northern shrimp is related to both spawning biomass and ocean temperatures, with higher spawning biomass and colder temperatures producing stronger recruitment. Ocean temperatures in western Gulf of Maine shrimp habitat have increased over the past decade and reached unprecedented highs in the past several years. While 2014 and 2015 temperatures were cooler, temperatures are predicted to continue rising as a result of climate change. This suggests an increasingly inhospitable environment for northern shrimp and the need for strong conservation efforts to help restore the stock.

Since the implementation of Amendment 2, the GOM northern shrimp fishery and population has experienced significant changes. Also, there have been substantial changes in other Northeast fisheries resulting in increased effort in the northern shrimp fishery. This increased fishing pressure, paired with failed recruitment, the lowest abundance indices on record, and unfavorable environmental conditions, has resulted in uncertainties in the future of the resource. To address these uncertainties, the Section initiated development of Draft Amendment 3 which considers management measures to control effort and stabilize the fishery. The Public Information Document for Draft Amendment 3 sought public comment on the direction of the

northern shrimp fishery in 2015. Based on public comment and the Advisory Panel's recommendations, the Section directed the PDT to develop limited entry and state-by-state allocation programs for consideration in Draft Amendment 3. However, given the collapsed status of the stock and the fact that the fishery is under a moratorium, the Section postponed further action on Draft Amendment 3 to allow for the continued development of options to address over-capacity in the fishery.

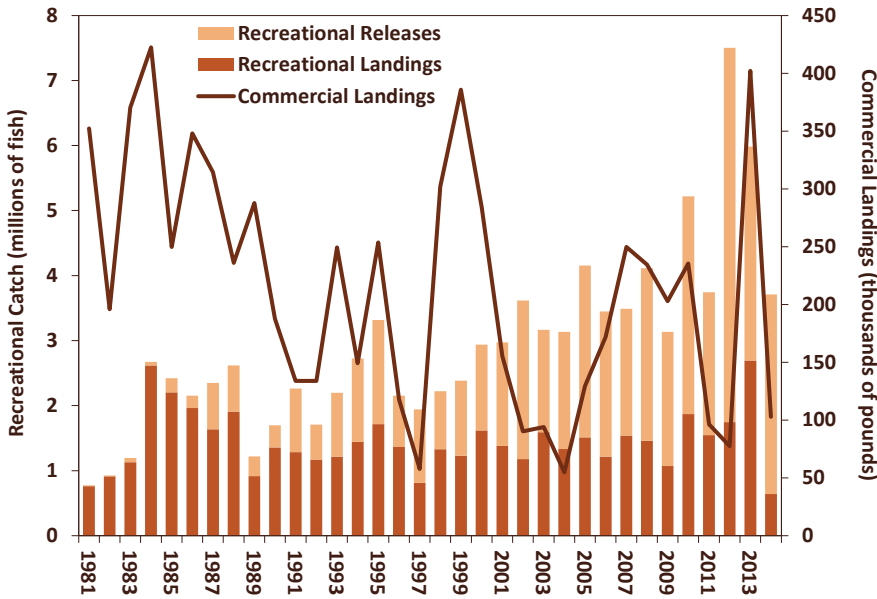
## *Red Drum*

Red drum are one of the most recreationally sought-after fish throughout the South Atlantic. Juveniles are most abundant in estuarine waters and inlets, while fish older than age four inhabit deeper waters. As a result, the fishery is primarily nearshore with small red drum targeted in shallow waters and large trophy fish targeted along the Mid- and South Atlantic barrier islands. The 2014 recreational landings of 2.34 million pounds was well above the ten year average of 1.7 million pounds. Florida anglers landed the largest share of recreational harvest in numbers (43%) followed by North Carolina (18%).

The commercial fishery is largely dominated by North Carolina, which was responsible for 88% of commercial harvest in 2014. Commercial landings have declined since the 1980s. In 2014, coastwide

## Red Drum Commercial Landings and Recreational Catch

Source: NMFS Fisheries Statistics Division, 2015



Timeline of Management Actions: FMP ('84); Amendment 1 ('91); and Amendment 2 ('02); Addendum I ('13)

commercial landings were roughly 103,000 pounds, a nearly 300,000 pound decrease from 2013.

Throughout 2015, the Red Drum Stock Assessment Subcommittee (SAS) worked on a new benchmark stock assessment for red drum. A primary goal of the assessment was to provide greater clarity as to the status of the stock's northern and southern components. While the previous assessment was able to determine that overfishing was not occurring, it was not able to determine whether either stock component was overfished. To this end, SAS decided to develop a new stock synthesis model (SS3) for red drum. SS3 was chosen because it allows for the incorporation of additional data which can provide a reliable estimate of fishing mortality and biomass for both the northern and southern stocks.

During the transition to SS3, the SAS encountered several challenges in developing a model to estimate plausible stock conditions and dynamics. A specific concern was the lack of stability in both the northern and southern models. Given that these issues persisted after the assessment workshop in June, the SAS determined the most beneficial function of the Review Workshop was to draw from the Peer Review Panel's experience to make model improvements during and following the workshop.

The SEDAR 44 workshop was a collaborative effort focusing on

model development, where panelists reviewed the assessment work to date and provided constructive comments on modifications to SS3 for both the southern and northern stock models. SAS continued work on the stock assessment following the Review Workshop and was able to make significant improvements to the model. Work by the SAS will be completed and reviewed in 2016.

Red drum are managed through Amendment 2 to the Interstate FMP. The Amendment requires states to implement recreational creel and size limits to achieve the fishing mortality target, including a maximum size limit of 27". It also requires states to maintain their existing commercial regulations. A harvest moratorium and Presidential Executive Order enacted in 2007 prevents any harvest or sale of red drum from federal waters.

## Scup

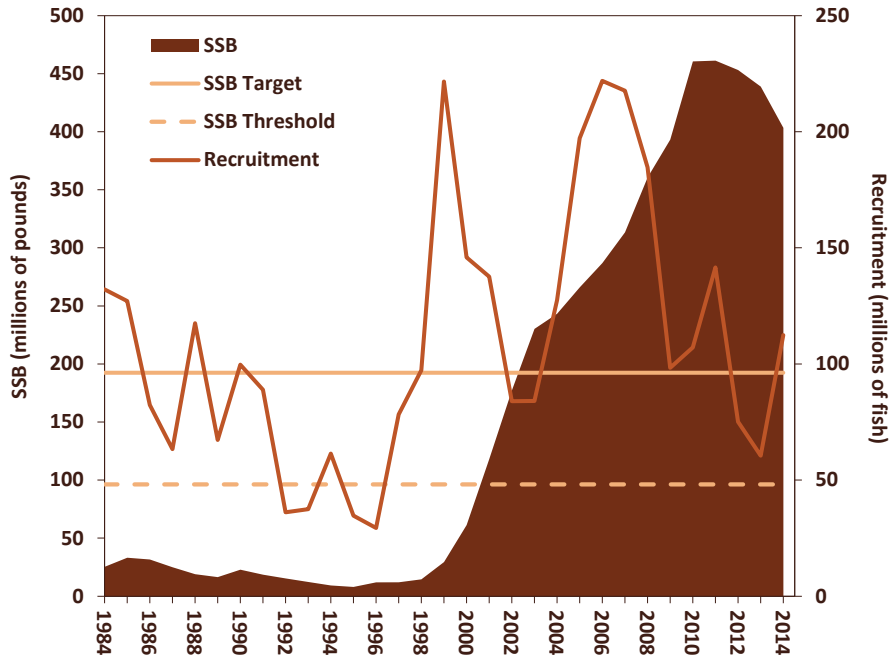
Scup are one of four species jointly managed by the Commission and MAFMC. Scup are considered rebuilt and not experiencing overfishing. The 2015 scup benchmark stock assessment estimates SSB at 403 million pounds, about two times the SSB target of 192 million pounds. Fishing mortality on age 3 fish and older in 2014 was estimated at 0.127, below the new fishing mortality





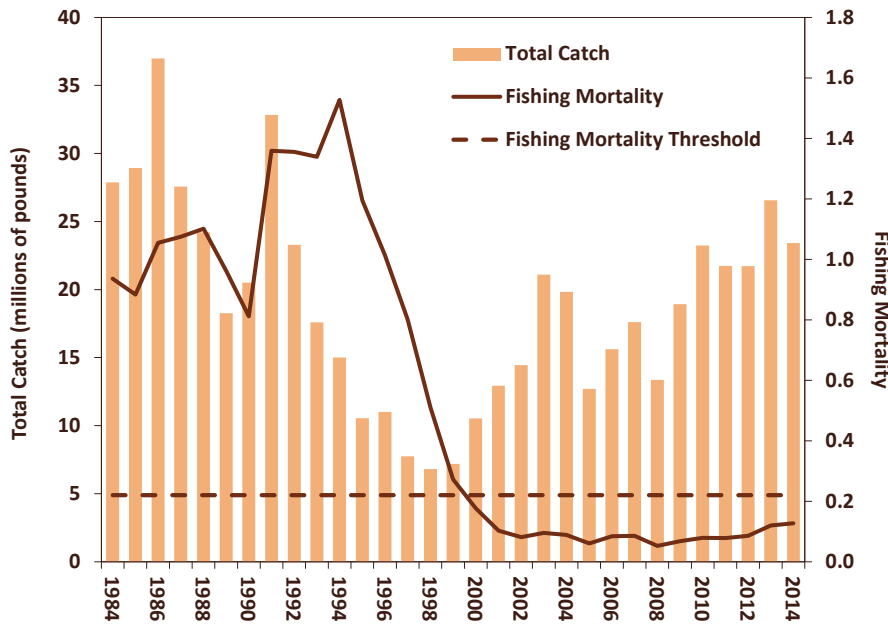
### Scup Spawning Stock Biomass & Recruitment

Source: Northeast Regional Stock Assessment Workshop, 2015



### Scup Total Catch and Fishing Mortality

Source: Northeast Regional Stock Assessment Workshop, 2015



Timeline of Management Actions: FMP ('96); Amendment 13 ('02); Addendum IX ('03); Addenda XI & XIII ('04); Addendum XVI ('05); Amendment 14 ('07); Addendum XX ('09)

hooks. A migratory schooling species found on the continental shelf of the Northwest Atlantic, scup commonly inhabit waters from Cape Cod, Massachusetts to Cape Hatteras, North Carolina, with area-specific abundance largely influenced by water temperature.

The scup resource is currently allocated 78%/22% to the commercial and recreational fisheries, respectively. Commercial landings peaked in 1960 at 48.5 million pounds. In recent years, landings have fluctuated from 15.6 million pounds in 1991 to a time series low of 2.7 million pounds in 2000. The commercial fishery landed 15.8 million pounds in 2014. For the past several years, Rhode Island and New Jersey have harvested the largest share of the commercial landings. Scup are primarily caught in otter trawls but are also caught using floating fish traps and hand lines. Recreational landings declined steadily from 11.6 million pounds in 1986 to 0.9 million pounds in 1998, the lowest value in the time series. In 2014, recreational anglers harvested 4.4 million pounds, with the majority of harvest occurring in Massachusetts, New York, Rhode Island, and Connecticut.

### Shad & River Herring

With the passage and implementation of Amendments 2 and 3 to the Shad and River Herring FMP, the Commission and its member states affirmed their commitment to the rebuilding of American shad and river herring populations along the coast. Both Amendments require states and jurisdictions to close their shad and river herring fisheries unless they develop and implement sustainable fishery management plans (SFMPs). Plans must clearly demonstrate that the state's or jurisdiction's shad and river herring fisheries will not diminish the potential future stock reproduction and recruitment

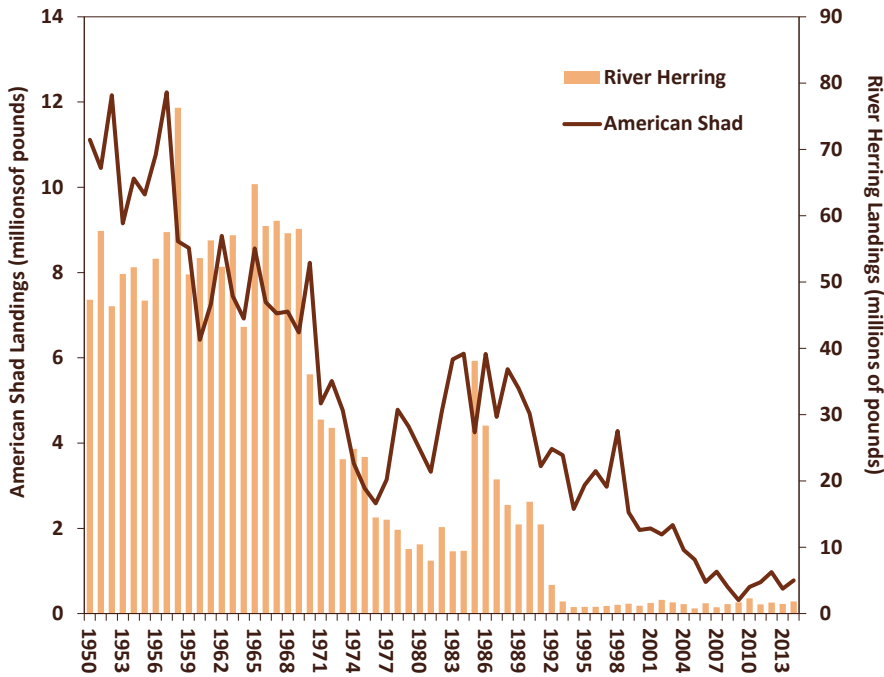
threshold of 0.22. Following two years of below average recruitment in 2012 and 2013, the 2014 year class is estimated to be above average at 112 million age 0 fish. Using these findings and 2014 landings, both the Commission and MAFMC set the commercial quota at 20.47 million pounds and the RHL at 6.09 million pounds for the 2016 fishery. This

represents a decrease from 2015 levels due to a slight decrease in the SSB.

For decades, scup have been eagerly pursued by commercial, recreational, and subsistence fishermen throughout SNE and the Mid-Atlantic, largely due to their fine flavor and avid pursuit of baited

## American Shad & River Herring Commercial Landings

Source: NMFS Fisheries Statistics Division, 2015



Timeline of Management Actions: FMP ('85); Amendment 1 ('95); Amendment 2 - River Herring ('09); Amendment 3 - American Shad ('10)

through the development of sustainability targets which must be monitored, achieved, and maintained.

The Commission also continues to collaborate with NEFMC and MAFMC to address the bycatch of these species in federal fisheries. In 2015, NEFMC increased the catch cap for shad and river herring in the Atlantic herring fishery from 687,960 pounds to 796,005 pounds. In 2015, the MAFMC lowered the bycatch cap from 520,380 pounds to 196,245 pounds in the Atlantic mackerel fishery. For 2016, the bycatch cap will

be lowered from 196,245 pounds to 180,810 pounds.

Benchmark assessments or assessment updates for American shad and river herring will be conducted by 2018.

### American Shad

American shad stocks are currently at all-time lows and do not appear to be recovering. The primary causes for the continued stock declines are a combination of excessive total mortality, habitat

loss and degradation, and migration and habitat access impediments. Although improvement has been seen in a few stocks, many remain severely depressed compared to historic levels. Coastwide landings for American shad were 776,586 pounds in 2014, up from 583,076 pounds in 2013.

The following states/jurisdictions are operating under approved SFMPs for American shad: Connecticut, the Delaware River Basin Fish and Wildlife Management Cooperative (representing New York, New Jersey, Delaware, and Pennsylvania), the Potomac River Fisheries Commission, North Carolina, South Carolina, Georgia, and Florida. The remaining states with no SFMPs maintained closures of their shad fisheries in 2015.

### River Herring

In 2015, the River Herring Technical Expert Working Group (TEWG), a group of scientists, industry representatives, conservation groups, tribal leaders, and government officials with expertise in river herring conservation, convened to provide input and information on the River Herring Conservation Plan. The Plan, which was released by the Commission and NOAA Fisheries in May 2015, seeks to increase public awareness about river herring, alewife (*Alosa pseudoharengus*) and blueback herring (*A. aestivalis*), and foster cooperative research and conservation efforts to restore river herring along the Atlantic coast. The Plan is meant to be dynamic and will be refined over time with public input. It builds upon past and current river herring conservation projects, and coordinates ongoing activities.

The Plan pursues the following goals:

- Increase coordination of river herring data collection, research, and conservation



- Identify and undertake key research projects related to assessment and conservation
- Identify any further conservation actions to address threats
- Cultivate and engage research groups to address key topics in protecting or restoring herring populations
- Identify funding sources and secure funds for river herring research and conservation
- Improve information to be used in conservation efforts and incorporated into the next assessment
- Increase public outreach about river herring and the need for addressing impacts to these resources

The Plan can be found online at [www.greateratlantic.fisheries.noaa.gov/protected/riverherring/conserv/index.html](http://www.greateratlantic.fisheries.noaa.gov/protected/riverherring/conserv/index.html).

As part of their joint conservation efforts, the Commission and NOAA Fisheries also awarded funding for two research projects to provide insights into what is happening to river herring when they are at sea and in their riverine nursery and spawning areas. The projects will also help to fill in critical gaps in our understanding of the status of river herring populations.

The 2012 benchmark stock assessment found of the 52 stocks of alewife and blueback herring for which data were available for use in the assessment, 23 were depleted relative to historic levels, one stock was increasing, and the status of 28 stocks could not be determined because the time-series of available data was too short. Estimates of abundance and fishing mortality could not be developed because of the lack of adequate data. The

depleted determination was used instead of overfished because of the many factors that have contributed to the declining abundance of river herring, which include not just directed and incidental fishing, but also habitat loss, barriers to migration, predation, and climate change.

In order to improve future stock assessments, the benchmark assessment placed as a high priority the standardization of river herring data collection methods and datasets. To begin to address this need, the Commission conducted a River Herring Data Collection Standardization Workshop in 2015. The Workshop brought together researchers from state and federal marine fishery agencies, Tribal

Nations, and Canada Department of Fisheries and Oceans to evaluate current fishery-independent surveys for river herring and develop recommendations to standardize survey methodologies, as well as data collected by these surveys for use in future stock assessments. Workshop participants also considered some fishery-dependent sampling that collect river herring along the Atlantic coast. The report of recommendations regarding survey design, data collection, and considerations will be made available on the Commission and NOAA TEWG websites in early 2016.

Approved River Herring SFMPs remained in effect for the states of Maine, New Hampshire, New York,

North Carolina, and South Carolina. The remaining states and jurisdictions closed their commercial and recreational fisheries starting in 2012. In 2014, 1.8 million pounds of river herring were landed in states with SFMPs.

## Spanish Mackerel

Spanish mackerel are an important recreational and commercial fishery in South Atlantic waters. Cooperative management by the Commission and the South Atlantic Fishery Management Council (SAFMC) has successfully rebuilt Spanish mackerel stocks after years of overfishing. The latest benchmark stock assessment, conducted in 2012, indicates Spanish mackerel are not overfished and not experiencing overfishing.

Total 2014 landings were 4.4 million pounds, with commercial and recreational fisheries harvesting approximately 70% and 30% of the resource, respectively.

### Status of Select Alewife and Blueback Herring Stocks along the Atlantic Coast

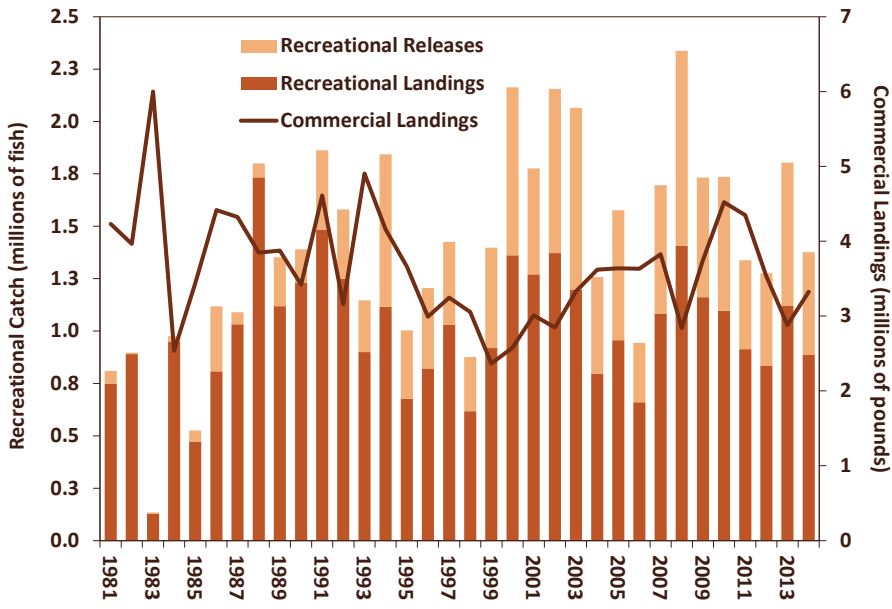
Source: ASMFC River Herring Benchmark Assessment, 2012

State	River	Status Relative to Historic Levels/Recent Trends
ME	Damariscotta Union	Depleted <sup>A</sup> , Stable <sup>A</sup> Increasing <sup>A</sup> , Stable <sup>A</sup>
NH	Cocheco Exeter Lamprey Oyster Taylor Winnicut	Unknown <sup>A,B</sup> , Stable <sup>A,B</sup> Depleted <sup>A</sup> , Increasing <sup>A</sup> Depleted <sup>A</sup> , Increasing <sup>A</sup> Depleted <sup>B</sup> , Decreasing <sup>B</sup> Depleted <sup>B</sup> , Decreasing <sup>B</sup> Depleted <sup>A,B</sup> , Unknown <sup>A,B</sup>
MA	Mattapoissett Monument Parker Stony Brook	Depleted <sup>A</sup> , Unknown <sup>A</sup> Depleted <sup>A</sup> , Unknown <sup>A</sup> Depleted <sup>A</sup> , Unknown <sup>A</sup> Depleted <sup>A</sup> , Unknown <sup>A</sup>
RI	Buckeye Gilbert Nonquit	Depleted <sup>A</sup> , Unknown <sup>A</sup> Depleted <sup>A</sup> , Decreasing <sup>A</sup> Depleted <sup>A</sup> , Decreasing <sup>A</sup>
CT	Connecticut	Depleted <sup>B</sup> , Decreasing <sup>B</sup>
NY	Hudson	Depleted <sup>A,B</sup> , Stable <sup>A,B</sup>
MD, DE	Nanticoke	Depleted <sup>A,B</sup> , Decreasing <sup>A,B</sup>
VA, MD, DC	Potomac	Depleted <sup>A,B</sup> , Unknown <sup>A,B</sup>
NC	Chowan	Depleted <sup>A,B</sup> , Stable <sup>A,B</sup>
SC	Santee-Cooper	Depleted <sup>B</sup> , Increasing <sup>B</sup>

Status relative to historic levels is pre-1970. Recent trends reflect the last ten years of data. A= alewife only; B = blueback herring only; A,B = alewife and blueback herring by species

## Spanish Mackerel Commercial Landings and Recreational Catch (Landings and Releases)

Source: ACCSP Data Warehouse and NMFS Fisheries Statistics Division, 2015



Timeline of Management Actions: FMP ('90); Omnibus Amendment ('11); Addendum I ('13)

Coastwide commercial landings have been consistently below four million pounds since 1995, with the exception of 2010 and 2011 when commercial landings increased to over 4.3 million pounds. 2014 commercial landings are estimated at 3.72 million pounds. Over two-thirds of the landings occur in Florida, with the remaining amount harvested in North Carolina.

Recreational anglers harvested approximately 886,000 Spanish mackerel (1.14 million pounds) in 2014. The number of recreationally-harvested fish appears to show a cyclical trend, with low harvests in

the early to mid-1980s and mid- to late 1990s, interspersed with higher harvests. Florida (43%) and North Carolina (45%) continue to account for the majority of recreational landings. The number of recreational releases has generally increased over time with 490,000 fish released in 2014.

In 2015, the South Atlantic Board extended the provisions of Addendum I for the 2015 and 2016 fishing years. This Addendum allows states to use a reduced minimum size of 11.5" in the commercial pound net fishery for the months of July through September. The measure is intended to reduce waste of these shorter

fish, which are discarded dead in the summer months, by converting them to landed fish that will be counted against the quota. North Carolina, the only state to implement the Addendum thus far, will provide annual reports to the Board on Spanish mackerel catch in the pound net fishery.

## Spiny Dogfish

Spiny dogfish is a coastal shark with populations on the continental shelves of northern and southern temperate zones throughout the world. It is the most abundant shark in the Western North Atlantic and ranges from Labrador to Florida, but is prevalent from Nova Scotia to Cape Hatteras, North Carolina. Its major migrations on the Northwest Atlantic shelf are north and south, but it also migrates inshore and offshore seasonally in response to changes in water temperature.

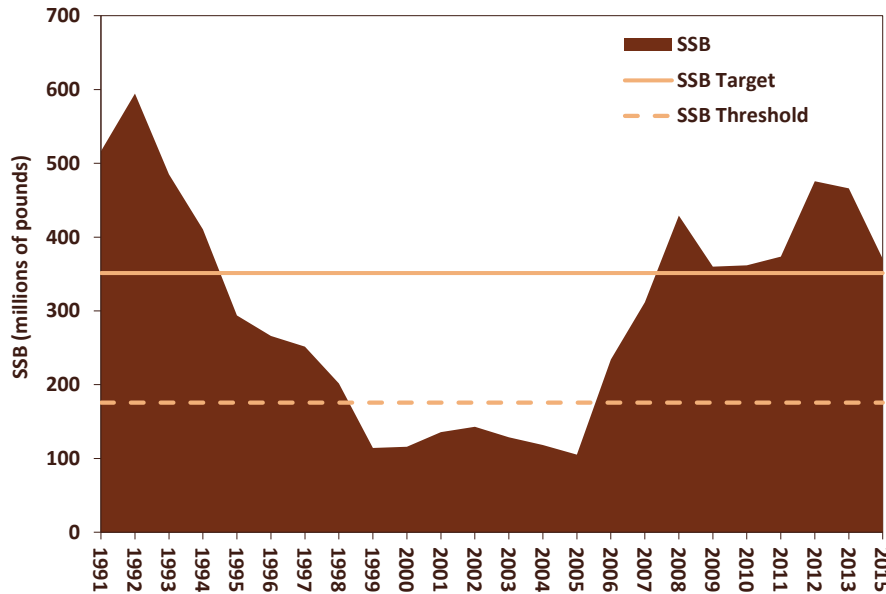
The species is known for its relentless pursuit of prey. The name "dogfish" stems from the species' habit of feeding in packs. Juvenile spiny dogfish school by size until sexually mature and then aggregate by both size and sex. As the name suggests, the species has sharp, venomous spines in front of each dorsal fin.

Historically, the resource has been in demand as a food item on the international market, predominantly



### Spiny Dogfish Spawning Stock Biomass (SSB) (>=80 cm)

Source: NEFSC Update on the Status of Spiny Dogfish in 2015 and Projected Harvests at the FMSY Proxy and PSTAR of 40%



Note: 2014 data unavailable due to incomplete survey.

Timeline of Management Actions: Emergency Action ('00); FMP ('03); Addendum I ('05); Addendum II ('08); Addendum III ('11); Addendum IV ('12)

in Europe. However, a downward shift in international market demand has motivated spiny dogfish fishermen and processors to work on creating a domestic market for the species. The limited markets for the species is not a related to abundance or availability—the resource has been rebuilt since 2008.

The Commission and MAFMC have jointly managed spiny dogfish since 2000. The revised 2015 stock assessment update indicates spiny dogfish are not overfished and not experiencing overfishing. Spawning stock biomass is estimated to be at 106% of the target. The assessment time period is 2013-2015, however the survey data from 2014 was not included in the 2015 update due to a mechanical breakdown in the Northeast Fisheries Science Center (NEFSC) trawl survey. In order to overcome the 2014 data gap, the MAFMC's Science and Statistical Committee applied a Kalman Filter for the update. This was the best approach because it provided the most stable estimates of survey abundance and hence catch advice.

The spiny dogfish fishing season is from May 1 through April 30. Landings have been half of the commercial quota for the last two full fishing years and appear to be on a similar trajectory for the 2015-2016 fishing year, which has a commercial quota

of 50.6 million pounds. In recent years, the maximum possession limit has been 5,000 pounds per day for the northern states (Maine through Connecticut) and state-specific trip limits for the southern states.

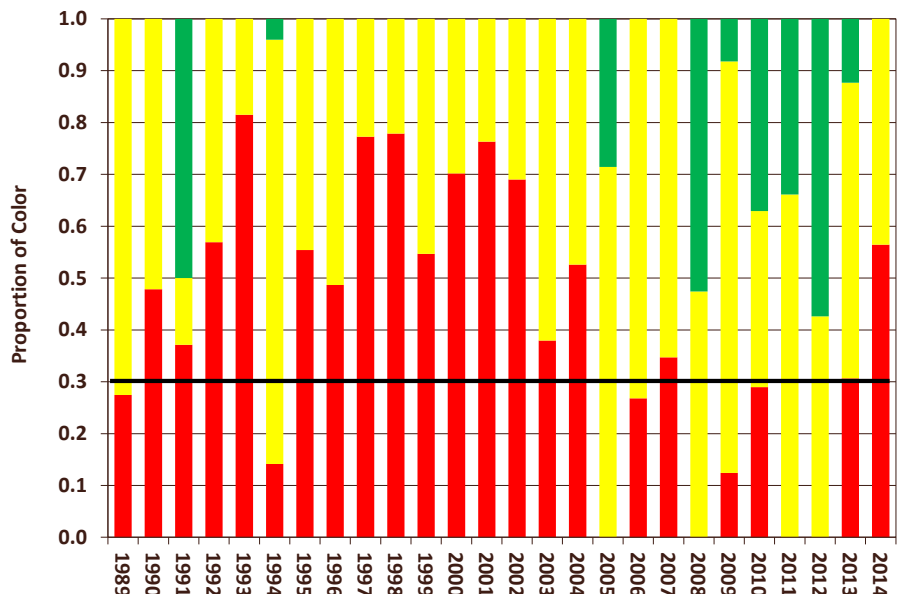
### Spot

Spot is one of 275 sciaenid species worldwide. The Commission manages six sciaenid species, which are commonly called drums, croakers, or hardheads for the repetitive throbbing or drumming sounds they produce. Spot occur along the U.S. Atlantic coast in estuarine and coastal waters and are most abundant from the Chesapeake Bay to South Carolina. They are an important forage species for predators such as Atlantic striped bass, weakfish, summer flounder, bluefish, and sharks. They are also an excellent food and sport fish, supporting recreational and commercial fisheries in the Mid- and South Atlantic.

In 2015, the South Atlantic Board initiated the first coastwide

### Traffic Light Analysis of Spot Fishery-independent Survey Indices (Abundance Metric)

Solid line represents 30% threshold

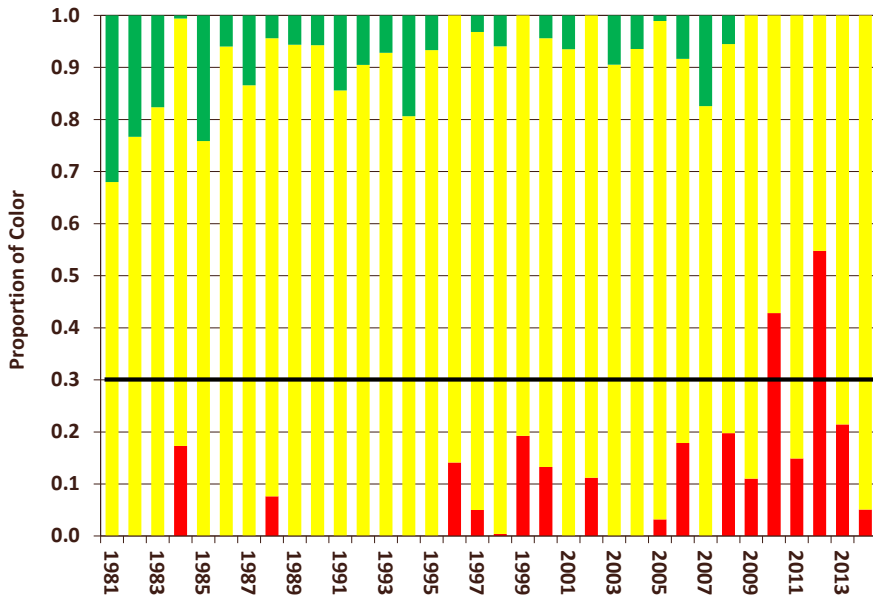


Management response is triggered when proportion of red exceeds the 30% threshold level for two consecutive years in both fishery characteristics (landings and fishery-independent survey indices).

Timeline of Management Actions: FMP ('87); Omnibus Amendment ('11); Addendum I ('14)

### Traffic Light Analysis of Spot Commercial and Recreational Harvest (Harvest Metric)

Solid line represents 30% threshold



benchmark stock assessment for spot. The stock assessment seeks to estimate population parameters (e.g., stock status, natural mortality, discard rates and mortality) and biological reference points. A data workshop was held in September 2015 and the assessment is scheduled for completion in late 2016.

In order to evaluate the status of the stock in between stock assessments, the South Atlantic Board reviewed the TLA for spot. Established under Addendum I, the TLA is a precautionary management framework which evaluates fishery trends and develops management actions. The name comes from assigning a color (red, yellow, or green) to categorize relative levels of population indicators. When a population characteristic improves, the proportion of green in the given year increases. Harvest and abundance thresholds of 30% and 60% (proportion of red) were established in Addendum I, representing moderate and significant concern for the fishery. The TLA improves the management approach as it illustrates long-term trends in the stock and includes specific management

recommendations in response to declines in the stock or fishery.

The TLA showed a significant decrease in spot harvest in both the commercial and recreational sectors. Data from fishery-independent surveys also showed a decrease in the abundance of spot coastwide. Reviewing 2014 data, management measures were not tripped in 2015 since the abundance index was just below the management threshold; however, the TLA does show a declining trend in the fishery which warrants close monitoring in the future.

Total landings in 2014 were 8.37 million pounds, with 65% harvested by the commercial sector and 35% by

the recreational fishery. Commercial harvest in 2014 was estimated at 5.4 million pounds, a two million pound increase from 2013. Small spot are also a major component of the bycatch in haul seine and pound net fisheries in Chesapeake Bay and North Carolina, as well as a significant part of the bycatch of the South Atlantic shrimp trawl fishery. However, substantial reductions in the magnitude of bycatch have occurred in the latter fishery in recent years.

For the past three decades, recreational harvest along the Atlantic coast has varied between 1.7 and 6.9 million pounds. In 2014, recreational harvest was 2.9 million pounds.

### Spotted Seatrout

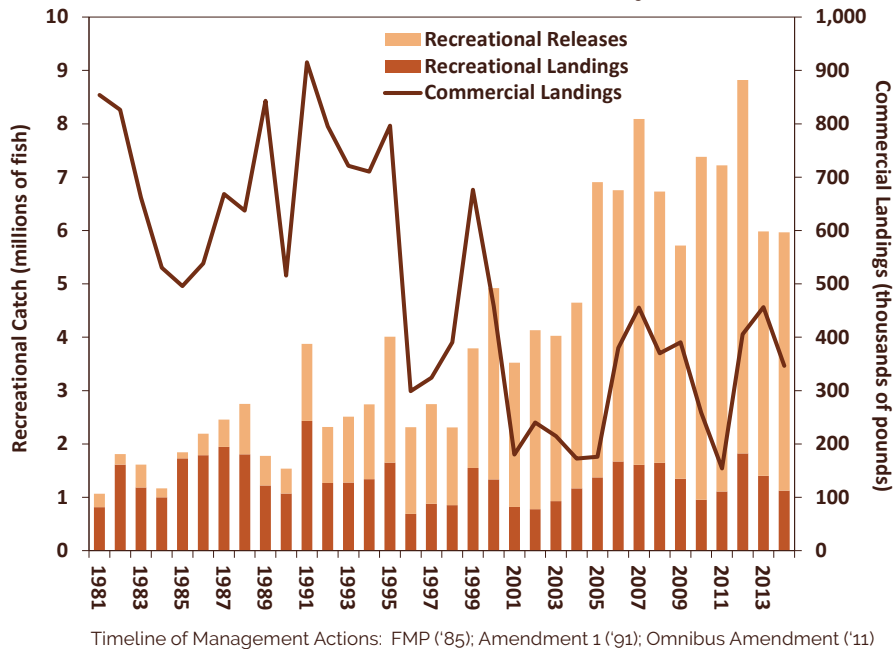
Spotted seatrout, a member of the drum family, are managed under the Commission's Omnibus Amendment for Spot, Spotted Seatrout, and Spanish Mackerel, which includes recommended measures to protect the spawning stock, as well as a required coast-wide minimum size of 12".

A coastwide stock assessment for spotted seatrout has not been conducted given the largely non-migratory nature of the species and the lack of data on migration where it does occur. Instead, states conduct their own age-structured analyses of local stocks. These regional



## Spotted Seatrout Recreational Catch & Commercial Landings

Source: NMFS Fisheries Statistics Division, 2015



Timeline of Management Actions: FMP ('85); Amendment 1 ('91); Omnibus Amendment ('11)

assessments are important given that spotted seatrout are susceptible to inshore events such as winter freezes, excessive fresh water, hurricanes, and red tide conditions.

Over the past three decades, recreational catch (kept and released fish) has shown a strong upward trend, increasing from 1.8 million fish in 1982 to a peak of 8.8 million fish in 2012. Recreational catch in 2014 was 5.9 million fish. In contrast, recreational harvest (kept fish) has remained relatively stable throughout the times series with an average of 1.3 million fish. This is due, in part, to recreational size and creel limits as well as the encouragement of catch and releases practices. In 2014, nearly 81% of recreational catch was released.

## Summer Flounder

Jointly managed by the Commission and MAFMC for more than two decades, the summer flounder population was declared rebuilt in 2012. The latest stock assessment update (2015) found the stock not overfished but experiencing overfishing, with the SSB estimated

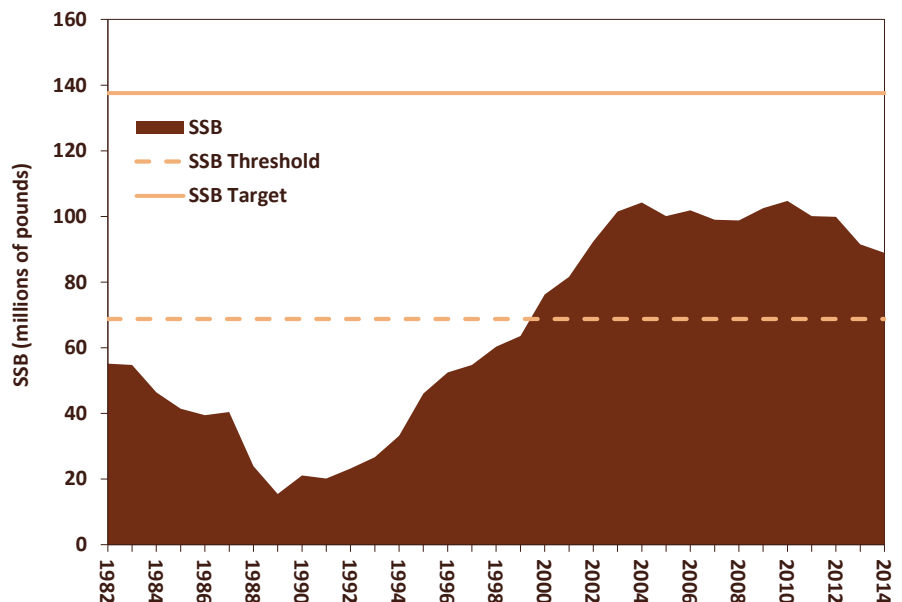
at 88.91 million pounds, below the target of 137.55 million pounds. These results appear to be driven largely by below average recruitment, with the stock having experienced four below average year classes from 2010 to 2013. The update also showed the annual recruitment estimate has been overestimated by a range of 22% to 49% for five of the last seven

year classes (through 2013), which has contributed to an overestimation of stock size in recent years. Taking these findings and the 2014 landings into account, the Commission and MAFMC established an RHL of 5.42 million pounds and a commercial quota of 8.12 million pounds for the 2016 fishing season, a decrease from 2015.

Summer flounder are one of the most sought after commercial and recreational fish along the Atlantic coast, with landings at approximately 18.7 million pounds in 2014. Since 1981, both commercial and recreational landings have undergone significant fluctuations. Commercial landings peaked at 38 million pounds in 1984 before declining to a low of 9.4 million pounds in 1990. Landings showed an increasing trend through 1995, but have varied without trend through 2010. For the past six years, commercial landings have been above 10 million pounds, with 2014 landings at 11.3 million pounds. Otter trawl is the principal commercial gear. After reaching a low of 3.2 million

## Summer Flounder Spawning Stock Biomass (SSB)

Source: Northeast Fisheries Science Center Stock Assessment Update, 2015



Timeline of Management Actions: FMP ('88); Amendment 1 ('91); Amendments 2 -5 ('93); Amendment 6 ('94); Amendment 7 ('95); Amendments 8 & 9 ('96); Amendment 10 ('97); Amendment 11 ('98); Amendment 12 ('99); Amendment 13 ('03); Addenda (VIII & XV ('04); Addenda XVI & XVII ('05); Addendum XVIII ('06); Addendum XIX ('07); Addendum XXV ('14); Addendum XXVI ('15)



pounds in 1989, recreational landings increased to 11.9 million pounds in 1997 and 16.5 million pounds in 2000. Since 2009, landings have averaged approximately five million pounds per year, with 7.4 million pounds landed in 2014.

In 2015, the states continued to use the adaptive regional management approach, first used in 2014, for their summer flounder recreational fisheries, with the intent of providing more equity in harvest opportunities along the coast. In early 2016, the Board will consider whether to continue to use the adaptive regional management approach for 2016 fisheries.

The Commission and MAFMC also continued work on the comprehensive summer flounder amendment, which will consider modifications to the current management program's goals, objectives, and management strategies for summer flounder. The Board and Council will continue to develop the Draft Amendment in 2016, with the anticipated draft document available for public comment in 2017.

## Tautog

Tautog are a stout fish that becomes darker in color with age, and is commonly known by fishermen as "blackfish". The species is slow growing and can live 35 to 40 years throughout its distribution from Nova Scotia to Georgia, although

greatest abundance occurs between Cape Cod, Massachusetts and the Chesapeake Bay.

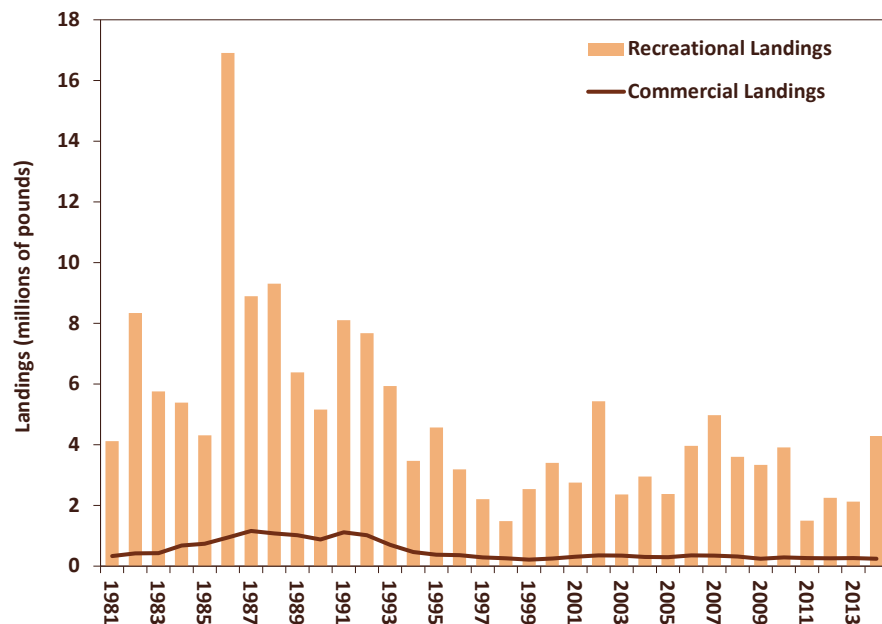
Tagging data suggest strong site fidelity across years with limited north-south movement and some seasonal inshore-offshore migrations. In the northern part of their range, adult tautog move from offshore wintering grounds in the spring to nearshore spawning and feeding areas, where they remain until late fall, when the reverse migration occurs as water temperatures drop. Populations in the southern region may undergo shorter distance seasonal migrations, while in the southern-most part of the range they may not undergo seasonal migrations at all.

The 2015 benchmark stock assessment indicates tautog continues to be overfished and experiencing overfishing on a coastwide scale (Massachusetts to Virginia). The estimated three-year (2011-2013) fishing mortality of  $F=0.30$  is well above the FMP's fishing mortality target of 0.15, despite the implementation of Addendum VI management measures in 2012, which sought to reduce exploitation.

The benchmark assessment explored alternative regional groupings to account for the limited north-south migration and regional harvest patterns instead of a coastwide assessment. In May 2015, the Tautog Board initiated the development of Draft Amendment 1 to consider the

### Tautog Commercial and Recreational Landings

Source: NMFS Fisheries Statistics Division, 2015



Timeline of Management Actions: FMP ('86); Addendum I ('97); Addendum II ('99); Addendum III ('02); Addenda IV & V ('07); Addendum VI ('11)



use of regional management areas and evaluate the illegal harvest of undersized and unreported tautog, which has become an increasingly pervasive issue. Draft Amendment 1 development is underway with an expected 2017 implementation date.

While tautog are targeted by both commercial and recreational fisheries, approximately 90% of the total harvest is recreational. Between 2000 and 2014, the annual recreational harvest averaged 3.3 million pounds; on average, 90% was harvested within state waters. In 2014, recreational fishermen harvested approximately 970,000 fish weighing a total of 4.2 million pounds, an increase from the 2011-2013 average recreational harvest of approximately 500,000 fish per year across a three-year landing average of 1.96 million pounds.

In 1987, commercial landings peaked at nearly 1.16 million pounds and steadily declined to a low of 208,000 pounds in 1999. From 2000-2014, commercial landings varied without trend, ranging from approximately 241,000 to 351,000 pounds. Commercial landings have been dominated by Massachusetts, Rhode Island, and New York, each averaging

more than 20% of coastwide harvest (1982-2014). Rod and reel are the predominant commercial gear; in addition to bottom otter trawls and fish pots and traps—collectively they represent the top three commercial gear types for the past two decades. The ex-vessel value for tautog has increased since the historic low of \$0.03/pound in 1962, along with the increasing landings trend. In 2012 and 2013, the value surpassed \$3/pound.

## Weakfish

Weakfish have been one of the most important components of a mixed-stock fishery on the Atlantic coast since the 1800s. Beginning in 2000, however, weakfish biomass began to decline, reaching an all-time low of 2.9 million pounds in 2008 (compared to 30.8 million pounds in 1996).

Total landings in the weakfish fishery have continued to decline with 2014 landings estimated at 273,660 pounds, a noticeable decrease from the 2013 landings (519,000 pounds). At 196,000 pounds, the commercial fishery accounted for 72% of the total 2014 landings. North Carolina accounted for the largest share of this harvest at 53%. Recreational landings



in 2014 were 77,000 pounds and recreational releases were estimated at 553,000 fish.

In 2015, the Weakfish SAS began work on a new benchmark stock assessment to update these biomass trends. The previous stock assessment, which was completed in 2009, found natural mortality, rather than fishing mortality, was the source of the weakfish decline. However, given the small stock size, the assessment indicated that total fishery removals represented a significant proportion of the remaining biomass and were unsustainable. In response, the Weakfish Management Board approved Addendum IV to Amendment 4, which implemented a one fish recreational creel limit and a 100 pound commercial trip limit.

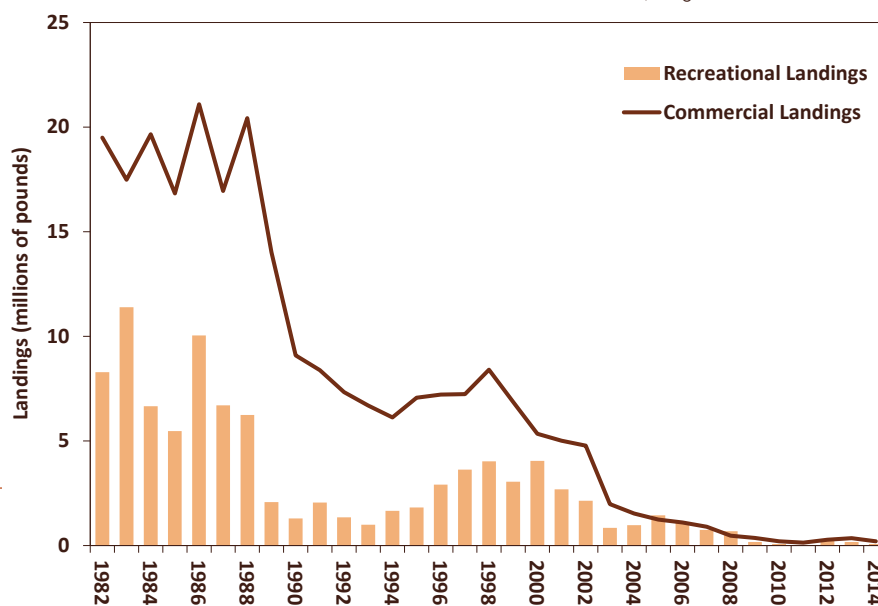
The new stock assessment seeks to evaluate the status of the stock and understand what impact the restrictive management measures have had on abundance. In July 2015, the SAS held an Assessment Workshop to review data inputs and develop potential models. It is expected the stock assessment will be peer reviewed in the spring of 2016, with final model results presented to the Board in the summer of 2016.

## Winter Flounder

Winter flounder is a small-mouthed, right-eyed flounder distributed along the Atlantic coast. The species is managed as three separate stocks: GOM, Southern New England/Mid-Atlantic (SNE/MA) and GBK. Except

**Weakfish Recreational and Commercial Landings**

Source: NMFS Fisheries Statistics Division, 2015



Timeline of Management Actions: FMP ('85); Amendment 1 ('91); Amendment 2 ('95); Amendment 3 ('96); Amendment 4 ('02); Addendum I ('05); Addenda II & III ('07); Addendum IV ('09)



for the GBK population, adult winter flounder migrate inshore in the fall/early winter and spawn in late winter and early spring throughout most of their range. Winter flounder may grow up to 23" and attain 15 years of age. Growth varies among geographical areas, with slower growth in the north than the south.

Winter flounder are managed by NEFMC in federal waters and the Commission in state waters, which includes the GOM and SNE/MA stocks. Information from the 2015 stock assessment indicates the SNE/MA stock is overfished and biomass estimates are at 23% of the target. While there have been some modest increases over the last decade, the SNE/MA stock has remained at approximately a quarter of the target since the early 2000s. Since 1981, recruitment has been declining. The 2013 value is the lowest in the time series, at approximately 4% of the estimated recruitment in 1981 (the highest in the time series). While the 2014 SNE/MA recruitment estimate increased slightly, the overall stock productivity continues to decline. The GOM stock does not have a recruitment estimate due to modeling restrictions. Overfishing is not occurring. The primary concern for the GOM and SNE/MA stocks is that the stocks are not responding to lower exploitation rates.

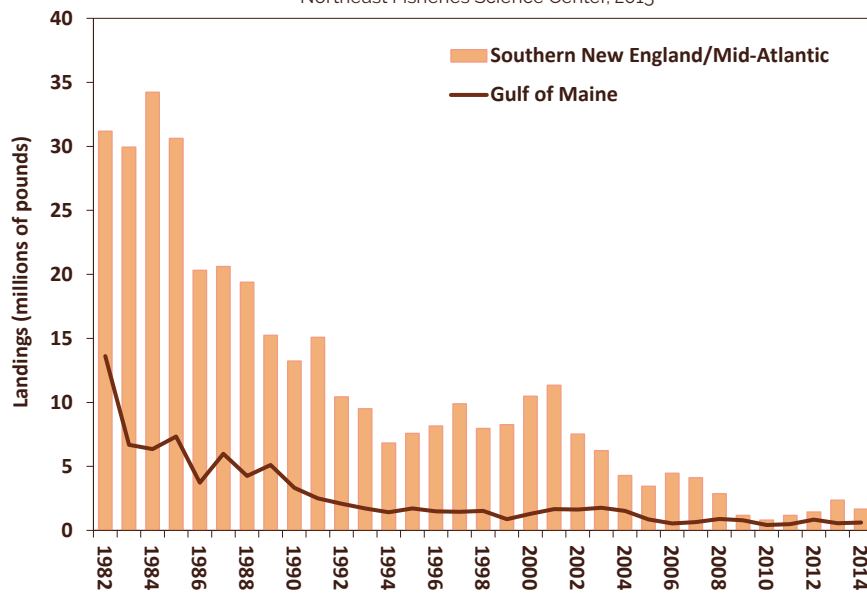
The winter flounder commercial fishery was once a highly productive industry with annual harvests of up to 40.3 million pounds. Since the early 1980s, landings have steadily

declined. Total commercial landings for all stocks (GBK, GOM, and SNE/MA combined) dipped to 3.5 million pounds in 2010. Landings have risen since 2010 due to doubling of quotas in 2011 and again in 2012 for the GOM stock, and the lifting of the SNE/MA moratorium in 2013 by NOAA Fisheries in federal waters. The states, however, have maintained a very restrictive commercial bycatch limit of 50 pounds or 38 fish per trip and a recreational bag limit of two fish in state waters of SNE/MA. Landings

have only increased slightly; the total commercial landings for all stocks (GBK, GOM, SNE/MA combined) reached 4.4 million pounds in 2014.

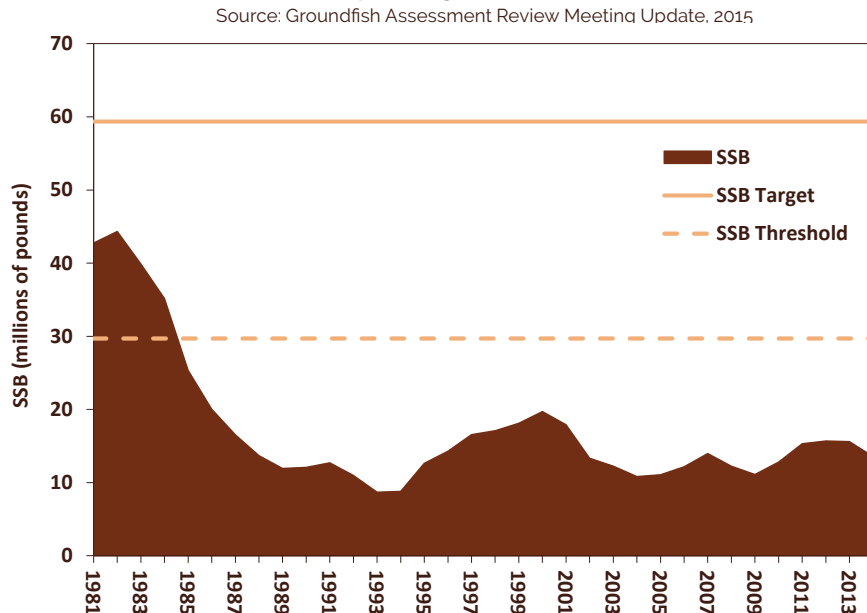
Recreational landings peaked in 1982 at 16.4 million pounds and have since maintained a declining trend. In 2013, only 77,000 pounds of winter flounder were harvested – the lowest amount ever recorded for the recreational fishery.

**Winter Flounder Commercial Landings by Stock Unit**  
Northeast Fisheries Science Center, 2015



Timeline of Management Actions: FMP & Addendum I ('92); Addendum II ('98); Amendment 1 ('05); Addendum I ('09); Addendum II ('12); Addendum III ('13)

**Southern New England/Mid-Atlantic Winter Flounder Spawning Stock Biomass**  
Source: Groundfish Assessment Review Meeting Update, 2015



## *Fishery-Independent Data Collection*

Fishery-independent monitoring provides insight into the status of fish stocks without the biases inherent to commercial and recreational fisheries catch information. The data collected through monitoring programs are a critical component to the Commission's stock assessment and fisheries management processes. The Commission coordinates two primary Atlantic coast fishery-independent data collection programs – the South Atlantic component of the Southeast Area Monitoring and Assessment Program (SEAMAP) and the Northeast Area Monitoring and Assessment Program (NEAMAP).

### **SEAMAP**

SEAMAP is a cooperative program among state and federal agencies, and universities to facilitate the collection, management, and dissemination of fishery-independent data in the Southeastern U.S. and Caribbean. Since 1982, SEAMAP has conducted long-term standardized surveys that have become the backbone of fisheries and habitat management for its three regions – South Atlantic, Gulf of Mexico, and Caribbean. Each SEAMAP component operates independently, planning and conducting surveys and information dissemination in accordance with administrative policies and guidelines of NOAA Fisheries Southeast Regional Office.

In 2015, SEAMAP-South Atlantic surveys (trawl, longline, and trap) continued to collect data on the distribution and abundance of a variety of important commercial and recreational species from North Carolina to Florida (e.g., red drum, Spanish mackerel, striped bass, snapper, and grouper). A total of 326 stations were sampled by the SEAMAP-South Atlantic Coastal

Trawl Survey and the Pamlico Sound Survey completed a total of 108 stations during the 2015 funding cycle. The Coastal Longline Survey completed a total of 648 sets in 2015 with 1,007 red drum captured. Many of the drum were tagged and released as well as sampled for genetic material. Data collected from all SEAMAP-South Atlantic surveys provide long-term population metrics such as abundance trends, diet composition, and age structure for use in interstate, state, and federal stock assessments of recreationally and commercially important fish stocks.

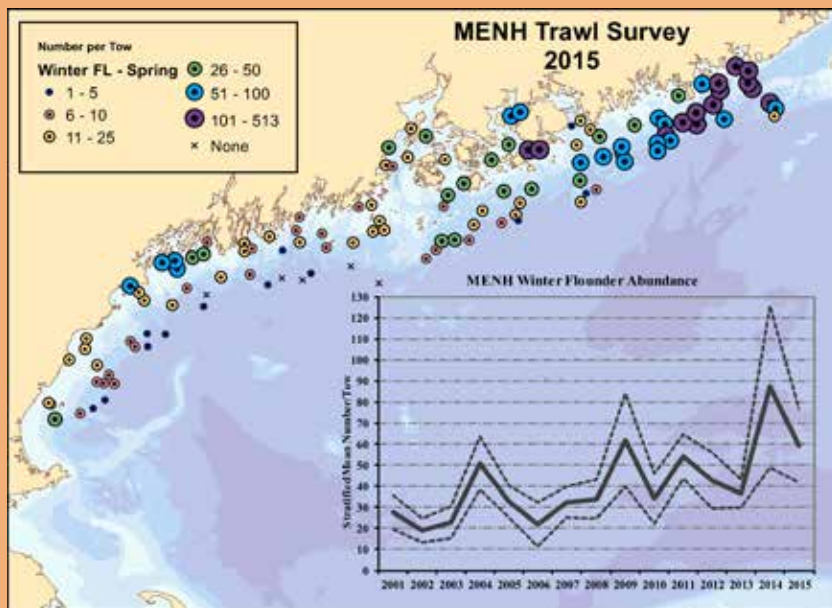
In 2015, SEAMAP-South Atlantic finished the development of a web-based application to integrate and disseminate information among several SEAMAP-South Atlantic fishery-independent surveys and the fishery managers that use SEAMAP data. The compilation of datasets has been useful for management of several important commercial and recreational fish species that migrate between the states' coastal waters and estuaries. With these data, fisheries scientists and managers can determine annual population trends, set fishing regulations, and evaluate management strategies. Visual and spatial representations of SEAMAP

and other South Atlantic fishery-independent data are available through a developing geographic information system [http://ocean.floridamarine.org/safmc\\_dashboard/](http://ocean.floridamarine.org/safmc_dashboard/). Additionally, SEAMAP-South Atlantic continued to support bottom mapping and fish habitat characterization activities, which gather seabed mapping data for managers to use when considering the establishment of marine protected areas and other fish habitat conservation areas. The SEAMAP-South Atlantic database can be accessed through [www.seamap.org/index.html](http://www.seamap.org/index.html).

### **NEAMAP**

NEAMAP is a cooperative state/federal fishery-independent research and data collection program for the coastal waters from Maine to North Carolina. Its mission is to facilitate the collection and dissemination of fishery-independent information obtained in the Northeast for use by state and federal fisheries management agencies, commercial and recreational fishermen, researchers, and others requesting such information. The intent of NEAMAP is not to change existing programs, but to coordinate and standardize procedures and improve data quality and accessibility. The





processing was held. Representatives from NEAMAP, SEAMAP-SA, the states, and the U.S. Geological Survey attended the workshop. The Workshop was designed to improve communication and collaboration among Atlantic coastal fishery-independent surveys and personnel, and discuss methodologies used in catch-processing for each individual survey. Workshop outcomes include identifying future sampling needs and areas where standardization among surveys is feasible.

## Research Initiatives

The Commission conducted several fisheries research initiatives in 2015 to address high priority issues for the Atlantic states and their stakeholders. Information gathered from research initiatives provides the scientific basis for Commission stock assessments and is fundamental to advising fisheries managers on the health of fish and shellfish populations.

### Atlantic Menhaden

In response to the positive findings of the 2015 Atlantic menhaden benchmark assessment, which found the resource is not overfished nor experiencing overfishing, the Atlantic Menhaden Management Board approved a 10% increase to the TAC for the 2015 and 2016 fishing seasons. As part of this action, the Board also committed to moving forward with the development of an amendment to establish ERPs that reflect Atlantic menhaden's role as a forage species, as well as consider changes to the current state-by-state allocation scheme. To help inform allocation decisions, the Commission solicited proposals to conduct a socioeconomic analysis of the Atlantic menhaden fishery. The study, expected to begin in early 2016, is intended to characterize the coastwide commercial fisheries, including bait and reduction sectors and the fishing communities they support. The analysis will be

program, which was initiated in 1997 and became operational in 2006, was developed to respond to the lack of adequate survey coverage and coordination in the coastal waters of the Mid-Atlantic Bight. Its primary tool to fill the gap in coverage has been the SNE/MA Nearshore Trawl Survey. The Nearshore Survey is conducted in the SNE/MA regions and has completed spring and fall surveys from 2007 to present. The survey samples inshore waters from Cape Hatteras, North Carolina northward to Martha's Vineyard, Massachusetts. NEAMAP also includes the Maine-New Hampshire Inshore Trawl Survey and the Massachusetts Inshore Trawl Survey. Survey data are used to complement data from NOAA Fisheries NEFSC Trawl Survey, which samples in deeper, offshore waters of the Mid-Atlantic and New England.

In 2015, the Nearshore Trawl Survey conducted tows at 150 locations in depths ranging from three to 25 fathoms. To date, over seven million individual fish and invertebrates, representing over 175 different species, have been collected by the survey. In 2015, the Maine-New Hampshire Inshore Trawl Spring and Fall Surveys, which have been in operation since 2000, conducted over 200 tows in five regions along the Maine/New Hampshire coast in depths ranging from five to 56 fathoms. The Massachusetts Inshore

Trawl Survey, which has conducted spring and fall surveys since 1978, surveyed 200 stations in five geographic regions at depths up to 180 feet in 2015.

Data collected by both the Maine/New Hampshire and Massachusetts Surveys included information on length, sex and maturity, age, and food habits of dozens of fish and crustacean species, as well as ocean bottom temperatures. Data from all three surveys – catch numbers, and individual fish and invertebrate lengths, weights, ages, and diets – are being used in stock assessments and are vital to improving our ability to track annual changes in population sizes and age structures. For further information about NEAMAP and its partner surveys, please visit [www.neamap.net/](http://www.neamap.net/).

In 2015, NOAA Fisheries provided funding to support the SNE/MA Nearshore Trawl Survey, which had previously been funded through the MAFMC's Research Set-Aside Program. In 2017, NOAA Fisheries will also begin funding the Maine-New Hampshire Trawl Survey, which is partially funded by NOAA Fisheries Northeast Cooperative Research Program.

In January 2015, a collaborative workshop focusing on fishery-independent trawl survey catch

conducted throughout 2016 and will rely on stakeholder engagement to obtain socioeconomic data to conduct the analysis. The results are expected to assist fishery managers, industry, and stakeholders as they contemplate difficult allocation decisions in the future.

### **Horseshoe Crab**

From 2002 to 2011, the Horseshoe Crab Trawl Survey, conducted by Virginia Tech University's Horseshoe Crab Research Center, has been the only fishery-independent survey designed to sample horseshoe crab populations in Atlantic coastal waters. The survey's data have been a critical component of the Commission's coastwide stock assessment and ARM Framework, which incorporates both shorebird and horseshoe crab abundance levels to set optimized horseshoe crab harvest levels for the Delaware Bay area. The ARM Framework was used to set specifications for the 2013 to 2015 fishing seasons.

Due to funding shortfalls, the Horseshoe Crab Trawl Survey has not been conducted since 2012. The temporary break in the survey and its data present challenges for use of the ARM Framework, which depends on the adult abundance indices derived from the Horseshoe Crab Trawl Survey data. In 2015, the Commission received funds to conduct the Trawl Survey in 2016. While this is a positive development, it is a one-time funding appropriation/allocation. The



Commission will continue to seek long-term funding for this important survey.

### **Jonah Crab**

Jonah crab commercial fishing has gained popularity on the Atlantic coast in recent years. Historically, Jonah crab was considered bycatch in the New England lobster fishery. However, over the past 15 years market demand has more than quadrupled, increasing targeted fishing pressure on Jonah crab. Size at maturity is a key information gap toward understanding Jonah crab population dynamics. In areas where most of the U.S. Jonah crab fishery is conducted, no information exists on the size at maturity for male and female crab. The absence of maturity data makes it impossible to estimate spawning stock size and the stock's reproductive potential, which undermines our ability to set biological reference points and

conduct a stock assessment. A new study was initiated in 2015 to assess the size at maturity for both female and male Jonah crab. Anticipated results will improve our understanding of stock dynamics and more fully inform the new FMP established in 2015.

### **Northern Shrimp**

The 32nd Gulf of Maine Northern Shrimp Trawl Survey was conducted in 2015 by NEFSC in cooperation with the Commission's Northern Shrimp Technical Committee. A total of 84 stations were sampled in the offshore waters of the Gulf, with information on shrimp numbers, sizes, gender, and maturity collected to provide data for annual stock assessments and related analyses. The survey is a valuable tool for consistently evaluating the shrimp stock's condition. Results show shrimp abundance and biomass have declined steadily since 2008, with 2014 and 2015 catches at the lowest levels ever recorded in the survey's history. A notable decline in shrimp sizes across life stages and genders was also detected in the 2015 survey.

### **Red Drum**

The Commission identified red drum as a priority species in need of additional research because the status of the adult portion of the population is not well known. Information on adult red drum is a



major deficiency, which limits the stock assessment to characterizing only age 1-4 fish before they migrate offshore and reach a maximum age of up to 60 years. With federally dedicated research funds, state scientists from North Carolina, South Carolina, and Georgia conduct bottom longline surveys to provide a fishery-independent index of adult red drum abundance. Many red drum encountered in the survey are tagged to provide information on survival rates, migratory behavior, and stock identification. Information is also collected on the presence of hatchery-origin fish in the offshore adult population, as well as sex ratios, maturity, and age structure of the population. All of the information is critical for evaluating the status of the red drum population, including use in the newest stock assessment, and developing a successful red drum management program. Data on coastal shark distributions and abundances are also recorded in the long line surveys.

### Fish Ageing

Fish age and growth information are key components of stock assessments that improve our understanding of species' population dynamics. With age samples being collected, processed, and read by scientists at several institutions every year, it is important to ensure all ageing labs follow consistent protocols. In 2015, the Commission facilitated fish ageing consistency and data sharing among different Atlantic coast laboratories through the development of standardized ageing protocols, the exchange of ageing samples, and a fish ageing workshop for Atlantic menhaden. Results from the ageing workshop will be included in the next benchmark assessment of menhaden. Workshop results and ageing protocols can

also be found on the Commission website at [www.asmfc.org/fisheries-science/research](http://www.asmfc.org/fisheries-science/research). American eel and spot age sample exchanges and workshops are planned for 2016. The Commission will also be initiating in 2016 a new black drum age sample collection program among the Mid-Atlantic states to obtain better age data on larger, older individuals in order to work toward developing an age-based stock assessment model.

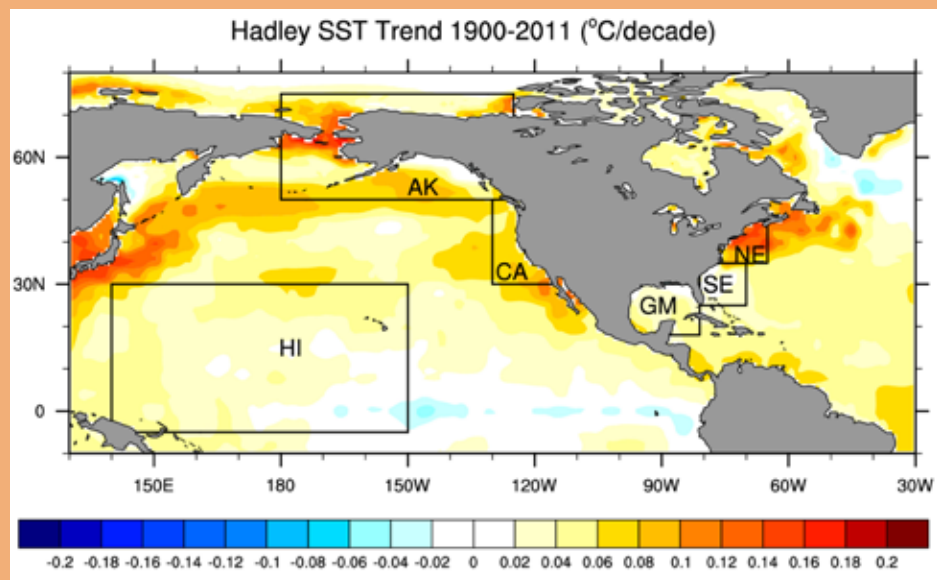
### Climate Change

Climate change can have significant impacts on the behavior and geographic distribution of fishery resources. With warming waters, the availability of habitat for fish stocks may change and species may shift their range to seek out more suitable conditions. With stocks that are on the move, there is a need to reassess current management plans and fishery allocations. However, it is important to first fully evaluate the environmental and regulatory drivers that control stock distributions before revising management strategies.

In 2015, the Commission investigated whether climate change and warming coastal water temperatures are causing shifts in the geographic distributions of populations as part of the benchmark stock assessments for American lobster,

scup, and bluefish. In addition, based on previous analysis by the Commission's Management and Science Committee on climate-induced shifts in black sea bass, scup, and summer flounder stocks, the Summer Flounder Management Board continued regional allocation approaches for the summer flounder recreational fishery to account for changes in stock availability along the coast.

In anticipation of future climate impacts to fish and crustacean stocks, the Commission is adding evaluations of climate-induced distribution shifts to upcoming stock assessments for black sea bass, weakfish, spot, croaker, and northern shrimp. The Commission is also incorporating the latest science and analytical tools to evaluate climate impacts to fish habitat through its Habitat Program and the Atlantic Coastal Fish Habitat Partnership (ACFHP). The Commission will continue to track developing scientific tools and management issues related to climate and fisheries, including a new fish stock climate vulnerability tool developed by NOAA Fisheries ([www.st.nmfs.noaa.gov/ecosystems/climate/activities/assessing-vulnerability-of-fish-stocks](http://www.st.nmfs.noaa.gov/ecosystems/climate/activities/assessing-vulnerability-of-fish-stocks)).



Rate of change in global sea surface temperatures/decade from 1900-2011. Note the high rate of change in waters off New England. Image (c) NOAA



## Cooperative Tagging

Tag and recapture data are valuable inputs to the stock assessments of several Commission-managed species, including Atlantic striped bass, red drum, Atlantic sturgeon, weakfish, spiny dogfish, and coastal sharks. The Interstate Tagging Committee (ITC) seeks to improve the quality and utility of fish tagging data through the development and promotion of protocols for effective tagging programs. ITC maintains a Cooperative Tagging Website and Registry, providing information on coastwide tagging programs. Anglers can search the database by fish species, tag type, and tag color in order to identify recovered tags. Recent ITC activities include certification of state tagging programs in Massachusetts, Virginia, and South Carolina and development of online tagging videos to guide anglers on proper tagging techniques. The cooperative tagging website can be found at [www.fishtag.info](http://www.fishtag.info).

Since the early 1980s, the Commission has been a partner to the Cooperative Winter Tagging Program led by USFWS. The Program organizes annual field tagging of Atlantic striped bass, Atlantic sturgeon, spiny dogfish, and other species that aggregate each winter in the coastal waters off Virginia and North Carolina. In 2015, trawling was conducted aboard a research vessel to catch, tag, and

release striped bass and other target species. To supplement the trawl sampling, scientists and captains aboard recreational charter vessels caught, tagged, and released approximately 1,000 striped bass. Information from recaptured fish with tags provides scientists with data to better understand fish survival and growth, habitat preferences, seasonal movements and migrations, and stock boundaries.

## Multispecies Models and Assessments

The Commission recognizes the importance of ecological interactions, such as predator-prey relationships, in understanding the population dynamics of fishery resources. The Commission's Multispecies Technical Committee (MSTC), a group of state, federal, and university scientists, is responsible for evaluating relationships among species via a multispecies analytical framework that utilizes a suite of predator-prey models.

The MSTC periodically performs updates to the models and works with the Commission's Assessment Science Committee to consider and evaluate alternative single-species stock assessment models that incorporate ecosystem factors. In addition, a new ERPs Work Group continues to develop multispecies models and ecosystem-based

approaches that may be used to develop ERPs for Atlantic menhaden. The reference points would be based on the forage needs of menhaden's primary predators (e.g., Atlantic striped bass, weakfish, bluefish). In 2015, the committees updated the traditional multispecies model and provided new multispecies models to complement the results of the 2015 Atlantic menhaden benchmark stock assessment.

## Stock Assessment Peer Review

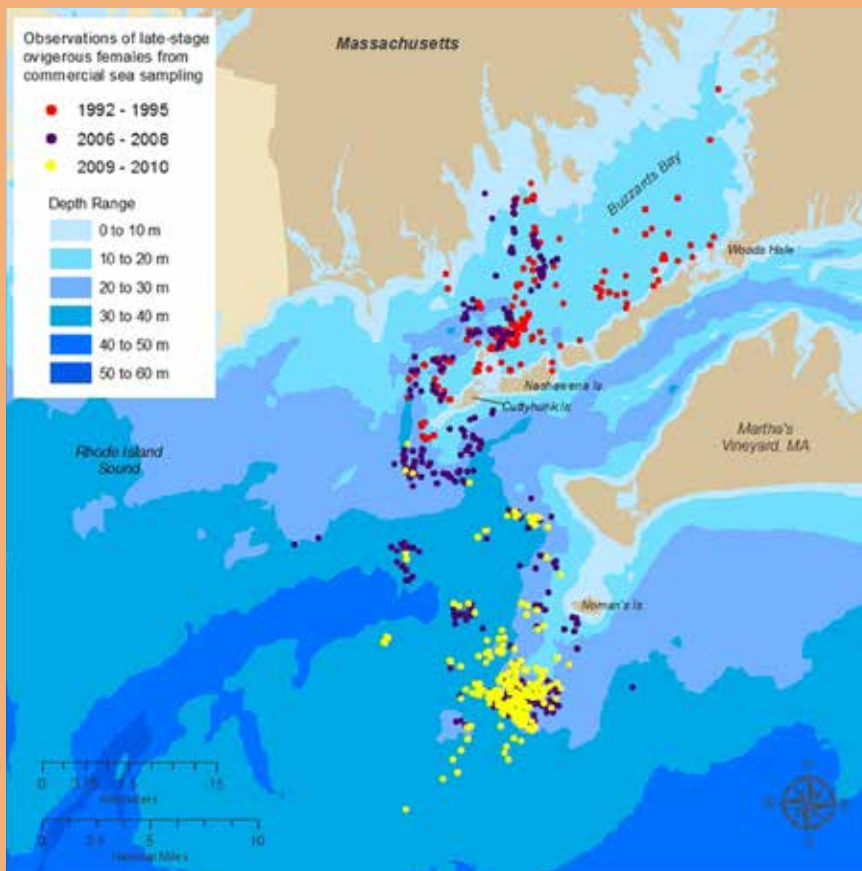
The Commission's species management boards rely on the scientific and technical information provided by independent peer reviews of stock assessments to evaluate stock status and develop fisheries regulations using the best available science. In 2015, four stock assessments were evaluated through various peer review processes. The bluefish and scup assessment reviews were conducted through the Northeast Regional Stock Assessment Review Committee. The red drum stock assessment was evaluated through the SouthEast Data and Assessment Review process. The American lobster, tautog, and black drum stock assessments were reviewed through the Commission's external peer review process. Each assessment was presented to the respective species management boards to inform management decisions for the stocks.



## Stock Assessment Training

The Commission organizes stock assessment training courses to provide instruction to fisheries professionals on the most progressive analytical methods available for use in stock assessments. Courses are provided each year to meet the specific training needs identified as critical to supporting coastwide assessments and to provide managers with a better understanding of assessment results. The courses are designed to provide state scientists with hands-on experience in developing stock assessments, using fishery-independent and -dependent data in a variety of analytical methods and models. In 2015, the Commission held two stock assessment training courses. The first was a weekly webinar designed to introduce fisheries scientists to basic population dynamics and stock assessment theory in preparation for future participation on Commission technical committees. The second was an advanced training course for more experienced stock assessment scientists to enhance their knowledge, skills, and use of Bayesian statistics in stock assessment modeling and related technical analysis. The Commission anticipates holding an intermediate level training course in 2016.

The Commission has created a dedicated page on Fisheries Science 101 at [www.asmf.org/](http://www.asmf.org/)



Habitat Bottlenecks: Map of distribution shift in late-stage egg bearing female lobsters in Southern New England that has been related to changes in temperature. Image (c) MA DMF

*fisheries-science/fisheries-science-101.* The webpage explains the basic concepts of fisheries science to give stakeholders a better understanding of the types of information scientists provide to fisheries managers. It also includes links to stock assessment seminars, such as *Understanding the Science Behind Northern Shrimp Management*. Additional seminars will be posted as they become available.

## Habitat Protection, Restoration, and Enhancement

The Commission recognizes that protection, restoration, and enhancement of fish habitats are essential to promoting the sustainability of fisheries along the Atlantic coast. The Habitat Committee's goal is to identify, enhance, and cooperatively manage vital fish habitat for conservation,

restoration, and protection, and to support cooperative management of fisheries activities. The Committee successfully performed this role through several activities in 2015.

The Habitat Committee released its annual issue of the **Habitat Hotline Atlantic**. The issue focused on the impacts of energy development on fish habitats and included four articles from the Bureau of Ocean Energy Management, as well as an article on the importance of sounds to fish communities and their habitats. The Hotline also included updates from ACFHP and state and governmental agencies.

The Habitat Committee finalized, and the Commission approved, the latest installment of the Commission's Habitat Management Series, *Habitat Bottlenecks and Fisheries Management*. The report provides examples of environmental



and physical bottlenecks facing managed species along the Atlantic coast, including American lobster, horseshoe crab, summer and winter flounder, and Atlantic sturgeon. The report is available at [www.asmfc.org/habitat/hot-topics](http://www.asmfc.org/habitat/hot-topics).

As part of its responsibility to provide the most up-to-date information on the habitat needs and ecosystem functions of Commission-managed species, the Habitat Committee continues to update habitat sections of the Commission FMPs. In 2015, the Commission began updates to the habitat sections for upcoming plan amendments for Atlantic menhaden and tautog. The Habitat Committee also updated the habitat factsheets for 25 Commission-managed species. The factsheets include the latest science on species migratory behavior, environmental and habitat requirements, as well as threats to habitat and species restoration efforts. The factsheets can be found on the website at [www.asmfc.org/habitat/program-overview](http://www.asmfc.org/habitat/program-overview) as well as on each species page.

Throughout 2015, the Habitat Committee continued the development of a sciaenid species habitat source document, similar to the Atlantic Coast Diadromous Fish Habitat document published in 2009. Information from the source document will be used to

develop new habitat sections for the Commission-managed sciaenid species, such as Atlantic croaker, black drum, and weakfish. The document is close to completion, and will be presented to the Commission for approval in early 2016.

## **Atlantic Coastal Fish Habitat Partnership**

Beginning in 2006, the Commission contributed to the establishment and growth of ACFHP, an assembly of state, federal, tribal, and non-governmental groups whose mission is to conserve habitat for Atlantic coast diadromous, estuarine-dependent, and coastal fish species. The Partnership addresses habitat threats with a broad and coordinated approach, leveraging resources from many agencies, organizations, and corporations to make a difference for fish habitat. ACFHP operates under the purview of the National Fish Habitat Partnership (NFHP).

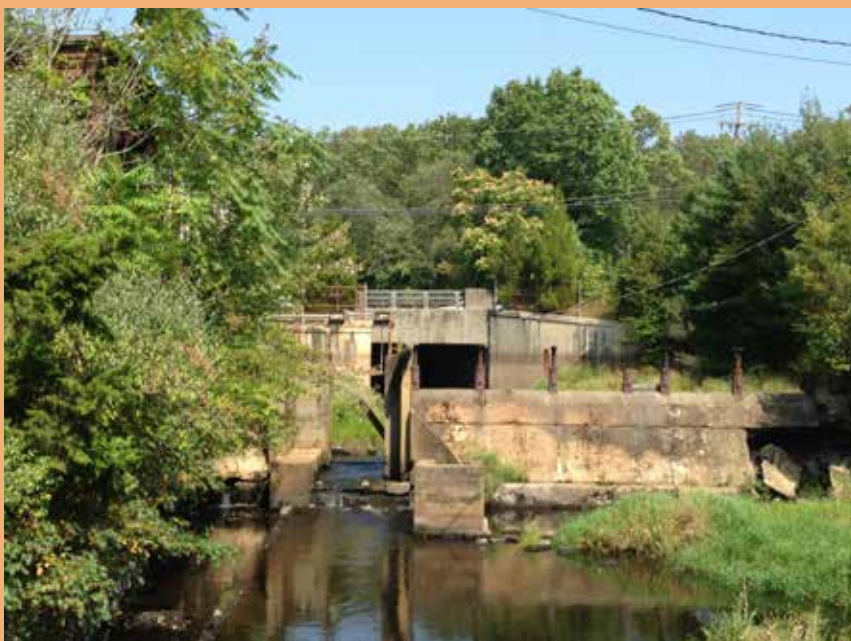
2015 was the sixth year of ACFHP's successful partnership with USFWS in funding on-the-ground fish habitat conservation projects. Three new projects were funded, each aiming to improve fish habitat in rivers and streams along the Atlantic coast. The first project is led by the Town of Surry and will restore fish passage in Patten Stream, Maine. The second, led by The Nature Conservancy, will remove a dam on the Satucket River



in East Bridgewater, Massachusetts. The third project is focused on restoring spawning habitat for shad and sturgeon in the Cape Fear River in North Carolina, and is being led by the Cape Fear River Watch. For more information on all ACFHP-USFWS funded projects, please visit [www.atlanticfishhabitat.org/projects/fundedprojects/](http://www.atlanticfishhabitat.org/projects/fundedprojects/).

In cooperation with its state partners, and with funding from NOAA Fisheries, ACFHP successfully installed four conservation moorings near Jamestown, Rhode Island. Conservation mooring is a system designed to avoid contact with the seafloor and reduce physical damage to the seagrasses that provide valuable habitat for young fish. The system uses an elastic connection, akin to a bungee cord, to connect the surface buoy with the anchoring device. This eliminates chain sweep that physically damages or eliminates vegetation growing on the seafloor. An interpretive sign will be installed at nearby marinas to inform the public on the benefits of conservation moorings and submerged aquatic vegetation. Post-installation monitoring will occur throughout 2016 to measure success.

ACFHP was awarded a grant from MAFMC to solicit projects that promote restoration or research on offshore black sea bass habitat in





the Mid-Atlantic. A subcommittee of habitat experts developed the request for proposals, which was released in late 2015. Project evaluation and selection will occur in early 2016.

In 2015, significant progress was made in the development of a Decision Support Tool to Assess Aquatic Habitats and Threats in North Atlantic Watersheds and Estuaries. ACFHP and its partners worked with Downstream Strategies, LLC to compile and analyze the threats to inland, estuarine, and coastal aquatic species across the Northeast Atlantic. The data were used to model habitat and species distributions, which will yield two products: distribution maps, and a multi-criteria decision support tool for resource managers when planning habitat restoration projects. The work was funded by the North Atlantic Landscape Conservation Cooperative. Eastern brook trout and winter flounder models have been completed, and river herring analyses are underway. To view the tool, please visit [www.fishhabitattool.org](http://www.fishhabitattool.org).

ACFHP and The Nature Conservancy successfully completed their final report on river herring habitat restoration needs in select watersheds along the U.S. Atlantic coast, with funding from the National Fish and Wildlife Foundation's River Herring Initiative. The project

involved collaboration with river herring experts from state and federal agencies and non-governmental organizations via in-person workshops, meetings, and webinars. The project resulted in multiple reports on river herring habitat needs, advanced the cooperation among stakeholders in each region, and will aid ACFHP in prioritizing river herring restoration needs for future ACFHP-USFWS project funding. To find out more, please visit [www.atlanticfishhabitat.org/planningresources/publications/](http://www.atlanticfishhabitat.org/planningresources/publications/).

ACFHP continued the Whitewater to Bluewater project in 2015 with its Fish Habitat Partnership neighbors, the Southeast Aquatic Resources Partnership (SARP) and the Eastern Brook Trout Joint Venture ([www.easternbrooktrout.org/groups/whitewater-to-bluewater/](http://www.easternbrooktrout.org/groups/whitewater-to-bluewater/)). The initiative promotes a collaborative approach to protecting and restoring habitat from the headwaters of small streams, to downstream estuaries, and out to the continental shelf by implementing the shared goals of the three partnerships and the National Fish Habitat Action Plan. ACFHP and SARP also collaborated on submitting a joint mangrove restoration proposal to NOAA's Coastal Resiliency Program. The three partnerships have continued to work on a fish passage barrier removal factsheet to assist

conservation groups and agencies in developing outreach products to enhance public understanding and support for fish passage projects.

In August, ACFHP attended the 145th Annual American Fisheries Society Meeting to display outreach materials at the NFHP booth and present at the conference during the NFHP Symposium. The NFHP Symposium highlighted science and data, on the ground restoration, and collaborative successes of many of the 19 Fish Habitat Partnerships from around the country. For more information on the meeting, please visit the American Fisheries Society website at [www.2015.fisheries.org](http://www.2015.fisheries.org).

Two new partners joined ACFHP in 2015: the International Federation of Fly Fishers (IFFF), and the North Carolina Coastal Federation (NCCF). The IFFF is a 46-year old international non-profit organization dedicated to the betterment of the sport of fly fishing through conservation, restoration, and education. The NCCF is a 33-year old non-profit organization dedicated exclusively to protecting and restoring the coast of North Carolina through education, advocacy, and habitat preservation and restoration. ACFHP is excited to have both of these well-respected organizations join the Partnership.



The Atlantic Coastal Cooperative Statistics Program (ACCSP) is a cooperative state-federal program that designs, implements, and conducts marine fisheries statistics data collection programs and integrates those data into a single data management system to meet the needs of fishery managers, scientists, and fishermen. Its mission is to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed, and disseminated according to common standards agreed upon by all Program Partners, who include the Commission, the three Atlantic fishery management councils, the 15 Atlantic states, the Potomac River Fisheries Commission, the D.C. Fisheries and Wildlife Division, NOAA Fisheries, and USFWS.

## **Fisheries-Dependent Data Collection**

ACCSP's primary objective is the collection and management of fisheries-dependent data to provide necessary information to its program partners for near-term fisheries management activities (quota and compliance monitoring) and for longer-term processes such as stock assessment. ACCSP standardizes methods and systems through collaboration among its partners. Using these standards, ACCSP developed and manages an online data collection program, the Standard Atlantic Fisheries Information System (SAFIS) and a consolidated fisheries-dependent data storage and dissemination system, the Data Warehouse.

## **SAFIS**

SAFIS is currently deployed as a web-based system to collect dealer and trip data in many Atlantic states and NOAA Fisheries Northeast and Southeast Regional Offices. Dealer reporting systems that use swipe cards to uniquely identify harvesters were developed for use in Massachusetts and Maine. These new systems will initially be deployed for American eel and sea urchin dealers in Maine, and shellfish dealers in Massachusetts. The Program received requests to expand this tool into Rhode Island in 2016 and expects to develop and deploy a standard version that could be used for all fisheries during 2016-2017.

Throughout 2014 and 2015, staff continued development of tablet-based systems for both dealer and



trip reporting. Tablet systems have the advantage of not requiring a full time connection to the internet and are increasing in popularity. The first project was developed for the for-hire fishery in Rhode Island, followed by a collaborative project in the Northeast with the Northeast Regional Ocean Council and SeaPlan to track ocean use. Working with volunteers, the latter project tested the feasibility of using the built in GPS capabilities of most tablets to track vessel location providing data needed to assess ocean use. The system is currently in the process of being approved for use in federal fisheries.

In 2015, 143,507 trips were entered into SAFIS using the on-line eTrips

application. Over 650,000 dealer reports were entered into the SAFIS dealer reporting module. There were 1,893 commercial dealers and 6,890 commercial fishermen using the system.

## **Data Warehouse**

The Data Warehouse contains fisheries-dependent landings and catch data back to 1950 and is used for stock assessment and other data intensive research. Data are loaded twice yearly with preliminary data for the prior year being made available by mid-April and final data in November. Minor updates are made on an as-needed basis. The Data Warehouse provides an access controlled online user interface that utilizes Oracle Discoverer. Staff are in the process of developing a new interface that will be more intuitive and easier to use. In addition, a new biological module has been designed and will be deployed in early 2016.

In 2015, 89 data users (commercial fishermen, dealers, state and federal staff, fishery managers, scientists, and stakeholders) accessed the Data Warehouse to run 12,047 data queries for stock assessments, management purposes, industry research, and other needs. Users of the public version of the Data Warehouse ran an additional 1,590 queries.

## **Website**

In 2015, ACCSP launched its newly revised website, highlighting the program and its major tools, products, and partner projects. To learn more about ACCSP, visit us at [www.accsp.org/](http://www.accsp.org/)

*During 2015, the Commission had the privilege of presenting awards to several deserving individuals who have directly contributed to furthering the Commission's Vision of Sustainably Managing Atlantic Coastal Fisheries.*

### *Captain David H. Hart Award*

The Commission presented **WILLARD "BILL" COLE**, formerly with the USFWS, the Captain David H. Hart Award, its highest annual award, at the Commission's 74th Annual Meeting in St. Augustine, Florida.

Throughout his nearly 40-year career as a state, university, and federal fishery manager and scientist, Mr. Cole worked to protect, restore, and conserve fisheries resources and their habitats along the Atlantic coast. Mr. Cole graduated from North Carolina State University in 1966, and moved to Lake City, Florida, where he began his career with the Florida Game and Freshwater Fish Commission. Shortly after, he joined USFWS, where he stayed for the remainder of his career. At USFWS, Mr. Cole served in different capacities and numerous offices from North Carolina, to New York, D.C., Texas, and even New Mexico. In each place he left an indelible mark; serving on review teams for the first Everglades study; developing the Navigable Waters Handbook; protecting riverine, wetland, and coastal habitats in Long Island Sound, the Hudson River, and St. Lawrence Seaway; and establishing what ultimately would become USFWS' South Atlantic Fish and Wildlife Conservation Office. While with the South Atlantic Office, he worked closely with the State of North Carolina to restore anadromous fishery resources throughout the Albemarle and Pamlico Sounds, once the site of the largest commercial American shad and river herring fisheries on the entire East Coast.

With his customary vision, Mr. Cole understood early on that management of fishery resources in North Carolina required participation in regional fishery management institutions as well. As such, he became involved with both the SAFMC and the Commission as the Southeast Regional Director's designee for both institutions. He served in that capacity continuously for 19 years. Mr. Cole served on numerous committees and management boards for both groups and, prior to his retirement, served



as Chair of the Commission's South Atlantic State-Federal Fisheries Management Board.

Along with several colleagues, Mr. Cole conceived the Cooperative Winter Tagging Cruise off the coasts of North Carolina and Virginia. The Cruise was designed to tag striped bass in a mixed stock of migratory fish wintering off North Carolina's Outer Banks and southern Virginia as a part of the Commission's Atlantic migratory striped bass management program. The

Cruise began in 1988 and has been conducted annually with few interruptions. It is one of the longest time series of any such coastal tagging program, as well as one of the most effective federal, state, and academic partnerships. Mr. Cole served as Chief Scientist on all but two of the cruises during an 18 year period and annually coordinated scheduling, equipment acquisition, and recruitment of all Scientific Party members. Through the years, tagging of additional Commission and Council managed species was added to the Cruise protocol. To date, the Cruise has tagged 252 Atlantic sturgeon and over 47,000 striped bass, with a tag return rate approaching 20 percent.

Mr. Cole is a charter member of the Atlantic Coastal Cooperative Statistics Program Operations Committee. He has been an ardent supporter of the Program since its inception, providing staff to serve as the initial Program Coordinator, and working tirelessly with federal and state partners to move the program forward.

Finally, during his last year with USFWS, Mr. Cole was detailed to the NOAA Fisheries where he served as Special Assistant to the Assistant Administrator for Fisheries, Dr. William Hogarth. Mr. Cole was a key element in planning several national-level meetings that brought together fisheries professionals from Regional Fishery Management Councils and Interstate Commissions to consider the future direction of fisheries management.

Mr. Cole has characterized himself as a "biopolitician," but his contribution to the management of U.S. East Coast fisheries goes well beyond his many notable accomplishments. Mr. Cole has been a true friend and mentor to many in the fisheries management community.

***The Commission instituted the Award in 1991 to recognize individuals who have made outstanding efforts to improve Atlantic coastal marine fisheries. The Hart Award is named for one of the Commission's longest serving members, who dedicated himself to the advancement and protection of marine fishery resources.***

## Awards of Excellence

### Management & Policy Contributions



**STEVEN HEINS**  
*New York State Department of Environmental Conservation (NYS DEC)*

Steven Heins has been dedicated to state, interstate, and federal management issues for nearly three decades, providing leadership, innovation, and technical excellence that represents the core mission and values of the Commission. From 1988 to 2000, Mr. Heins oversaw

New York's species monitoring programs, playing an important role in helping to inform management decisions at the Commission and MAFMC. He developed and implemented New York's Artificial Reef and Access Program, authoring the original Reef Management Plan and environmental impact statement that made the program a reality. He is also a longstanding member and past chair of the Commission's Artificial Reef Committee, which has been providing guidance on and coordinating artificial reef development activities along the Atlantic coast since the mid-1980s.

Since 2006, with his promotion to Chief of Finfish and Crustaceans Section, Mr. Heins has represented NYS DEC on MAFMC and a number of its committees including Atlantic mackerel, squid, and butterfish; surf clam, ocean quahog, and tilefish; and demersal and coastal migratory species. He is the lead for management and compliance information for all Commission-managed species in New York and has been a longstanding member and active participant on the Management and Science Committee. He is also a member and chair of the NEAMAP Board, which oversees three fishery-independent data collection surveys for the coastal waters of Maine to North Carolina. When other funding was unavailable to support the program, Mr. Heins played a pivotal role in securing over \$500,000 to support NEAMAP. Recently, he helped craft the current summer flounder regional management

approach and he continues to work to find solutions to current management challenges with striped bass, black sea bass, tautog, and Atlantic sturgeon.

### Scientific & Technical Contributions

**MATTHEW CIERI, PH.D.**  
*Maine Department of Marine Resources (ME DMR)*

Throughout his career, Dr. Matthew Cieri has provided critical assessment expertise to aid in the management of marine resources in Maine, New England, and along the Atlantic coast. Since 2001 as a marine resource scientist, Dr. Cieri has led Maine's Atlantic herring monitoring and stock assessment activities, providing technical advice and data analysis for resource assessment and management purposes. The monitoring program encompasses the collection and verification of landings data and biological information, as well as management of the herring ageing program and portside bycatch sampling program. On the regional front, Dr. Cieri has helped formulate herring "days out" options for managers and industry decision making, and worked closely with the NEFMC's Atlantic Herring Plan Development Team to develop river herring and shad catch cap options for use in the Council's Framework 3.



Dr. Cieri is also a member and important contributor on numerous Commission and Council committees, including technical/stock assessment committees for Atlantic menhaden, spiny dogfish, American eel, and Atlantic herring, which he chaired for many years. He chaired the Commission's Multispecies VPA (MSVPA-X) Subcommittee and the American Eel Stock Assessment Committee. His efforts led to the successful review of the MSVPA-X, as well the timely and successful completion of the first coastwide benchmark stock assessment for American eel. The findings of the American eel benchmark assessment led to the current American eel management program.

**JEFFREY BRUST**  
*New Jersey Division of Fish and Wildlife (NJ DFW), Marine Fisheries Administration*

For the past 16 years, Jeffrey Brust's hard work, dedication, and innovative approaches to assessment science has made significant improvements to the Commission's stock assessment process and modeling techniques. For the last decade, Mr. Brust has either chaired or been one of the lead scientists for a number of species assessments, including weakfish, American eel, and tautog, developing innovative modeling approaches and successfully navigating them through peer review for their use in management. He is one of the lead



scientists for assessing data poor species by employing methods traditionally used on the West Coast and applying those techniques to Commission species, such as American eel. Even when not serving on the stock assessment subcommittee, Mr. Brust has a way of making an impact on the success and utility of an assessment. As a member of the Atlantic Menhaden Technical Committee, which he also

chaired through the development and implementation of Amendment 2, Mr. Brust conducted a review and analysis of the historical menhaden fecundity studies, where he found an error in the interpretation of those results which led to new fecundity at age/size estimates and a significantly improved stock assessment.

Dedicated to increasing the stock assessment capabilities of state biologists, Mr. Brust has taught a number of beginner and intermediate stock assessment training courses. He also created, through the Assessment Science Committee, a stock assessment mentoring program to help technical committee members become exposed to the assessment process in an effort to develop future lead assessment scientists.

### **MICHAEL HENDRICKS**

#### ***Pennsylvania Fish & Boat Commission, Retired***

Michael Hendricks dedicated his 32-year career to restoring American shad to Pennsylvania's Susquehanna, Delaware, Lehigh, and Schuylkill Rivers. As a past member and chair of the Commission's Shad and River Herring Technical Committee, he pioneered the use of oxytetracycline (OTC) for marking American shad. He chaired the OTC Tagging Task Force which coordinates otolith tagging of hatchery produced American shad among the Commission member states. He developed and implemented culture techniques for American



and hickory shad, and led research activities at the Van Dyke hatchery, located on the Juniata River, for over 25 years. The Van Dyke hatchery was constructed in 1976 and was the first modern American shad hatchery in the nation. Under Mr. Hendricks' direction, approximately 237 million American shad fry have been reared and stocked in Pennsylvania's rivers. Mr. Hendricks has also chaired the Technical Committee of the Susquehanna River Anadromous Fish Restoration Cooperative, playing a lead role in drafting the current comprehensive Susquehanna River Anadromous Fish Restoration Plan. He has served

on the Delaware River Fish and Wildlife Cooperative Committee.

Dedicated to improving the passage of anadromous fish both up and downstream, Mr. Hendricks provided consultation on fishway development and implementation on the Schuylkill and Lehigh Rivers and served on various Chesapeake Bay Commission fish passage and fisheries management plan committees. He was an active participant on fish passage technical committees for four Susquehanna River hydroelectric dams and was a key player in the ongoing Federal Energy Regulatory Commission relicensing of four hydroelectric facilities on the Susquehanna River from 2004 to 2013 to ensure that anadromous fish protection and restoration are in the forefront in the negotiations.

## ***Law Enforcement Contributions***

### **SERGEANT JIM KANE**

#### ***Connecticut State Environmental Conservation Police***

Sergeant Jim Kane's dedication, knowledge of fishing practices and laws, and ability to work well with other law enforcement agencies throughout the region has earned him the respect and admiration of his law enforcement colleagues. For a decade, he has worked to ensure fishery management regulations within Rhode Island and neighboring states are being upheld, consistently performing a high level of at-sea and dockside inspections of commercial and recreational fishing vessels in his state, as well as numerous recreational shoreside fisherman inspections. Sergeant Kane has worked with New York, Rhode Island, and Massachusetts Law Enforcement as well as NOAA Office of Law Enforcement (OLE) on a number of fisheries investigations and enforcement initiatives. Several of these multi-state investigations involved commercial and recreational lobster, scallop, striped bass, scup, American eel, and winter and summer flounder fisheries. A couple of the investigations have been high level, such as one case which involved the illegal possession and sale of striped bass taken from Rhode Island and offloaded in Connecticut. Another case involved the successful prosecution of a Rhode Island commercial lobster fishing investigation, which involved New York and NOAA OLE; several hundred illegal lobster traps were seized as part of the investigation. During the past several years, Sergeant Kane has also been involved with numerous violations and federal referrals to NOAA OLE for commercial fishing vessels landing over the legal limits or possessing illegal species.



## Outreach & Advocacy Contributions



**JANICE PLANTE**  
*Former writer and associate editor for Commercial Fisheries News (CFN) and Fish Farming News*

Through her diligent reporting on fisheries issues, Janice Plante has significantly advanced stakeholder understanding of fisheries management and scientific activities along the Atlantic coast. No writer or journalist has done more to bridge the gap between fisheries managers/scientists and commercial fishermen than Ms. Plante. For the past three decades, Ms. Plante has not only been committed to, but also excelled at, breaking down complex fisheries management and science issues in clear, understandable, and accessible language that both inform and engage New England fishermen in the fisheries management process at all levels of government

(state, interstate, regional and federal). Not an easy task given that she has had to digest complicated fishery stock assessments, gear requirements, and regulatory issues, translating the bottom line into terminology easily grasped by commercial fishermen and the public. She has covered a multitude of issues ranging from American lobster to Atlantic herring, northern shrimp, spiny dogfish, and groundfish. Even though the news that she reported on has not always been favorable from the perspective of the commercial fishing industry, she has always done it in an unbiased way, presenting both the facts of matter and the full range of viewpoints, allowing her readership to come to their own opinions about the issue at hand. Throughout her career with CFN, Ms. Plante has worked closely with Commission staff to ensure that her stories correctly characterize the management issues and the science behind the Commission's management decisions, always with the intent to demystify and make more accessible the Commission's activities to the stakeholders it impacts the greatest. Ms. Plante's body of work is a true testament to her deep and abiding commitment to both the fisheries management process and the industries it seeks to support.

## ACFHP Melissa Laser Fish Habitat Conservation Award

**DEB WILSON** was presented the 2015 Melissa Laser Fish Habitat Conservation Award by the ACFHP for her exemplary work in furthering the conservation, protection, restoration, and enhancement of habitat for native Atlantic coastal, estuarine-dependent, and diadromous fishes. The award was presented at the 74th Atlantic States Marine Fisheries Commission Annual Meeting.



From left to right: Chris Powell (ACFHP Vice-Chair), Jake Kritzer (Habitat Committee Chair), Deb Wilson, Kent Smith (ACFHP Chair), Lisa Havel (ACFHP and Habitat Coordinator)

Festival, which welcomes around 100,000 visitors each year. She brings her restoration experience to the whole coast through service on the Atlantic States Marine Fisheries Commission's Shad and River Herring Advisory Panel.

The award was established in memory of Dr. Melissa Laser, who was a biologist with the Maine Department of Marine Resources, where she worked tirelessly to

Through her tireless fundraising and project oversight to restore the Damariscotta Mills fishway in Nobleboro, Maine, Deb has been instrumental in the return of more than 1 million alewives accessing 4,700 spawning acres upstream. With too many depleted runs along the coast, the Damariscotta Mills fishway serves as a model of sustainable, community-based fisheries management and a beacon of possibility for other communities seeking to restore their diadromous fish runs. Deb spreads that message through education and outreach initiatives such as the annual Damariscotta Mills Fish Ladder Restoration

protect, improve and restore aquatic ecosystems in Maine and along the entire Atlantic Coast. Dr. Laser brought her smiling dedication and enthusiasm to the Commission's Habitat Committee and Atlantic Coastal Fish Habitat Partnership's Steering Committee. Her contributions to these committees and to her home state were tremendous. Deb approaches her work with the same combination of warmth, humor, positivity, respectfulness, and quiet enthusiasm that Melissa exemplified, which has led to truly unique contributions to habitat conservation.



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*Fishery Management Plan  
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MICHAEL WAINE  
*Senior Fishery Management  
Plan Coordinator*

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## Atlantic Coastal Cooperative Statistics Program

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*Data Team Leader*

KAREN HOLMES  
*Software Team Leader*

ED MARTINO, PH.D.  
*IT Manager and Programmer*

GEOFF WHITE  
*Recreational Program Manager*

ALEX DIJOHNSON  
*Recreational Data Coordinator*

JOSEPH MYERS  
*Data Coordinator*

NICHOLAS MWAI  
*Fisheries Programmer*

JENNIFER NI  
*Fisheries Data Analyst*

SARAH RAINS  
*Scan Technician*

COLEBY WILT  
*Recreational Data Coordinator*

ELIZABETH WYATT  
*Program Assistant*



The federal budget cycle continues to be uncertain which makes planning and budgeting challenging. However, the Commission was fortunate to receive adequate funding to conduct all fundamental programmatic activities and maintain current staffing. Of note, 2015 was the first year the Commission received funding from NOAA Fisheries to support NEAMAP. Following is a financial snapshot of the Commission for the years ended June 30, 2015 and 2014. Detailed financial statements audited by the firm Jones and McIntyre, PLLC, are available from the Commission office.

Atlantic States Marine Fisheries Commission  
**Condensed Statement of Financial Position Information**  
 For the Years Ended June 30, 2015 and 2014

	<b>ASSETS</b>	
	2015	2014
<b>CURRENT ASSETS:</b>		
Cash and Investments	\$ 865,572	\$ 751,506
Grants and accounts receivable	1,390,510	506,897
Prepaid expenses	42,400	24,701
Total Current Assets	\$ 2,298,482	\$ 1,283,104
<b>Property and Equipment, Net</b>	\$ 3,766,596	\$ 3,933,076
<b>TOTAL ASSETS</b>	\$ 6,065,078	\$ 5,216,180
	<b>LIABILITIES AND NET ASSETS</b>	
<b>CURRENT LIABILITIES:</b>		
Accounts payable and accrued expenses	\$ 1,079,965	\$ 585,647
Deferred revenue and contract advances	337,466	161,804
Current maturities of long term debt	180,636	206,532
Total Current Liabilities	\$ 1,598,067	\$ 953,983
<b>OTHER LIABILITIES:</b>		
Long term debt	\$ 791,454	\$ 979,014
Obligation under interest rate swap	49,353	70,040
Total Other Liabilities	\$ 840,807	\$ 1,049,054
<b>TOTAL LIABILITES</b>	\$ 2,438,874	\$ 2,003,037
<b>UNRESTRICTED NET ASSETS</b>	3,626,204	3,213,143
<b>TOTAL LIABILITIES AND NET ASSETS</b>	\$ 6,065,078	\$ 5,216,180

Atlantic States Marine Fisheries Commission  
**Condensed Statement of Activities Information**  
 For the Years Ended June 30, 2015 and 2014

	2015	2014
<b>REVENUE:</b>		
Contract reimbursements	\$ 7,707,989	\$ 5,720,578
Contributions from member states	665,241	633,579
Other	48,235	49,633
<b>Total Revenue</b>	<b>\$ 8,421,465</b>	<b>\$ 6,403,790</b>
<b>EXPENSES:</b>		
Salaries and fringe benefits	\$ 3,695,869	\$ 3,312,581
Subcontracts	2,663,955	1,036,827
Travel	986,842	921,172
Other	661,738	765,644
<b>Total Expenses</b>	<b>\$ 8,008,404</b>	<b>\$ 6,036,224</b>
<b>CHANGE IN NET ASSETS</b>	<b>\$ 413,061</b>	<b>\$ 367,566</b>
<b>NET ASSETS, BEGINNING OF YEAR</b>	<b>3,213,143</b>	<b>2,845,577</b>
<b>NET ASSETS, END OF YEAR</b>	<b>\$ 3,626,204</b>	<b>\$ 3,213,143</b>



Commission managed marine resources generate billions of dollars in economic activity annually and provide tens of thousands of jobs within our coastal communities

# Acknowledgements

*We would like to thank the following people and agencies for the use of their photographs throughout this report.*

## Cover

- Maine Lobstermen's Association

## Title page

- flickr/Scania Group, <http://tinyurl.com/hrxutkq>

## Page 3 (from top to bottom)

- Fishery Management Plan Coordinator Kirby Rootes-Murdy with an Atlantic striped bass captured as part of the SEAMAP Winter Cooperative Tagging Cruise © ASMFC
- Maine Lobstermen's Association
- Fishing gear at sunset © NEAMAP
- Rod and reel used as part of the SEAMAP Hook and Line Tagging Survey © Tom Crews, USFWS

## Page 4 (from top to bottom)

- Commercial brailing for black sea bass © MA DMF
- Angler with a red drum © Captain Walter Bateman, [www.carolinaguide.com](http://www.carolinaguide.com)
- Fishing gear © ASMFC
- Students conducting habitat restoration © NOAA

## Pages 9-11

- ASMFC fish illustrations by Dawn Witherington, <http://www.drawnbydawn.com/>

## Page 12

- Glass eels © Chris Bowser, NYS DEC

## Page 14 (from top to bottom)

- Hattie Train with a commercially-caught American lobster © Stephen Train
- Atlantic croaker captured as part of the Delaware River Seine Survey © NJ DEP

## Page 17

- Purse seining for Atlantic menhaden © John Surrick, Chesapeake Bay Foundation

## Page 18

- Atlantic striped bass captured as part of the SEAMAP Hook and Line Tagging Survey © Tom Crews, USFWS

## Page 20

- From Left: Matthew Breece and Dewayne Fox with a large female Atlantic sturgeon captured as part of Delaware State University's (DESU) Spring Sturgeon Sampling Program. The female measured 8.6 feet in total length and weighed 260 pounds. Photo © DESU.

## Pages 22 & 23 (from left to right)

- Juvenile black drum © SC DNR
- New Jersey record black sea bass reeled in by Steve Singler of Philadelphia, PA on December 12, 2015. The fish weighed in at 9 pounds and measured 27.5" in length and had a girth of 18.5" © NJ DEP
- Bluefish close-up © ASMFC

## Page 24

- Tiger shark © Bryan Frazier, SC DNR

## Pages 25 & 26

- Juvenile horseshoe crab © Derek Perry, MA DMF
- Jonah crab © Derek Perry, MA DMF

## Page 25

- Northern shrimp captured as part of the GOM Northern Shrimp Survey © Elaine Brewer, MA DMF

## Page 29 (from left to right)

- Young angler with a red drum © Captain Walter Bateman, [www.carolinaguide.com](http://www.carolinaguide.com)
- Angler with scup © Mark Terceiro, NEFSC

## Page 31

- Senior FMP Coordinator Mike Waine with an American shad © Mike Waine

## Page 33

- Spiny dogfish captured as part of NEAMAP SNE/MA Trawl Survey © NEAMAP

## Page 35

- Anglers with spotted seatrout © Chris Kalinowsky, GA DNR

## Page 37 (from left to right)

- Juvenile summer flounder captured as part of Maryland's Coastal Bay Survey © ASMFC
- Angler with tautog © Chip Lynch

## Page 38 and 39

- Juvenile winter flounder © CT DEEP

## Page 40

- Atlantic striped bass captured as part of the SEAMAP Winter Cooperative Tagging Cruise © ASMFC

## Page 41

- Graph of survey coverage and sampled winter flounder by number and weight as part of the Maine/New Hampshire Inshore Trawl Survey © Maine/New Hampshire Inshore Trawl Survey

## Page 42 (from top to bottom)

- Mating horseshoe crabs © Gregory Breece, USFWS
- Northern shrimp being sampled as part of the GOM Northern Shrimp Survey © Elaine Brewer, MA DMF

## Page 44

- Atlantic striped bass captured as part of the SEAMAP Winter Cooperative Tagging Cruise © ASMFC

## Page 45

- Scientists attending stock assessment training workshop © ASMFC

## Pages 46 & 47 (from top to bottom)

- Alewives © Jerry Prezioso, NOAA Fisheries
- Bottom left: Nature-like rock weirs will allow for fish passage at the undersized Route 172 crossing on Patten Stream © Town of Surry.
- Bottom right: Cotton Gin Mill Dam, looking upstream © Cathy Bozek, The Nature Conservancy.

## Page 48

- Data entry Cooperative State/Federal/Industry Bycatch Survey © ASMFC

## Page 56

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



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ASMFC

# FISHERIES *focus*

Vision: Sustainably Managing Atlantic Coastal Fisheries

## INSIDE THIS ISSUE

**Upcoming Meetings**  
page 2

**From the Executive Director's Desk**  
A New Initiative: ASMFC Kicks-off Socioeconomic Study on Atlantic Menhaden Commercial Fisheries  
page 3

**Species Profile**  
Northern Shrimp  
page 4

**Science Highlight**  
Larval Fish and Climate Change Research in National Estuarine Research Reserves  
page 8

**ACCSP**  
GARFO Authorizes eTrips/ Mobile for Use in Electronic Trip Reporting

ACCSP Seeks Your Feedback on Ways to Improve SAFIS  
page 10

**On the Legislative Front**  
page 11

**ASMFC Releases 2015 Annual Report**  
page 11

**ASMFC Comings & Goings**  
page 12

## ASMFC Spring Meeting

May 2-5, 2016

The Westin Alexandria  
400 Courthouse Square  
Alexandria, VA  
703.253.8600

### Preliminary Agenda

*The agenda is subject to change. Bulleted items represent the anticipated major issues to be discussed or acted upon at the meeting. The final agenda will include additional items and may revise the bulleted items provided below. The agenda reflects the current estimate of time required for scheduled Board meetings. The Commission may adjust this agenda in accordance with the actual duration of Board meetings. Interested parties should anticipate Boards starting earlier or later than indicated herein.*

MONDAY, MAY 2

9 AM - 3:30 PM

#### American Lobster Management Board

- Discuss Future Management of Southern New England American Lobster Stock
- Address Tabled Motion to Initiate an Addendum to Address the Declining Stock Conditions
- Reports from the Technical Committee and Plan Development Team
- Discuss Future Management for Gulf of Maine/Georges Bank American Lobster Stock
- Consider Final Action on Draft Addendum I to the Jonah Crab FMP
- Discuss Possible Action to Create a Coastwide Standard for Claw Landings in the Jonah Crab Fishery
- Update on Effort Control Measures for Jonah Crab Only Trap Fishermen in Rhode Island
- Update on the New England Fishery Management Council Deep Sea Coral Habitat Amendment and ASMFC Survey to Area 3 Fishermen
- American Lobster Law Enforcement Subcommittee Update on Offshore Enforcement and Trap Reduction Enforcement

2:30 - 3:30 PM

#### Atlantic Coastal Cooperative Statistics Program (ACCSP) Executive Committee

- Program Update
- Update on the MRIP APAIS Transition
- Review and Approve Standard Operating Procedures Written in Response to the Independent Program Review
- Develop a Program Governance Recommendation
- Review Request for Proposals for the Upcoming Funding Cycle

## Upcoming Meetings

*The Atlantic States Marine Fisheries Commission was formed by the 15 Atlantic coastal states in 1942 for the promotion and protection of coastal fishery resources. The Commission serves as the deliberative body of the Atlantic coastal states, coordinating the conservation and management of nearshore fishery resources, including marine, shell and diadromous species. The fifteen member states of the Commission are: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, and Florida.*

### Atlantic States Marine Fisheries Commission

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Chair

James J. Gilmore, Jr. (NY)  
Vice-Chair

Robert E. Beal  
Executive Director

Patrick A. Campfield  
Science Director

Toni Kerns  
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#### **March 29 (10 AM - 12:30 PM)**

Horseshoe Crab Adaptive Resource Management Subcommittee Conference Call; go to <http://www.asmfc.org/calendar/> for more details.

#### **March 30 (1 - 3 PM)**

Horseshoe Crab Alternative Bait Analysis Work Group Conference Call; go to <http://www.asmfc.org/calendar/> for more details.

#### **April 5 (1 - 3:30 PM)**

Shad and River Herring Technical Committee and River Herring Stock Assessment Subcommittee Conference Call; go to <http://www.asmfc.org/calendar/> for more details.

#### **April 5 (3 - 4 PM)**

Jonah Crab Advisory Panel Conference Call; go to <http://www.asmfc.org/calendar/> for more details.

#### **April 6 (1 - 4 PM)**

Horseshoe Crab Advisory Panel Conference Call; go to <http://www.asmfc.org/calendar/> for more details.

#### **April 11 & 12**

ASMFC Management & Science Committee and Assessment Science Committee, Hotel Monaco Alexandria, 480 King Street Alexandria, VA.

#### **April 12 - 14**

Mid-Atlantic Fishery Management Council, Montauk Yacht Club, Montauk, NY.

#### **April 19 - 21**

New England Fishery Management Council, Hilton Hotel, Mystic, CT.

#### **May 2 - 5**

ASMFC Spring Meeting, The Westin Alexandria, 400 Courthouse Square, Alexandria, VA.

#### **May 9 & 10**

ACFHP Science and Data Working Group, The Grand Hotel, 1045 Beach Avenue, Cape May, NJ.

#### **May 10 & 11**

ACFHP Steering Committee, The Grand Hotel, 1045 Beach Avenue Cape May, NJ.

#### **May 12 & 13**

ASMFC Habitat Committee, The Grand Hotel, 1045 Beach Avenue Cape May, NJ.

#### **June 13 - 17**

South Atlantic Fishery Management Council, Hilton Cocoa Beach Oceanfront, 1550 N. Atlantic Avenue, Cocoa Beach, FL.

#### **June 14 - 16**

Mid-Atlantic Fishery Management Council, Courtyard Marriott, Newark, DE.

#### **June 20 - 24**

ASMFC Technical Committee Meeting Week, committees and location to be determined.

#### **June 21 - 23**

New England Fishery Management Council, Holiday Inn by the Bay, Portland, ME.

#### **August 2 - 4**

ASMFC Summer Meeting, The Westin Alexandria, 400 Courthouse Square, Alexandria, VA.

#### **August 8 - 11**

Mid-Atlantic Fishery Management Council, Hilton, Virginia Beach, VA.

#### **August 20 - 24**

American Fisheries Society 145th Annual Meeting, Kansas City, KS.





### A New Initiative: ASMFC Kicks-off Socioeconomic Study on Atlantic Menhaden Commercial Fisheries

If you have attended or webcasted any Commission meetings since December 2012, you know Atlantic menhaden has garnered its share of interest from commercial, recreational, and conservation sectors alike. From the first coastwide quotas in 2013 to the encouraging findings of the benchmark stock assessment in 2015, the small but ecologically important fish has pushed Commissioners to think outside traditional management regimes.

The most recent example is a first-of-its-kind socioeconomic study that will describe the economic importance of the coastwide commercial fisheries for Atlantic menhaden (both bait and reduction). In 2014, approximately 170,000 metric tons of menhaden were landed on the Atlantic coast with an estimated value of over \$33 million. However, the true impact to fishing communities and other species that depend upon menhaden as a food source remains the missing chapter of Atlantic menhaden's story. The primary objective of this study is to provide socioeconomic information to assist the Atlantic Menhaden Management Board as it considers alternative menhaden allocations in Draft Amendment 3 to the Interstate Fishery Management Plan.

The study's research deliverables were identified by the Commission's Committee on Economics and Social Sciences (CESS) using the general framework from a previous menhaden socioeconomic study on the reduction fishery conducted in the Chesapeake Bay region in 2011. CESS also worked closely with the Atlantic Menhaden Board Allocation Workgroup to address research needs. The project will gather information from stakeholders and state agencies on the fisheries (e.g., landings, value, participation, capacity utilization, fixed costs) and market (e.g., retailers/wholesalers, clients/purchasers, number/types of employees) to more thoroughly evaluate the socioeconomic value of Atlantic menhaden. The research team is headed by Dr. John Whitehead of Appalachian State University and Dr. Jane Harrison from North Carolina Sea Grant, both of whom have conducted extensive socioeconomic research in fisheries.

The commercial menhaden fishery is comprised of two sectors – reduction and bait. In the reduction fishery, menhaden are 'reduced' to produce fish oil and fish meal which are used in wide array of human and animal nutritional

products. The bait fishery supplies menhaden to important commercial trap fisheries such as American lobster, while the small oily fish is also a favorite bait among recreational finfish anglers.

One of the primary challenges for this study will be characterizing the bait fishery. Information on landings and the economic importance of the bait fishery has not been as robust as that from the reduction fishery. However, existing data indicate the bait fishery accounts for a growing share of coastwide landings.



We live in exciting times for fisheries management and this study is just one example. The Commission is also exploring how menhaden management decisions may affect other species higher up in the food web. Socioeconomic and ecological studies are very valuable, but also very expensive. The Commission is grateful to NOAA Fisheries for identifying funding within its agency to enable the Commission to take a deeper look into the socioeconomic importance of Atlantic menhaden. In the future, the Commission hopes to secure additional resources to complete studies on the economic and ecological importance of other fisheries.

To view the proposal, please visit: [http://www.asmfc.org/files/Science/MenhadenSocioeconomicAnalysisProposal\\_Addendum\\_March2016.pdf](http://www.asmfc.org/files/Science/MenhadenSocioeconomicAnalysisProposal_Addendum_March2016.pdf)

# Species Profile: Northern Shrimp

## Resource Struggles to Rebuild in the Face of Unfavorable Environmental Conditions

### Introduction

Historically, northern shrimp, *Pandalus borealis*, have supported a small but important fishery in the Gulf of Maine (GOM), with average annual landings valued at six million dollars per year since 1980. In recent years, the fishery has been closed early when landings approached the total allowable catch (TAC). Currently, the northern shrimp stock is considered collapsed, and has led managers to close the fishery for the third straight season.

As one of the last open access fisheries in the region, the northern shrimp fishery has provided opportunities for fishermen to target an alternative species when other fishing is unavailable or not economically viable. Participation generally increases as the season length or price increases. Additionally, the number of participants in the fishery has increased because of limited entry programs in other Northeast fisheries. Unfortunately, shrimp biomass has remained at all-time lows in recent years, thus raising concern over the influx of effort into the fishery. This concern led to the suggestion that access to the shrimp fishery should be restricted. Limited entry has been used in a number of fisheries to control effort, as well as stabilize landings so that harvesters and processors are better able to make informed business decisions from year to year. To address these concerns, Amendment 3 was initiated in 2014 to consider management options for limiting effort in the fishery.

### Life History

Northern shrimp are found in boreal waters of the North Atlantic, North Pacific and Arctic Oceans. On the U.S. Atlantic coast, the Gulf of Maine (GOM) is considered the southernmost extent of their range, and concentrations generally occur in the western part of the Gulf where temperatures are the coldest.

Northern shrimp are hermaphroditic, maturing first as males at roughly 2 ½ years of age and then transforming to females at about 3 ½ years. In the GOM, northern shrimp populations are part of a single stock. Spawning takes place in offshore waters during the late summer. Females extrude their eggs onto the abdomen and move into inshore waters in late fall and winter, where the eggs hatch. Larvae metamorphose to a juvenile state and remain in inshore waters for over a year before migrating to deeper waters where they mature as males and later transition to females. Females that survive their first egg hatch will repeat the process, living up to five years old and attaining a size of up to four inches in length. Northern shrimp are also an important link in the marine food web preying on both plankton and benthic invertebrates. In turn, northern shrimp are consumed by many commercially important fish species including cod, redfish, red and white hake, and pollock.

Northern shrimp abundance in the GOM appears to be closely correlated with ocean temperatures. Colder temperatures and higher spawning biomass tends to produce more recruits. Differences in size at age from year to year (and size at sex transition to some extent) have also been attributed to temperature effects, with more rapid growth rates at higher temperatures. Additionally, ocean temperatures appear to affect timing of the egg hatch, with the start of egg hatch occurring earlier in warmer years. This is of particular interest to managers because a better understanding of this relationship could allow them to set the start of the fishing season after majority of eggs have hatched, thus aiding rebuilding of the resource.

### Commercial Fishery

For nearly four decades, the GOM northern shrimp have provided a small but valuable fishery to the New England states. In 2011, a year in which the TAC was exceeded, average price per pound was \$0.75, with total landings valued at an estimated \$10.6 million. The fishery has been characterized by drastic fluctuations in landings throughout its history and is seasonal in nature, peaking in late winter when egg-bearing females migrate inshore and ending in the spring under regulatory closure.

### Species Snapshot



**Northern Shrimp**  
*Pandalus borealis*

**Stock Status:** Collapsed and overfishing not occurring

#### Shrimp Facts:

- Northern shrimp first mature as males and metamorphose into females in their 3<sup>rd</sup> year.
- Most shrimp do not live more than 5 years.
- A spine located on the 3<sup>rd</sup> tail segment distinguishes northern shrimp from other pandalid species.
- The sex of a shrimp is easily determined by examining the first pleopod. A male has a characteristic spit with a serrated or two point top edge while a female has a single candle flame point.

Male: 2 points

Female: 1 point



The commercial fishery began in earnest in the late 1950s. By 1969, landings increased to a peak of 28.3 million pounds, of which 24.2 million pounds were landed by Maine vessels. New Hampshire vessels entered the fishery in 1966, but landings from New Hampshire were minor until the mid-80s. Landings by Massachusetts vessels were also insignificant in the 1960s, but the fishery developed rapidly in the early 1970s and by 1975 landings from Massachusetts vessels accounted for over 40% of the GOM total. Through the 1970s, total landings dropped precipitously to a low of 840,000 pounds in 1977. The fishery closed in 1978 due to stock collapse, and slowly reopened in 1979 at very low levels of harvest.

Landings fluctuated considerably throughout the next two decades, from a low of 734,000 pounds in 1980 to a high of 21 million pounds in 1996, then steadily declining again through 2002. In keeping with historic trends, the majority of the catch in those years had been taken by Maine vessels (76%), with Massachusetts vessels accounting for most of the remainder (17%). From 2003 to 2006 landings were steady, averaging 4.6 million pounds. In 2007 and 2008, landings jumped to 10.8 and 10.9 million pounds, respectively, despite declining stock abundance since 2006. The 2010 to 2012 fishing seasons were closed early due to industry exceeding the TAC, and in 2013 landings were a mere 761,689 pounds. A complete moratorium was implemented in 2014, and again in 2015. This past December, the moratorium was extended through 2016.

The northern shrimp fleet is comprised of lobster vessels in the 30-45 foot range that re-rig for shrimping, as well as other trawlers well into the 55-80 foot range. The shrimp trap fishery has grown in recent years, accounting for over 45% of Maine's active vessels from 2006 to 2010. However, the otter trawl remains the primary gear deployed, and is typically chain or roller rigged depending on the type of bottom fished. There has been a recent trend towards the use of heavier and larger roller, or "rockhopper" gear. In

addition to the introduction of electronic equipment (e.g., GPS, radars, and near real time data acquisition of sea surface temperatures and ocean bathymetry, among others), these innovations have substantially increased fishermen's ability to find and catch shrimp.

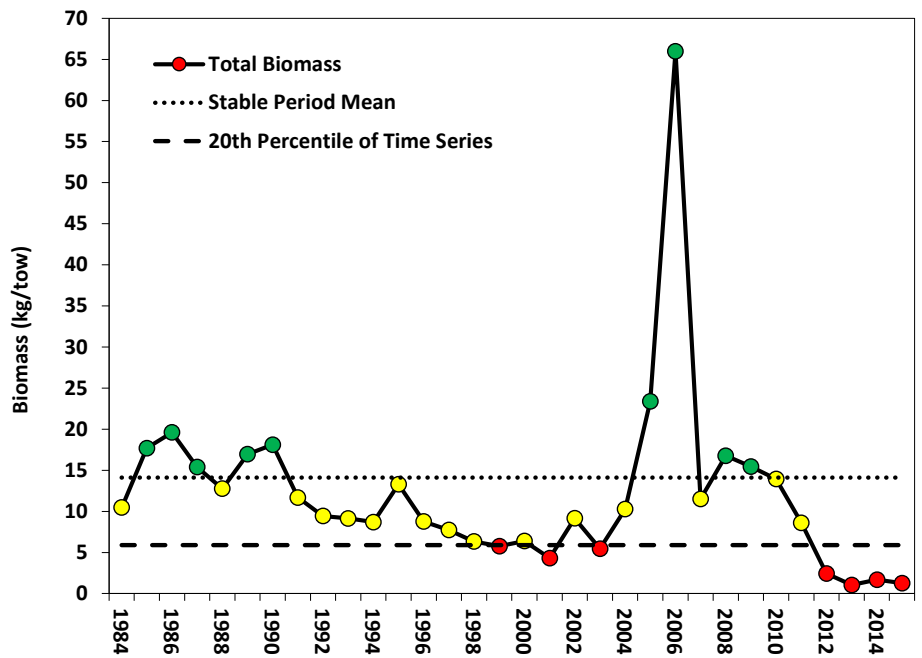
### Status of the Stock

Historically, results of the catch-survey analysis (CSA) from the annual stock assessment for northern shrimp have guided management decisions for the fishery. In 2014, a benchmark assessment explored new analytic methods, including a new model and modifications to the existing CSA model. Due to extreme fluctuations in recent years, the models had difficulty fitting the data and thus were not approved for management use by the peer review panel. Therefore, all subsequent stock status reports do not present modeling results and instead use an index-based approach to evaluate stock status.

According to the 2015 stock status report, GOM northern shrimp populations continue to meet the criteria defining a collapsed stock. Abundance and biomass indices since 2012 are the lowest on record. The stock has also experienced failed recruitment for five consecutive years. As a result, the indices of fishable biomass from 2012 to 2015 are also the lowest on record. Recruitment of northern shrimp is related to both spawning biomass and ocean temperatures, with higher spawning biomass and colder temperatures producing stronger recruitment. Ocean temperatures in western GOM shrimp habitat have increased over the past decade and reached unprecedented highs in the past several years. While 2014 and 2015 temperatures were cooler, temperatures are predicted to continue rising as a result of climate change. This suggests an increasingly inhospitable environment for

*continued, see NORTHERN SHRIMP on page 10*

**Total Biomass of Northern Shrimp from the Gulf of Maine Summer Shrimp Survey**  
Stock Status Report for Gulf of Maine Northern Shrimp, 2015



The graph represents the annual biomass index relative to the reference period (dotted line) and to the 20th percentile of the time series (dashed line). The reference period (1985-1994) is the time period during which the fishery experienced stable landings and value. Green dots are values that are equal to or above the stable period mean (SPM); red dots are values that are equal to or below the 20th percentile of the time series; yellow dots are values between the SPM and the 20th percentile.

*Timeline of Management Actions: FMP ('86); Amendment 1 ('04); Amendment 2 ('11); Addendum I ('12)*

# Spring Meeting Preliminary Agenda (cont'd)

## MONDAY, MAY 2

- 3:45 - 4:45 PM**      **ACCSP Coordinating Council**
- Program Update
  - Update on the MRIP APAIS Transition
  - Consider Approval of Standard Operating Procedures
  - Review and Consider Approval of Governance Recommendations
  - Review and Consider Approval of Request for Proposals for the Upcoming Funding Cycle

## TUESDAY, MAY 3

- 8 - 10 AM**      **Executive Committee**
- Report of the Administrative Oversight Committee
  - Presentation of the Fiscal Year 2017 Budget
  - Discussion of ACCSP Governance
  - Discussion of Plan Development Team Membership
  - Future Annual Meetings Update
- 10:15 - 11:15 AM**      **Horseshoe Crab Management Board**
- Discuss Biomedical Data Confidentiality and Stock Assessment Planning
  - Review of Alternative Bait Costs
  - Update on Adaptive Resource Management Framework Review
- 11:30 AM - 12:15 PM**      **Shad and River Herring Management Board**
- Report from Data Standardization Workshop
  - Update on Activities of the River Herring Technical Expert Work Group
  - Stock Assessment Planning and Timetable for American Shad and River Herring Benchmark Assessments
- Noon - 5 PM**      **Law Enforcement Committee**
- Update on Maine Lobster Trap Tag Transferability Program
  - Discuss Lobster Offshore Enforcement Issues
  - Review Tautog Tagging Program Options & Subcommittee Efforts
  - Discuss Aerial Enforcement Issues and Subcommittee Efforts
  - Review 2016 Action Plan Tasks for LEC
  - Discuss Ongoing Enforcement Activities (Closed Session)
  - Federal Agency Report Highlights
  - State Agency Report Highlights
  - Review and Discuss Additional ISFMP Species Issues (as needed)
- 1:15 - 3:45 PM**      **Climate Change Workshop**
- 4 - 5 PM**      **American Eel Management Board**
- Discuss Potential Options for Revisiting Yellow Eel Commercial Quota
- 6 - 8 PM**      **Annual Awards of Excellence Reception**

## Public Comment Guidelines

In order to ensure a fair opportunity for public input, the ISFMP Policy Board has established the following guidelines for use at management board meetings:

For issues that are not on the agenda, management boards will continue to provide opportunity to the public to bring matters of concern to the board's attention at the start of each board meeting. Board chairs will use a speaker sign-up list in deciding how to allocate the available time on the agenda (typically 10 minutes) to the number of people who want to speak.

For topics that are on the agenda, but have not gone out for public comment, board chairs will provide limited opportunity for comment, taking into account the time allotted on the agenda for the topic. Chairs will have flexibility in deciding how to allocate comment opportunities; this could include hearing one comment in favor and one in opposition until the chair is satisfied further comment will not provide additional insight to the board.

For agenda action items that have already gone out for public comment, it is the Policy Board's intent to end the occasional practice of allowing extensive and lengthy public comments. Currently, board chairs have the discretion to decide what public comment to allow in these circumstances.

In addition, the following timeline has been established for the submission of written comment for issues for which the Commission has NOT established a specific public comment period (i.e., in response to proposed management action).

1. Comments received 3 weeks prior to the start of a meeting week will be included in the briefing materials.
2. Comments received by **5 PM on Tuesday, April 26, 2016** will be distributed electronically to Commissioners/Board members prior to the meeting and a limited number of copies will be provided at the meeting.
3. Following the April 26<sup>th</sup> deadline, the commenter will be responsible for distributing the information to the management board prior to the board meeting or providing enough copies for the management board consideration at the meeting (a minimum of 50 copies).

The submitted comments must clearly indicate the commenter's expectation from the ASMFC staff regarding distribution. As with other public comment, it will be accepted via mail, fax, and email.

- 8 - 10 AM**      **Atlantic Menhaden Management Board**
- Consider Draft Addendum I for Public Comment
  - Provide Guidance to the Technical Committee Regarding Stock Projections
  - Consider 2015 FMP Review and State Compliance
- 8:30 AM - Noon**      **Law Enforcement Committee (continued)**
- 10:15 - 11:45 AM**      **Interstate Fisheries Management Program Policy Board**
- Executive Committee Report
  - Management & Science Committee Report
  - Assessment Science Committee Report and Approval of the Stock Assessment Schedule
  - Atlantic Coastal Fish Habitat Partnership Report
  - Law Enforcement Committee Report
  - Consider Next Steps Relative to Climate Change and ASMFC Management
  - Report on Commissioner Survey Follow-up
  - Atlantic Sturgeon Benchmark Assessment Update
  - Overview of the Sturgeon Research and Recovery Workshop Scheduled for May 16-19, 2016 (Coordinated by NOAA Fisheries)
- 1 - 5 PM**      **Commissioner Parliamentary Workshop**

- 8 - 10 AM**      **Weakfish Management Board**
- Review and Consider Approval of the 2016 Weakfish Benchmark Stock Assessment for Management Use
  - Discuss Next Steps for Management in Response to Assessment Results
- 10:15 - 11 AM**      **Coastal Sharks Management Board**
- Review and Consider Approval of Draft Addendum IV (Smoothhound Dogfish) for Public Comment
- 10:15 - 11:45 AM**      **South Atlantic State/Federal Fisheries Management Board**
- Review and Consider Approval of the 2016 Red Drum Benchmark Stock Assessment for Management Use
  - Discuss Next Steps for Red Drum Management in Response to the Assessment Results
  - Progress Update on Spot and Atlantic Croaker Benchmark Stock Assessments
  - Review North Carolina Report on Spanish Mackerel Pound Net Landings as Required by Addendum I to the Omnibus Amendment for Spanish Mackerel, Spot, and Spotted Seatrout
  - Elect Vice-Chair
- 2 - 2:30 PM**      **Business Session**
- Review Noncompliance Findings (if necessary)



### Larval Fish and Climate Change Research in National Estuarine Research Reserves

A team led by New Jersey's Jacques Cousteau National Estuarine Research Reserve (NERR) conducted a project to engage researchers and fisheries managers in a collaborative effort to share data about the impact of climate variations on fisheries and coastal ecosystems along the Atlantic coast.

In partnership with Rutgers University and NERR sites in NY, NJ, SC, NC, and ME, the project created an online portal for scientists and fisheries managers to share long-term data sets on larval fish recruitment and related environmental variables. The goal was to increase access to data that allows fisheries managers to evaluate climate change impacts when making management decisions.

Changes in environmental conditions can impact the spawning, growth, migration, behavior, and ultimately, survival of coastal fish. Some conditions, such as storm activity and salinity, may also be associated with a changing climate. Fisheries managers at the state, regional, and national levels need access to accurate long-term data sets to assess the impacts of climate variation on the sustainability of fish stocks. However, managers may be unaware of, or lack access to, the data they need. Conversely, fisheries scientists and oceanographers collecting these data may not know how best to provide the information to the decision makers who need it. For example, long-term environmental data on water quality, water chemistry, and atmospheric data are available through the NERR System-Wide Monitoring Program (SWMP), but in the past there has not been a portal for fisheries managers to link SWMP to larval fish recruitment data.

This project addressed the data access gap by expanding an existing web-based data retrieval system provided by the Southeast Area Monitoring and Assessment Program (SEAMAP) to include larval fish data sets that previously were inaccessible to fisheries managers from the state agencies, ASMFC, and NOAA Fisheries. The project team used a collaborative process to ensure the online portal provides access to long-term regional trends in larval fish data, coupled with environmental changes.

The project sought to enhance fisheries management decisions by integrating long-term data sets on larval fish recruitment and related environmental variables, such as those provided by the NERR SWMP. These efforts are intended to increase our understanding of how environmental variation and climate change impact estuarine habitat and the early-life history of important fish stocks.

While the NERR project focuses on important recreational and commercial species, the team also evaluated the effectiveness of the portal approach for integrating data to support future ecosystem-scale fisheries management decisions. The team used a collaborative framework to facilitate information exchange between stock assessment scientists, fisheries managers, and data providers who work with NERRs. This framework included focus groups, online needs assessment surveys, and small group discussion.

Through the collaborative process, project partners established a better understanding of the data needs and output preferences for fisheries management. The project team also collected input on how to continue monitoring fish larva at four field sites in ME, NJ, NC, and SC, where they are recording environmental variables available from SWMP data. The team integrated the data on the SEAMAP website, overseen by SC DNR, into an online information system that facilitates sharing of fishery-independent data and other information. A beta version of the enhanced website was developed

and tested by the team to evaluate the appeal and effectiveness of the online portal's design and usefulness of larval fish and environmental data content.

In collaboration with fisheries scientists at NJ DEP, NC DMF, SC DNR, NOAA Fisheries, and ASMFC, data from the long-term larval fish monitoring studies are being provided for potential use in stock assessments and ecosystem modeling applications. For more information on the project, please contact Patrick Campfield, Fisheries Science Director, at [pcampfield@asmfc.org](mailto:pcampfield@asmfc.org).



Image of a larval left-eyed flounder. Photo (c) NOAA Fisheries.



Image of a juvenile summer flounder. Photo (c) Jacques Cousteau NERR

# GARFO Authorizes eTrips/Mobile for Use in Electronic Trip Reporting

NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO) announced that the Atlantic Coastal Cooperative Statistics Program's (ACCSP) eTrips/Mobile (eTrips/M), a mobile electronic vessel trip reporting (eVTR) application, has now been authorized for the purpose of eVTR submission in the Greater Atlantic Region (Maine through North Carolina).

Trip reports provide catch and effort data to state and federal agencies for use in fisheries management and stock assessments. eVTR allows fishermen to fulfill these reporting requirements electronically, expediting the reporting process, improving reporting accuracy, and producing near real-time landings and catch data that can be accessed by multiple state and federal agencies immediately.

ACCSP's eTrips/M takes eVTR a step further, enabling harvesters to work on and complete trip reports on a portable device that is capable of operating independently of a full-time internet connection, meaning fishermen can complete and submit reports while still at sea. Rick Bellavance, Captain of Priority Too and President of the Rhode Island Party and Charter Boat Association, describes the advantages of a mobile eVTR application, "Designed by fishermen and utilizing the latest technology, eTrips/M dramatically reduces our reporting burden while providing more accurate and timely industry data to the states, the ACCSP, and now GARFO. The eTrips/M application will increase data accuracy and make data available immediately to fisheries managers, improving their ability to respond to changes in the fishery in a more timely way."

eTrips/M is designed to work in both commercial and charter/headboat fisheries, and is free for anyone who wishes to use it in jurisdictions that have adopted electronic trip reporting through the Standard Atlantic Fisheries Information System (SAFIS). The app can be downloaded from the Apple, Android, and Microsoft app stores. eTrips/M training videos are available on the ACCSP website at [www.accsp.org](http://www.accsp.org).

## ACCSP Seeks Your Feedback on Ways to Improve SAFIS

The ACCSP is committed to delivering the best user experience for its SAFIS applications. In recent months, ACCSP has focused on enhancing user interface elements to make SAFIS easier to use on mobile devices. While these enhancements have been made to allow increased productivity, ACCSP still believes there is more room for improvement. Please help us enhance the application to improve the user experience by filling out the survey below for the SAFIS application you use; be sure to include any ideas for improvement or problems you have encountered have so ACCSP can provide its users with a better SAFIS experience.

eTRIPS: <https://www.surveymonkey.com/r/SAFISeTRIPS>

eDR: <https://www.surveymonkey.com/r/SAFISeDR>

e-1 Ticket: <https://www.surveymonkey.com/r/SAFISe-1Ticket>

SAFIS Managers: <https://www.surveymonkey.com/r/SAFISManagers>

If you are interested in testing the new interface after an initial prototype has been designed, please send an email to [info@accsp.org](mailto:info@accsp.org) or contact your partner agency.

## ACCSP Happenings



### Ali Schwaab

In March, the ACCSP welcomed Ali Schwaab as its new Outreach Coordinator. Ali will be responsible for overseeing the implementation of ACCSP's Outreach Strategic Plan, which

includes producing the Program's annual reports and *Fisheries Files* quarterly newsletter, providing outreach to support partner applications, managing website content, and implementing the ACCSP social media strategy. Ali earned her Bachelor's degree in Environmental Science and Policy from the University of Maryland, College Park and her Master's degree in Coastal and Marine Resource Management at the University of Portsmouth in the United Kingdom. Ali is excited to begin her new role as ACCSP Outreach Coordinator, through which she hopes to communicate the value of ACCSP to stakeholders and strengthen relationships with ACCSP partners. Welcome to the Program, Ali!



### Elizabeth Wyatt

In January, with the recent completion of her Master's in Marine Science from the University of New England and her proven track record as Program Assistant, Elizabeth Wyatt was

promoted to ACCSP Program Coordinator. As Coordinator, Elizabeth provides staff support to ACCSP committees, including the Operations Committee and Coordinating Council, as well as help coordinate ACCSP's funding cycles from request for proposals, to proposal evaluation and ranking, to final proposal awards. Elizabeth is enthusiastic about her expanded role at the ACCSP and is committed to helping advance ACCSP's effort to be the principal source for fisheries-dependent information on the Atlantic coast. Congratulations, Elizabeth!



ACCSP is a cooperative state-federal program focused on the design, implementation, and conduct of marine fisheries statistics data collection programs and the integration of those data into a single data management system that will meet the needs of fishery managers, scientists, and fishermen. It is composed of representatives from natural resource management agencies coastwide, including the Atlantic States Marine Fisheries Commission, the three Atlantic fishery management councils, the 15 Atlantic states, the Potomac River Fisheries Commission, the D.C. Fisheries and Wildlife Division, NOAA Fisheries, and the U.S. Fish & Wildlife Service. For further information please visit [www.accsp.org](http://www.accsp.org).

NORTHERN SHRIMP *continued from page 5*

northern shrimp and the need for strong conservation efforts to help restore the stock.

Fortunately, the recruitment index increased slightly in the 2014 survey (2013 year class). Since landings are typically dominated by four and five year old shrimp, the 2013 year class could provide favorable conditions for a fishing season in the near future. Furthermore, the 2013 year class is comprised of uncharacteristically small females that are expected to spawn for the next three seasons, making them the primary contributors for rebuilding the stock in the long-term. Accordingly, a primary goal of the 2016 moratorium is to protect the 2013 year class and the future sustainability of the resource.

### Atlantic Coastal Management

The GOM northern shrimp fishery has been managed by the Commission's Northern Shrimp Section (Section) since 1973, making it the longest running interstate management program on the U.S. Atlantic coast. The Section is comprised of the States of Maine, New Hampshire, and the Commonwealth of Massachusetts.

The first Fishery Management Plan (FMP) was implemented in 1986. The FMP established strict guidelines for a defined fishing season to be set annually by the Section and allowed for the use of gear limitations. Amendment 1, implemented in 2004, established biological reference points for the first time and expanded the tools available to manage the fishery. Amendment 1 resulted in a rebuilt stock and increased fishing opportunities. However, in the 2010 and 2011 fishing seasons, landings rates were far greater than expected, resulting in early seasonal closures and an overharvest of the recommended TAC.

Implemented in 2011, Amendment 2 responded to these issues and completely replaced the FMP. The Amendment provides management options to slow catch rates throughout the season, including trip limits, trap limits, and days out of the fishery. Additionally, Amendment 2 modifies the fishing mortality reference points to include a



Northern shrimp being sampled on the Gulf of Maine Summer Shrimp Survey. Photo (c) Elaine Brewer, MA DMF

threshold level, includes a more timely and comprehensive reporting system, and allows for the initiation of a limited entry program to be pursued through the adaptive management process. Addendum 1 to Amendment 2, approved in 2012, further clarifies the annual specifications process, allocates the TAC with 87% for the trawl fishery and 13% for the trap fishery based on historical landings, and introduces a research set aside (RSA) provision which allows the section to “set aside” a percentage of the TAC to help support research on the northern shrimp stock and fishery.

A Cooperative Winter Sampling Program (program) was initiated during the 2014 moratorium. The intent of the program is to collect, in years of a moratorium, biological samples similar to those that might have been collected from commercial shrimp catches. These samples are used to estimate the winter size and sex-stage composition of the shrimp, and have informed annual stock assessments and subsequent management decisions for over thirty years. A handful of trawlers and trappers are selected at random and contracted to fish in the program. For the first time, the 2016 program, which is currently underway, permits the sale of shrimp as additional compensation. The Section approved the program with a 22 metric ton (~50,000 pounds) RSA quota, a 1,800 pound trip limit for trawlers, and a weekly trap limit of 40 traps and 600 pound limit per week for trappers.

The GOM northern shrimp population has experienced significant changes in recent years. Additionally, changes in other Northeast fisheries have resulted in increased effort in the northern shrimp fishery. This increased fishing pressure, paired with failed recruitment, the lowest abundance indices on record, and unfavorable environmental conditions, has resulted in uncertainties in the future of the resource. In 2014, to address these uncertainties, the Section initiated development of Amendment 3, which considers management measures to control effort and stabilize the fishery. Additionally, Amendment 3 seeks to improve the annual specifications process since current estimates of fishing mortality are not usable for establishing the TAC.

The Public Information Document for Draft Amendment 3 sought public comment throughout the winter and early spring of 2015. The Section reviewed public comment and the Advisory Panel's recommendations in June 2015, and further directed the Plan Development Team to develop limited entry and state-by-state allocation options for Draft Amendment 3. However, given the collapsed status of the stock and the fact that the fishery is currently under a moratorium, the Section decided to postpone further action on Amendment 3 so that additional management options can be explored. For more information, please contact Max Appelman, Fishery Management Plan Coordinator, at [mappelman@asmfc.org](mailto:mappelman@asmfc.org).



## President Obama's Fiscal Year 2017 NOAA Fisheries Budget Request

On February 9<sup>th</sup>, the President submitted his Fiscal Year 2017 Budget Request to Congress. It recommends slight increases for the "Regional Councils and Fishery Commissions" and "Interjurisdictional Fisheries Act." Fisheries Information Networks, Fisheries Statistics, and SEAMAP are funded through the "Fisheries Data Collections, Surveys and Assessments" line. Congress is currently negotiating a budget for Fiscal Year 2017 and will then move on to individual appropriations bills.

### H.R. 3070 – The EEZ Clarification Act, Rep. Lee Zeldin (R-NY)

On March 16<sup>th</sup>, the House Natural Resources Committee held a markup for H.R. 3070. An amendment in the nature of a substitute was accepted that would "authorize the Secretary of Commerce, in consultation with the Commission, to allow and regulate recreational striped bass fishing in an area of the EEZ known as the Block Island Transit Zone." Possession of striped bass has been allowed, for the purposes of transit only, in the Block Island Transit Zone since 1996 but targeting stripers remains illegal.

For more information, please contact Deke Tompkins, Legislative Executive Assistant, at [dtompkins@asmfc.org](mailto:dtompkins@asmfc.org).

NOAA Fisheries Operations, Research, and Facilities (in \$ thousands)		
	2017 Request	2016 Enacted
<b>Protected Resources Science and Management</b>		
<b>Marine Mammals, Sea Turtles &amp; Other Species</b>	125,107	110,246
<b>Species Recovery Grants</b>	22,020	6,000
<b>Atlantic Salmon</b>	6,224	6,163
<b>Pacific Salmon</b>	63,420	60,000
<b>Total, Protected Resources Science and Management</b>	<b>216,771</b>	<b>182,409</b>
<b>Fisheries Science and Management</b>		
<b>Fisheries and Ecosystem Science Programs and Services</b>	150,169	139,489
<b>Fisheries Data Collections, Surveys and Assessments</b>	164,749	163,271
<b>Observers and Training</b>	45,153	43,655
<b>Fisheries Management Programs and Services</b>	121,895	115,995
<b>Aquaculture</b>	7,906	6,300
<b>Salmon Management Activities</b>	31,585	31,500
<b>Regional Councils and Fisheries Commissions</b>	34,254	33,470
<b>Interjurisdictional Fisheries Grants</b>	3,004	3,000
<b>Total, Fisheries Science and Management</b>	<b>558,715</b>	<b>536,680</b>
<b>Enforcement</b>	70,858	69,000
<b>Habitat Conservation and Restoration</b>	58,390	61,408
<b>Total, National Marine Fisheries Service - ORF</b>	<b>904,734</b>	<b>849,497</b>



Annual Report 2015

**Atlantic States Marine Fisheries Commission**  
Sustainably Managing Atlantic Coastal Fisheries

## 2015 Annual Report Now Available

*The Atlantic States Marine Fisheries Commission has released its 2015 Annual Report, which provides an overview of significant management actions and associated science activities the Commission and its member states took in 2015 to maintain and restore the abundance of Commission-managed species.*

*The Report reflects ASMFC Commissioners' commitment to accountability and transparency in all they do to manage and rebuild stocks under their care.*

The report is available on the Commission website at

[www.asmfc.org](http://www.asmfc.org) under Quick Links or directly at [http://www.asmfc.org/files/pub/2015AnnualReport\\_web.pdf](http://www.asmfc.org/files/pub/2015AnnualReport_web.pdf)

## Atlantic States Marine Fisheries Commission

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## ASMFC Comings & Goings



### **Colonel James Kelley**

In late February, Colonel James Kelley was named Acting Director of the North Carolina Division of Marine Fisheries, becoming the state's new Administrative Commissioner to the ASMFC. Colonel Kelley replaces Dr. Louis Daniel who served as Administrative Commissioner since 2007. Over his nine years as Commissioner, Dr. Daniel served as Commission Chair and Vice Chair, and as the chair of numerous species management boards including Weakfish, Atlantic Menhaden, Coastal Sharks, Horseshoe Crab and the South Atlantic Board. His passion and dedication to the Commission and marine fisheries management will be missed.

Colonel Kelley began his career with Marine Patrol in 1989 as a field officer patrolling the Belhaven area. He was promoted through the ranks to Sergeant, then Lieutenant, moving to Dare County, then the Wilmington Area. In 2008, Kelley was promoted to Captain of the Wilmington Marine Patrol District, and then to Marine Patrol Major in 2013. Colonel Kelley holds the distinction of being the only Marine Patrol Colonel in recent years to have held every Marine Patrol rank, rising from an Enforcement Officer 1 to Colonel. Welcome aboard, Colonel Kelley!



### **Leroy Young**

This March, with his retirement from the Pennsylvania Fish and Boat Commission (PA FBC), Leroy Young stepped down as administrative proxy for PA FBC Executive Director John Arway. Mr. Young served as administrative proxy since 2004 and was an active member of all our diadromous species management boards. Mr. Young worked for PA FBC in various roles since 1981 and has served as Director of the Bureau of Fisheries since 2007. His work has included cold water, warm water, and diadromous fisheries management; and environmental protection related to hydropower development and water withdrawals. Besides serving on the ASMFC, Mr. Young represented the PA FBC on a number of interstate committees including the Mid-Atlantic Fishery Management Council, the Ohio River Fisheries Management Team, the Delaware River Fish and Wildlife Management Cooperative Policy Committee, and the Council of Great Lakes Fishery Agencies. We thank Mr. Young for his years of service to the Commission and wish him a healthy and happy retirement, filled with countless fishing opportunities.





## NORTH CAROLINA'S COASTAL STRIPED BASS STOCKING PROGRAM

### Frequently Asked Questions

**Q: Why do we need to stock striped bass in coastal rivers?**

A: Starting in the 1970s stocks of Atlantic striped bass in the Chesapeake Bay and the Roanoke River experienced unprecedented spawning failures. The cause of these annual spawning failures was overfishing, severely altered water flows during spawning time, and poor water quality caused by pollution from numerous sources. In an effort to support striped bass stocks and fisheries until successful natural reproduction could resume in the Roanoke, Tar/Pamlico, Neuse and Cape Fear rivers, the U.S. Fish and Wildlife Service, the N.C. Division of Marine Fisheries, and the N.C. Wildlife Resources Commission initiated striped bass stockings into these coastal systems in 1980.

**Q: What are the goals of the striped bass stocking program?**

A: The goal of the stocking program is to augment the striped bass spawning populations and fisheries in the Tar/Pamlico, Neuse and Cape Fear rivers until self-sustaining populations can re-establish themselves and stocking is no longer necessary. This goal has already been met in the Albemarle/Roanoke system. Estuarine striped bass in North Carolina are currently managed under Amendment 1 to the North Carolina Estuarine Striped Bass Fishery Management Plan. Adopted in 2013, it is a joint plan between the N.C. Marine Fisheries Commission and the N.C. Wildlife Resources Commission. During the development of Amendment 1, the Central/Southern Striped Bass Advisory Committee developed the current goals and objectives of the stocking program. The advisory committee included scientists and citizens from all user groups. Public comment was also accepted. To read the North Carolina Estuarine Striped Bass Fishery Management Plan go to: <http://portal.ncdenr.org/web/mf/fmps-under-development>.

**Q: Are the goals of the striped bass stocking program being met?**

A: Yes and no. To evaluate if stocked fish contribute to the spawning population and fisheries, the N.C. Division of Marine Fisheries places internal anchor tags into 3,000 stocked fish in each river every year (total of 9,000 fish tagged annually). Tag returns have always indicated that stocked fish contribute to the spawning populations and to the fisheries, but the exact contribution of hatchery fish to the total striped bass population cannot be determined from tagging alone. Starting in 2010 genetic techniques were employed to better calculate the contribution of stocked fish to the total striped bass population in all three systems. The technique is very similar to the way scientists determine the biological parents of a child. Each year, a fin clip is taken from the fish that are used to produce the offspring that will be stocked later that year. The DNA of those parents is then sequenced. In subsequent years, biologists can compare the DNA of the parent fish to that of another fish and positively identify if it is of hatchery origin. Results so far indicate that nearly 100 percent of the fish returning to the spawning grounds are of hatchery origin. In 2016 and 2017 fin clips will be collected from fish harvested in the commercial and recreational fisheries. The results will show a more complete idea of the hatchery contribution to the total striped bass population in the Central/Southern systems. Things are different for the Albemarle/Roanoke stock. In 1980, the program began stocking in the Albemarle Sound to augment the Albemarle/Roanoke striped bass stock. In 1993, the Albemarle/Roanoke striped bass stock began successful natural reproduction again. After several years of successful spawns, stocking in the Albemarle Sound ended in 1996. In 1997, the Albemarle/Roanoke stock was declared recovered and stocking is no longer necessary.

**Q: Why did the Albemarle/Roanoke striped bass stock recover and not the Central/Southern striped bass stocks?**

A: The N.C. Wildlife Resources Commission, the U.S. Fish and Wildlife Service and the N.C. Division of Marine Fisheries coordinated with Dominion Power, the U.S. Army Corps of Engineers and other stakeholders to develop and implement a regime that provides water flow conditions as close to natural as possible in the Roanoke River during spawning season. Sufficient water flow is necessary to allow striped bass eggs to successfully hatch and be transported down the river to nursery areas in western Albemarle Sound. The flow regime also eliminated the large, daily fluctuations in water flow known as “hydropeaking” during spawning season. These changes increased the likelihood of successful reproduction of striped bass in the Roanoke River. The same flow regime agreements are not in place for the Tar/Pamlico, Neuse, and Cape Fear rivers.

**Q: Would the Central/Southern striped bass stocks recover if harvest was not allowed?**

A: Although harvest is a critical component in the abundance of any fish stock, it is often not the most important factor in the cause of stock declines and poor annual spawning success. This is especially true for fish like striped bass that rely on coastal rivers for spawning habitat and the estuaries for juvenile nursery habitat. There has been a harvest moratorium on striped bass in the Cape Fear River since 2008. While the total stock abundance and the abundance of older fish in the Cape Fear has increased, there have been no signs of improvement in annual spawning success. Important factors in the decline of Central/Southern striped bass stocks include loss of spawning habitat due to dams, poor water quality from residential pollution, industrial and agricultural development and severely altered water flow regimes during the spring spawning season. Learn more about the critical role of habitat in supporting sustainable fisheries in the Coastal Habitat Protection Plan: <http://portal.ncdenr.org/web/mf/habitat/chpp/downloads>.

**Q: How many striped bass are stocked in which coastal rivers each year?**

A: Striped bass have been stocked in North Carolina's coastal rivers at various sizes and numbers for decades. From 1980 to 2007, 200,000 Phase II (6 to 8 inches long) striped bass were stocked into the Tar/Pamlico, Neuse, and Cape Fear rivers each year. The fish were stocked on a rotating basis, so each year, two of the three coastal rivers would receive 100,000 hatchery reared striped bass. Beginning in 2008, the total number of fish stocked increased to 300,000, with each river receiving 100,000 hatchery reared fish each year.

**Q: Are hybrid striped bass used in the coastal stocking program?**

A: No, hybrid striped bass are not stocked into North Carolina's coastal rivers. In fact, hybrid striped bass have never been stocked into coastal rivers. However, hybrid striped bass often escape from striped bass aquaculture facilities located in the coastal plain, usually due to a hurricane or severe storm event. Sampling of striped bass from the commercial and recreational fisheries reveals that in the years following such an escape, hybrid striped bass compose a large portion of recreational and commercial harvest in the areas closest to where the escape occurred.

**Q: Who is responsible for stocking striped bass in North Carolina's coastal rivers?**

A: The U.S. Fish and Wildlife Service and the N.C. Division of Marine Fisheries entered into a cooperative agreement in 1980 to stock Phase II (6-8 inches long) striped bass in the Albemarle Sound and in the Tar/Pamlico, Neuse and Cape Fear rivers. Currently the striped bass stocking program is a cooperative agreement between the U.S. Fish and Wildlife Service, the N.C. Division of Marine Fisheries, and the N.C. Wildlife Resources Commission. The Watha State Fish Hatchery (operated by the N.C. Wildlife Resources Commission) provides fish for the Cape Fear River and the Edenton National Fish Hatchery (operated by the U.S. Fish and Wildlife Service) provides fish for the Tar/Pamlico and Neuse rivers.

**Q: Who pays for the striped bass coastal stocking program?**

A: Because the stocking program is a collaborative effort between the U.S. Fish and Wildlife Service, the N.C. Division of Marine Fisheries and the N.C. Wildlife Resources Commission, federal and state tax dollars from various sources help fund the stocking program. Striped bass that are raised at the Edenton National Hatchery are funded exclusively from the U.S. Fish and Wildlife Service's annual appropriated budget. Striped bass raised at the Watha State Hatchery are paid for primarily by the federal Wildlife and Sportfish Restoration Program and a smaller percentage from state recreational fishing license revenues. The tags and the monetary rewards given to people that return tags are paid by the N.C. Division of Marine Fisheries with federal Wildlife and Sportfish Restoration Fund money. Manufacturers, producers and importers pay an excise tax on many types of angling equipment and motorboats. A tax is also collected on boat engine fuel. This money then goes into the federal Wildlife and Sportfish Restoration Fund. The money is then divided among all the states based on the number of anglers in each state. To learn more about the program follow this link: <http://wsfrprograms.fws.gov/Subpages/GrantPrograms/SFR/SFR.htm>

**Q: How much does it cost to stock striped bass?**

A: The cost varies annually, depending on the price of supplies, such as fuel and feed, and the total number of striped bass raised. In 2015 the estimated cost at the Edenton National Fish Hatchery to grow striped bass out to the Phase II (6 to 8 inches) size was \$1.28 per fish.

**Q: When will the striped bass stocking program in the Central/Southern river systems be reevaluated?**

A: The most recent North Carolina Estuarine Striped Bass Fishery Management Plan was adopted by the N.C. Marine Fisheries Commission and the N.C. Wildlife Resources Commission in 2013. A review of the plan is scheduled to begin in 2018. Future striped bass management strategies in the Tar/Pamlico, Neuse and Cape Fear rivers, including the striped bass stocking program, will be a critical issue during the review process.

**Q: Who should I contact if I have additional questions?**

A:

N.C. Division of Marine Fisheries Charlton Godwin 1367 US 17 South Elizabeth City, NC 27909 252-264-3911 <a href="mailto:charlton.godwin@ncdenr.gov">charlton.godwin@ncdenr.gov</a>	N.C. Wildlife Resources Commission Kevin Dockendorf 252-335-9898 <a href="mailto:kevin.dockendorf@ncwildlife.org">kevin.dockendorf@ncwildlife.org</a>	U.S. Fish and Wildlife Service Stephen Jackson 1104 W Queen Street Edenton, NC 27932 252-482-4118 <a href="mailto:stephen_jackson@fws.gov">stephen_jackson@fws.gov</a>
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## WRC Staff Recommendations for Management Actions in the CSMA - 2016

The goals of Amendment 1 to the North Carolina Estuarine Striped Bass Fishery Management Plan (FMP) are to achieve sustainable harvest through science based decision-making processes that conserve adequate spawning stock, provide and maintain a broad age structure, and protect the integrity of critical habitats. The plan will consider biological, social, and economic factors in management of the fisheries. **The plan will be adaptive, involving regular reviews and responding to new information regarding any aspect of the plan** (FMP Section 12.1 Goals and Objectives, p 399).

Given this stated commitment to an adaptive approach for management of North Carolina's estuarine striped bass fisheries, WRC staff encourages the Division of Marine Fisheries staff to initiate a formal and prompt review of the current management objectives for striped bass populations in the CSMA considering findings since FMP terminal year 2009 including:

- 1) Estimates of fishing mortality ( $F=0.71$ ) from the 2014 Neuse River spawning grounds survey (Rachels and Ricks 2015) that continue to grossly exceed the CSMA recommended fishing mortality reference points of  $F_{TARGET}=0.25$  and  $F_{THRESHOLD}=0.29$  (FMP, 4.3.2). Total mortality ( $Z=0.86$ ) also exceeds the 1994-2009 mean  $Z$  (0.59) as reported during estimation of catch curve exploitation rates for the Neuse and Tar rivers (FMP, Appendix 14.7). In addition, no improvements in mean daily CPUE or expansions of the age structure of spawning grounds samples in the Neuse River are apparent through the time series (1994-2015). Despite implementation of conservative harvest limits in 2008 as well as required distance from shore and tie-down modifications in the commercial fisheries, the lack of improvement in population characteristics suggests the management measures were largely ineffective at providing for self-sustaining populations and should be significantly modified.
- 2) Conclusive findings of hatchery contribution in the Neuse, Tar, and Cape Fear rivers that approach 100% for all cohorts stocked since 2010 based on a new genetic marking approach referred to as Parentage Based Tagging. Specific objectives for stocking striped bass into coastal river systems include attempts to increase spawning stock abundance while promoting self-sustaining population levels appropriate for various habitats and ecosystems (FMP, Striped Bass Stocking in Coastal Rivers, p 301). The likelihood that stockings were not augmenting populations but were instead sustaining them was not considered a possible outcome of the stocking program in Amendment 1. Barwick et al. (2008) in their evaluation of stocking contribution using oxytetracycline markers suggested "striped bass stocked in the Neuse and Tar river appeared to contribute little to the spawning stocks in these systems" (FMP, p 301); this conclusion has since been discounted due to poor mark efficacy. In addition, Rulifson (CRFL grant 2011-F-005) using otolith microchemistry to evaluate origin of striped bass cohorts primarily older than 2010 concluded striped bass populations in the Tar/Pamlico and Neuse rivers were predominantly of hatchery origin (88.4%).

Mortality rates that exceed management targets, significant contributions of hatchery fish, and the apparent absence of natural recruitment in CSMA rivers necessitate evaluation of management alternatives prior to the next scheduled amendment of the FMP (Fall 2018). Recent indications are that hatchery contributions are fully supporting a put-grow-take fishery in the Tar/Pamlico and Neuse rivers, and that self-sustainment is not an achievable goal as specified in Amendment 1 given the current level of excessive exploitation.





**Division of Marine Fisheries Recommendations for  
Estuarine Striped Bass Management Actions in the CSMA**

April 19, 2016

The Division of Marine Fisheries (DMF) is charged with developing Fishery Management Plans (FMP) for adoption by the Marine Fisheries Commission for all commercially and recreationally significant species pursuant to General Statute 113-182.1. The FMPs are to be reviewed at least every five years. A supplement to a FMP may be initiated with approval of the Secretary of the Department of Environmental Quality if it is determined temporary management measures are needed to maintain the long-term viability of a fishery.

Amendment 1 to the North Carolina Estuarine Striped Bass FMP was approved by the Marine Fisheries Commission (MFC) and Wildlife Resources Commission (WRC) in 2013, and is scheduled for the comprehensive review of the FMP (including the Central Southern Management Area) to begin in 2018. Staff with the WRC have asked the DMF to consider an evaluation of management alternatives for the Central Southern Management Area (CSMA) prior to the next scheduled FMP amendment. The reasons given by WRC staff for the need of a supplement to the FMP are 1) estimates of fishing mortality from the 2014 Neuse River spawning grounds survey that exceed CSMA proxy fishing mortality reference points, 2) recent findings of hatchery contribution to the striped bass on the spawning grounds in the Tar/Pamlico, Neuse, and Cape Fear rivers that approach 100%, and 3) the apparent absence of natural recruitment in the CSMA. WRC staff indicated hatchery contributions are fully supporting a put-grow-take fishery in the Tar/Pamlico and Neuse rivers, and that self-sustainment is not an achievable goal as specified in Amendment 1 given the current level of excessive exploitation. DMF staff fully acknowledge the importance of the new information in future management of the CSMA but differ with WRC on the timeframe for action.

Staff with the DMF do not agree with the WRC's assessment of the urgency of these issues and the need for an immediate supplement, and feel the MFC schedule of an amendment to begin in 2018 is appropriate. Rationale follows:

- The stock assessment(s) conducted by the WRC on the Neuse River striped bass stock (Rachels and Ricks 2015) was not peer reviewed by external stock assessment scientists. This is outside of the normal operating procedure for DMF stock assessments used to guide fishery management decisions in the FMP process. The DMF stock assessments are required to pass peer reviews (minimum three reviewers) that accept the stock assessment results for management purposes.
- The 2015 WRC Neuse report (Rachels and Ricks 2015) identifies incorrect CSMA fishing mortality targets ( $F_{TARGET}$  0.25 and  $F_{THRESHOLD}$  0.29). These values were changed with the adoption of the November 2014 Revision to Amendment 1, which documented the new Biological Reference Points derived from the Albemarle/Roanoke benchmark stock assessment. The current fishing mortality reference points are  $F_{TARGET}=0.33$  and  $F_{THRESHOLD}=0.41$ .
- The 2015 WRC Neuse report (Rachels and Ricks 2015) identifies "cryptic mortality" as being greater than recreational or commercial mortality, and the cause of the disparity between fishing mortality estimates from two different stock assessment models referenced in the report, the Virtual Population Analysis (VPA) and the Catch Curve Analysis. These two models and the methods they use to estimate fishing mortality are completely different. Results from both models must be evaluated independently. One cannot simply presume "cryptic mortality" must account for the differences in the estimates of fishing mortality derived from the two models. The fishing mortality estimates from the VPA ranged from 0.15 to 0.19, well below the current CSMA fishing mortality reference points.
- The conclusion of WRC staff that there have been no improvements in mean daily CPUE or expansions of the age structure run contrary to the results of the 2015 Rachels and Ricks Neuse River report which states there has been a steady increase in the CPUE of age 6+ fish on the spawning grounds since 2008, from 0.1 to 4.1 in 2014, an all-time high. These results coincide with the distance from shore and tie down modifications made in the commercial gill net fisheries in 2008.
- DMF staff agree with the genetic results from striped bass sampled on the spawning grounds in the Tar/Pamlico, Neuse, and Cape Fear rivers, that hatchery contributions are approaching 100%. However, the DMF believes it is critical to future management decisions to determine the percent hatchery contribution of striped bass throughout their entire range in the CSMA, especially in the commercial and recreational fisheries. DMF staff has collected fin clips from the commercial and recreational harvest in 2016 and will do so again in 2017. These samples will be analyzed by the same lab currently analyzing samples from the spawning grounds. Results of the hatchery contribution of striped bass to the commercial and recreational fisheries is a critical piece of information that must be obtained before discussion of future management strategies can begin.

For these reasons DMF staff feel maintaining the current timeline to begin an amendment to the North Carolina Estuarine Striped Bass FMP in 2018 is the best management strategy in order to have the full suite of new information for review. Both DMF and WRC staff since the passage of the Amendment 1 have been cooperating to address the identified research needs, and adhering to the adopted review schedule allows for comprehensive consideration of recent research results and the involvement of stakeholders through the Fisheries Reform Act guidance criteria.



### **Marine Fisheries Commission Rule Suspension Update- As of April 29, 2016**

(In accordance with Division of Marine Fisheries Resource Management Policy 2014-2: Temporary Rule Suspensions)

#### **New Suspension-Action Required**

The following new suspensions occurred since the commission's February 2016 meeting. These suspensions are an action item on the May 2016 agenda and are subject to approval:

- **The following portion of Marine Fisheries Commission Rule 15A NCAC 03M .0516 COBIA is suspended:**

Section (b) which reads:

- (b) It is unlawful to possess more than two cobia per person per day.

Suspension of portions of this rule allows the division to decrease the recreational harvest of cobia to one (1) fish per person per day. These changes were implemented in Proclamation FF-9-2016, effective February 27, 2016.

- **The following portion of Marine Fisheries Commission Rule 15A NCAC 03M .0503 FLOUNDER is suspended:**

Section (i) (1), which reads:

- (1) The North Carolina season for landing ocean-caught flounder shall open January 1 each year. If 80 percent of the quota allocated to North Carolina in accordance with the joint Mid-Atlantic Fishery Management Council/Atlantic States Marine Fisheries Commission Fishery Management Plan for Summer Flounder is projected to be taken, the Fisheries Director shall, by proclamation, close North Carolina ports to landing of flounder taken from the ocean.

Suspension of portions of this rule allows the division to extend the Atlantic Ocean summer flounder season. This suspension was implemented in FF-23-2016, effective May 1, 2016.

#### **Suspensions No Longer Needed Due to Rule Changes- No Action Required**

- **Marine Fisheries Commission Rule 15A NCAC 03J .0103 GILL NETS, SEINES, IDENTIFICATION, RESTRICTIONS:**

This rule was amended effective April 1, 2016. Suspension of portions of the previous version of this rule were necessary to allow the division to decrease the total yardage of gill nets with a mesh length five inches or greater in order to manage the gill net fishery in accordance with the federal incidental take permits for sea turtles and Atlantic sturgeon. Due to the recent rule change, suspension is no longer needed.

#### **Continuing Suspensions- No Action Required**

The following rule suspensions have been approved on a continuing basis by the commission and no further action is required:

- **The following portion of Marine Fisheries Commission Rule 15A NCAC 03J .0501 DEFINITIONS AND STANDARDS FOR POUND NETS AND POUND NET SETS is suspended:**

Section (e)(2), which reads:

- (e) Escape Panels:

- (2) It is unlawful to use flounder pound net sets without four unobstructed escape panels in each pound. The escape panels shall be fastened to the bottom and corner ropes on each wall on the side and back of the pound opposite the heart. The escape panels shall be a minimum mesh size of five and one-half inches, hung on the diamond, and shall be at least six meshes high and eight meshes long.

Suspension of portions of this rule allows the division to increase the minimum mesh size of escape panels for flounder pound nets in accordance with Supplement A to Amendment 1 of the North Carolina Southern Flounder Fishery Management Plan.

➤ **The following portion of Marine Fisheries Commission Rule 15A NCAC 03M .0519 SHAD is suspended:**

Paragraphs (a) and (b) which read:

(a) It is unlawful to take American shad and hickory shad by any method except hook-and-line from April 15 through December 31.

(b) It is unlawful to possess more than 10 American shad or hickory shad, in the aggregate, per person per day taken by hook-and-line or for recreational purposes.

➤ **The following portion of Marine Fisheries Commission Rule 15A NCAC 03Q .0107 SPECIAL REGULATIONS: JOINT WATERS is suspended:**

Paragraph (4) which reads:

(4) Shad: It is unlawful to possess more than 10 American shad or hickory shad, in the aggregate per person per day taken by hook-and-line.

Suspension of portions of these rules allows the division to change the season and creel limit of American shad under the management framework of the North Carolina American Shad Sustainable Fishery Plan. These rules have been approved to be suspended indefinitely.

# North Carolina Division of Marine Fisheries

## Quota Monitoring Landings Report



### North Carolina Quota Monitored Species Reporting

Species currently under a quota monitoring requirement by the North Carolina Division of Marine Fisheries (NCDMF) include summer flounder, striped bass, black sea bass North of Cape Hatteras, spiny dogfish, and river herring. Seasons are opened and closed by proclamation as shown in the table below. Landings reports are updated weekly during the proclamation season.

## 2016 North Carolina Quota Monitored Landings

### Updated 04/26/2016

Species	2016 Total Quota (LBS)	Quota for Winter Fishery	2016 Transfer	2016 Harvest	Winter Quota Remaining	Proclamation	Trip Limit (pounds)	Comments
2016 Summer Flounder	2,229,709	1,783,767	82,263	1,767,212	380,234	FF-21-2016	4,000	Closes 09/30/2016 at 6:00pm
2016 Black Sea Bass N of Cape Hatteras	297,315		1,823	170,871	124,621	FF-20-2016	1500	Closes 09/30/2016 at 6:00pm
2015/2016 Spiny Dogfish	7,276,052		0	2,308,222	4,967,830	FF-62-2015	per day: 20,000	Closes 04/30/2016 at 6:00pm
A.O. Striped Bass	360,360							
TRAWL	120,120		0	0	120,120			
SEINE	120,120		0	0	120,120	FF-57-2015	150 fish/day	Closes 3/31/2016
GILL NET	120,120		0	0	120,120	FF-64-2015	50 fish/day	Closes 02/14/2016
ASMA Striped Bass	137,500		0	103,909	33,591	FF-16-2016	10 fish/day	Closes 04/30/2016
CSMA Striped Bass	25,000			22,568	2432	FF-15-2016	10 fish/day	Closed 3/21/2016

\* All figures are in pounds unless otherwise noted

For questions about quota monitoring or to report landings:

Permitted Species	FAX	E-mail Address	Telephone #
Striped Bass, River Herring	252-264-3723	<a href="mailto:LANDINGS@ncdenr.gov">LANDINGS@ncdenr.gov</a>	800-338-7805
Summer Flounder, Black Sea Bass North of Cape Hatteras, Spiny Dogfish	252-726-3903	<a href="mailto:FLOUNDER@ncdenr.gov">FLOUNDER@ncdenr.gov</a>	800-682-2632



Year	Month	Species	Pounds	Dealers	Trips	Average (2007-2009)
2013	1	SOUTHERN FLOUNDER	2,942	42	276	7,713
2013	2	SOUTHERN FLOUNDER	896	37	254	4,617
2013	3	SOUTHERN FLOUNDER	4,387	57	682	23,512
2013	4	SOUTHERN FLOUNDER	16,697	93	1,177	68,389
2013	5	SOUTHERN FLOUNDER	49,629	123	1,778	122,514
2013	6	SOUTHERN FLOUNDER	79,203	137	2,127	154,090
2013	7	SOUTHERN FLOUNDER	119,720	150	2,839	170,387
2013	8	SOUTHERN FLOUNDER	124,177	147	2,685	201,862
2013	9	SOUTHERN FLOUNDER	416,097	161	3,631	396,301
2013	10	SOUTHERN FLOUNDER	883,476	172	5,512	781,717
2013	11	SOUTHERN FLOUNDER	483,762	121	2,589	392,150
2013	12	SOUTHERN FLOUNDER	5,288	12	27	37,303
2014	1	SOUTHERN FLOUNDER	2,978	29	183	7,713
2014	2	SOUTHERN FLOUNDER	1,823	29	285	4,617
2014	3	SOUTHERN FLOUNDER	3,430	43	677	23,512
2014	4	SOUTHERN FLOUNDER	18,997	71	933	68,389
2014	5	SOUTHERN FLOUNDER	16,001	93	681	122,514
2014	6	SOUTHERN FLOUNDER	80,142	123	1,988	154,090
2014	7	SOUTHERN FLOUNDER	84,702	141	2,148	170,387
2014	8	SOUTHERN FLOUNDER	105,208	137	2,204	201,862
2014	9	SOUTHERN FLOUNDER	404,143	153	3,588	396,301
2014	10	SOUTHERN FLOUNDER	634,514	146	3,436	781,717
2014	11	SOUTHERN FLOUNDER	320,773	121	1,991	392,150
2014	12	SOUTHERN FLOUNDER	800	5	7	37,303
2015	1	SOUTHERN FLOUNDER	1,984	30	237	7,713
2015	2	SOUTHERN FLOUNDER	495	21	93	4,617
2015	3	SOUTHERN FLOUNDER	10,750	62	768	23,512
2015	4	SOUTHERN FLOUNDER	20,824	88	1,074	68,389
2015	5	SOUTHERN FLOUNDER	42,454	117	1,282	122,514
2015	6	SOUTHERN FLOUNDER	53,838	116	1,482	154,090
2015	7	SOUTHERN FLOUNDER	42,805	106	1,144	170,387
2015	8	SOUTHERN FLOUNDER	43,842	111	1,151	201,862
2015	9	SOUTHERN FLOUNDER	255,067	122	2,335	396,301
2015	10	SOUTHERN FLOUNDER	429,234	127	2,554	781,717
2015	11	SOUTHERN FLOUNDER	301,489	90	1,755	392,150
2015	12	SOUTHERN FLOUNDER	89	7	10	37,303
2016	1	SOUTHERN FLOUNDER	14,874	33	266	7,713
2016	2	SOUTHERN FLOUNDER	6,990	31	288	4,617
2016	3	SOUTHERN FLOUNDER	6,174	34	610	23,512
2016	4	SOUTHERN FLOUNDER	***	2	39	68,389

2016 data are preliminary and only complete through February.

\*\*\*data are confidential





## Red Drum Landings 2014-2016

Landings are complete through February 29, 2016

2015 Landings are final; 2016 landings are preliminary

Year	Month	Species	Pounds	2009-2011 Average	2012-2014 Average
2014	9	Red Drum	34,775	28,991	35,471
2014	10	Red Drum	36,425	43,644	59,757
2014	11	Red Drum	16,375	14,318	28,619
2014	12	Red Drum	2,995	3,428	3,401
2015	1	Red Drum	1,961	5,885	1,364
2015	2	Red Drum	3,009	3,448	3,176
2015	3	Red Drum	3,913	5,699	2,957
2015	4	Red Drum	12,703	7,848	3,945
2015	5	Red Drum	10,617	13,730	9,222
2015	6	Red Drum	7,640	12,681	7,432
2015	7	Red Drum	5,081	13,777	15,555
2015	8	Red Drum	5,395	21,252	16,910
<b>Fishing Year (Sept 1, 2014 - Aug 31, 2015) Landings</b>			<b>140,889</b>		

Year	Month	Species	Pounds	2009-2011 Average	2012-2014 Average
2015	9	Red Drum	4,961	28,991	35,471
2015	10	Red Drum	18,815	43,644	59,757
2015	11	Red Drum	4,897	14,318	28,619
2015	12	Red Drum	1,398	3,428	3,401
2016	1	Red Drum	1,183	5,885	1,364
2016	2	Red Drum	1,679	3,448	3,176
2016	3	Red Drum	1,444*	5,699	2,957
2016	4	Red Drum	***	7,848	3,945
<b>Fishing Year (Sept 1, 2015 - Aug 31, 2016) Landings</b>			<b>34,380</b>		

\*partial trip ticket landings only

\*\*\*landings are confidential







PAT MCCRORY  
*Governor*

DONALD R. VAN DER VAART  
*Secretary*

BRAXTON DAVIS  
*Director*

## MEMORANDUM

TO: Braxton Davis  
Sammy Corbett

FROM: Chris Batsavage, Protected Resources Section Chief/Special Assistant for  
Councils  
Division of Marine Fisheries

DATE: April 29, 2016

SUBJECT: Protected Resources Section Update

## OBSERVER PROGRAM

Tables summarizing observer coverage and protected species interactions from January through March 2016 are found in the briefing book. Finalized observer coverage estimates from the previous year (2015) are normally provided at the May Commission meeting, but final edits are still being made to the 2015 trip ticket data. Large mesh gill net observer coverage by management unit through February 2016 ranged from 0% to 55% and from 0% to 6% for small mesh gill nets. Overall large mesh gill net observer coverage for March was 8.2% and small mesh gill net observer coverage was 4.4%. Observer coverage estimates are based on the average number of gill net trips from prior years (2011 – 2014) because 2016 trip numbers are preliminary.

A total of one green sea turtle in large mesh gill nets was observed during the winter months (January – February) in 2016. This interaction occurred much earlier (January 4) in the calendar year than any other estuarine gill net sea turtle interaction documented by the division's observer program. A total of 3 live Atlantic sturgeon were observed in large mesh gill nets and 4 live Atlantic sturgeon from small mesh gill nets during the winter months in 2016. All of the Atlantic sturgeon interactions occurred in Management Unit A and the green sea turtle interaction occurred in Management Unit E. None of the protected species interactions were lethal.

A total of two live and one dead green sea turtle were observed in small mesh gill nets so far this spring (March – May) with the interactions occurring in Management Units B and E. A total of 6 live and 3 dead Atlantic sturgeon were observed in large mesh gill nets and one live Atlantic sturgeon from small mesh gill nets so far this spring. There was also a live Atlantic sturgeon interaction in a drift gill net. Drift gill nets are not covered under either Incidental Take Permit for Atlantic sturgeon or sea turtles. The Atlantic sturgeon interactions in large mesh gill nets occurred in Management Units A and E and the small mesh interaction was from Management Unit B. In addition, one shortnose sturgeon interaction occurred in a large mesh gill net in

Management Unit E. No self-reported interactions of sea turtles or Atlantic sturgeon from fishermen have occurred through April 2016.

## **MANAGEMENT UNIT CLOSURES**

Management Unit A closed to large mesh gill nets on April 23, 2016 due to the allowed takes of dead Atlantic sturgeon from large mesh gill nets in this management unit for the spring season (March-May) being reached. The closure will remain in effect until May 31, 2016.

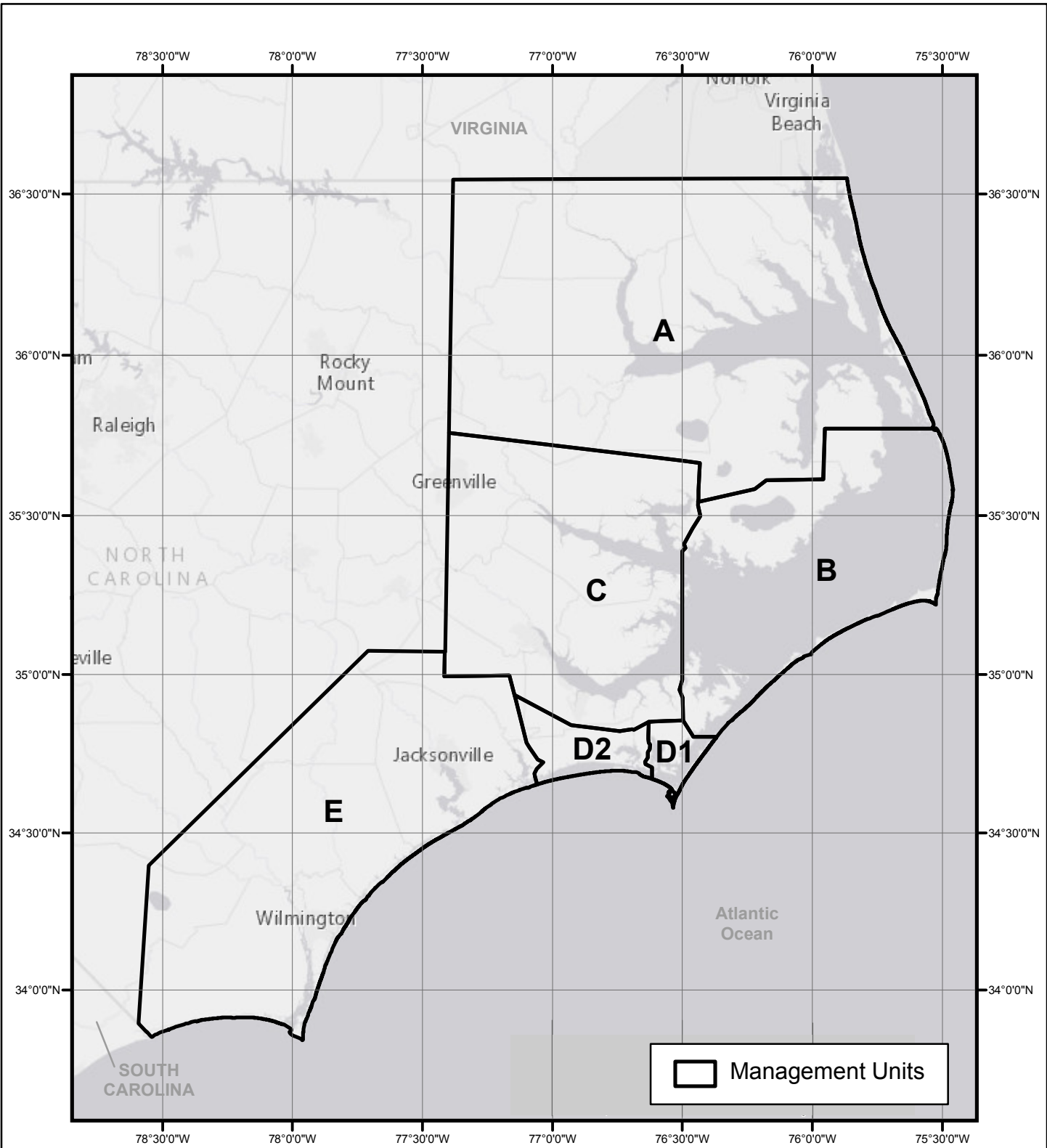
Management Unit D1 will close on May 8, 2016 to large mesh gill nets and will remain closed until at least October 15, 2016. This closure is a requirement of the Sea Turtle Incidental Take Permit.

Management Unit E on the Cape Fear and Northeast Cape Fear rivers upstream from Wilmington closed to large mesh gill nets on April 10, 2016 due to a shortnose sturgeon interaction and multiple Atlantic sturgeon interactions including a lethal take. Shortnose sturgeon are endangered but are not covered under the incidental take permits because of their rare occurrence in the state. The closure was implemented to avoid additional shortnose sturgeon interactions while the division works with the National Marine Fisheries Service on potential measures to address any future interactions.

Management Unit E will close to small mesh gill nets in early May due to reaching the allowed takes of green sea turtles on April 29. The closure will remain in effect until August 31, 2016.

## **INCIDENTAL TAKE PERMITS**

Last fall, the division presented an issue paper to the Northern, Southern, and Sea Turtle Advisory Committees that explored potential amendment items to the sea turtle and Atlantic sturgeon incidental take permits. The division's Management Review Team reviewed the issue paper as well as the input received at the advisory committee meetings and recommended pursuing the large mesh gill net exemption in the upper Cape Fear River as an amendment item for both incidental take permits. However, due to the shortnose sturgeon interaction as well as three Atlantic sturgeon interactions this spring in the upper Cape Fear River from large mesh gill nets, the division will not be pursuing incidental take permit amendments for this exemption.



**NCDMF ESTUARINE GILLNET PERMIT MAP**



April 2015

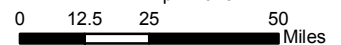






Table 1. Preliminary data collected for large mesh gill nets by month through the NCDMF Observer Program through March 2016.

Month	Trips		Observer Large Mesh				Observed Takes By Species									
	Estimated <sup>1</sup>	Actual <sup>2</sup>	AP Attempts <sup>3</sup>	Trips	Yards	Coverage <sup>4</sup>	Kemp's		Green		Loggerhead		Unknown	A. Sturgeon		
							Live	Dead	Live	Dead	Live	Dead	Live	Live	Dead	
January	308	524	48	22	10,400	7.1	0	0	1	0	0	0	0	0	1	0
February	597	743	49	43	16,655	7.2	0	0	0	0	0	0	0	0	2	0
March	2,007	1,215	75	164	101,048	8.2	0	0	0	0	0	0	0	0	4	1
Total	2,912	2,482	172	229	128,103	7.9	0	0	1	0	0	0	0	0	7	1

<sup>1</sup> Finalized trip ticket data averaged from 2011-2014

<sup>2</sup> Preliminary trip ticket data for 2016

<sup>3</sup> Alternative Platform trips where no fishing activity was found

<sup>4</sup> Based on estimated trips and observer large mesh trips



Table 2. Preliminary data collected for large mesh gill nets by season and management unit through the NCDMF Observer Program through March 2016.

Season	Unit	Trips		Observer Large Mesh				Observed Takes By Species									
		Estimated <sup>1</sup>	Actual <sup>2</sup>	AP Attempts <sup>3</sup>	Trips	Yards	Coverage <sup>4</sup>	Kemp's		Green		Loggerhead		Unknown	A.Sturgeon		
								Live	Dead	Live	Dead	Live	Dead	Live	Live	Dead	
Winter	A	699	1,176	53	37	17,960	5.3	0	0	0	0	0	0	0	0	3	0
	B	74	21	4	0	0	0.0	0	0	0	0	0	0	0	0	0	0
	C	103	36	20	13	7,140	12.7	0	0	0	0	0	0	0	0	0	0
	D1	0	0	1	0	0	0.0	0	0	0	0	0	0	0	0	0	0
	D2	3	1	1	0	0	0.0	0	0	0	0	0	0	0	0	0	0
	E	27	33	18	15	1,955	55.3	0	0	1	0	0	0	0	0	0	0
Total		905	1,267	97	65	27,055	7.2	0	0	1	0	0	0	0	3	0	

<sup>1</sup> Finalized trip ticket data averaged from 2011-2014

<sup>2</sup> Preliminary trip ticket data for 2016

<sup>3</sup> Alternative Platform trips where no fishing activity was found

<sup>4</sup> Based on estimated trips and observer large mesh trips



Table 3. Preliminary data collected for small mesh gill nets by month through the NCDMF Observer Program through March 2016.

Month	Trips		Observer Small Mesh			Observed Takes By Species								
	Estimated <sup>1</sup>	Actual <sup>2</sup>	Trips	Yards	Coverage <sup>3</sup>	Kemp's		Green		Loggerhead		Unknown	A. Sturgeon	
						Live	Dead	Live	Dead	Live	Dead	Live	Live	Dead
January	643	462	28	14,055	4.4	0	0	0	0	0	0	0	<b>3</b>	0
February	589	735	28	15,320	4.8	0	0	0	0	0	0	0	<b>1</b>	0
March	914	718	40	18,515	4.4	0	0	<b>1</b>	0	0	0	0	<b>1</b>	0
Total	2,146	1,915	96	47,890	4.5	0	0	1	0	0	0	0	5	0

<sup>1</sup> Finalized trip ticket data averaged from 2013-2014

<sup>2</sup> Preliminary trip ticket data for 2016

<sup>3</sup> Based on estimated trips and observer small mesh trips



Table 4. Preliminary data collected for small mesh gill nets by season and management unit through the NCDMF Observer Program through March 2016.

Season	Unit	Trips		Observer Small Mesh			Observed Takes By Species									
		Estimated <sup>1</sup>	Actual <sup>2</sup>	Trips	Yards	Coverage <sup>3</sup>	Kemp's		Green		Loggerhead		Unknown		A.Sturgeon	
							Live	Dead	Live	Dead	Live	Dead	Live	Dead	Live	Dead
Winter	A	1,071	785	40	20,780	3.7	0	0	0	0	0	0	0	0	4	0
	B	409	242	2	1,780	0.5	0	0	0	0	0	0	0	0	0	0
	C	180	87	9	5,100	5.0	0	0	0	0	0	0	0	0	0	0
	D1	5	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0
	D2	73	7	1	200	1.4	0	0	0	0	0	0	0	0	0	0
	E	70	76	4	1,515	5.7	0	0	0	0	0	0	0	0	0	0
Total		1,808	1,197	56	29,375	3.1	0	0	0	0	0	0	0	4	0	

<sup>1</sup> Finalized trip ticket data averaged from 2013-2014

<sup>2</sup> Preliminary trip ticket data for 2016

<sup>3</sup> Based on estimated trips and observer small mesh trips





## February 2016 Council Meeting Report

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**February 9 – 11, 2016**

*New Bern, NC*

The following summary highlights actions taken and issues considered at the Mid-Atlantic Fishery Management Council's February 2016 meeting in New Bern, North Carolina. Presentations, briefing materials, and audio recordings are available on the Council's website at [www.mafmc.org/briefing/february-2016](http://www.mafmc.org/briefing/february-2016).

### Unmanaged Forage Fish

The Council considered recommendations from the Unmanaged Forage Fishery Management Action Team (FMAT), the Ecosystem and Ocean Planning (EOP) Advisory Panel (AP), and the EOP Committee regarding the Unmanaged Forage Omnibus Amendment. The Council's decisions and recommendations are summarized below.

- **List of Unmanaged Forage Taxa:** The Council adopted [a list of unmanaged forage taxa](#) to be included in the public hearing document for the amendment. The list, which contains more than 50 species and higher-level groupings such as families and orders, may be modified in the future based on input provided at public hearings and recommendations from NOAA Fisheries, the FMAT, advisors, and the EOP Committee. The Council considered but did not approve a motion to include an additional list with only those unmanaged forage species which make up at least 5% of the diet of a Council-managed predator as an alternative for consideration in the amendment.
- **Goal Statement:** The Council agreed to strike "recreational" from the goal statement; thus the amendment will henceforth focus on commercial fisheries for unmanaged forage species. However, recreational management measures will be added to the list of items which can be addressed through future framework adjustments.
- **Reporting of Unmanaged Forage Landings:** The Council unanimously passed a motion to develop an alternative that would require vessel and dealer reporting of landings of species included in the amendment. This addition is intended to address data gaps associated with certain forage species which are currently harvested but are not required to be reported through SAFIS or VTRs, such as round herring and Spanish sardines. The Council expressed a desire to work with the Northeast Fisheries Observer Program to improve documentation of observed catches of unmanaged forage species.
- **SSC Role:** The Council recommended that the SSC assist the Council in assessing available scientific information relating to any new or expanded directed fisheries for unmanaged forage species.

The Council expects to review and approve a public hearing document at the April 2016 meeting. Public hearings are tentatively scheduled to begin in May. Additional information and updates about the amendment will be posted on the Council's website at [www.mafmc.org/actions/unmanaged-forage](http://www.mafmc.org/actions/unmanaged-forage).

### Scup Gear Restricted Areas

The Council reviewed management alternatives and advisor recommendations for a framework action to modify the scup Gear Restricted Areas (GRAs). The scup GRAs were first implemented in 2000 and are intended to reduce scup discards in small mesh fisheries during the spring and winter. The GRAs have been modified several times in response to requests from commercial fishermen. In recent years, several advisors have recommended further modification of the GRAs. Additionally, an analysis by the Northeast Fisheries Science Center suggests that relatively high scup discards have occurred in areas and times outside of the GRAs in recent years. After considering advisor recommendations and additional analysis by Council staff, the Council voted to add an alternative to the framework which would modify the boundaries of the southern scup GRA

based on a proposal developed by several members of the Council's Mackerel, Squid, Butterfish and Summer Flounder, Scup, Black Sea Bass Advisory Panels. The alternatives under consideration now include *status quo* alternatives, one alternative to modify the boundaries of the Northern GRA, several alternatives to modify the boundaries of the Southern GRA, and alternatives to eliminate one or both GRAs. The Council postponed final action on the framework until April 2016.

### Ecosystem Approach to Fisheries Management

The Council received a progress report on development of the Ecosystem Approach to Fisheries Management (EAFM) Guidance Document. The guidance document is being developed to enable the Council to move from a single species management approach toward the development and implementation of assessments and management frameworks that incorporate environmental drivers, habitat and climate change, species interactions, and fleet interactions.

As part of the Council's EAFM discussion, Dr. Sarah Gaichas presented a draft white paper on ecosystem interactions. The paper synthesizes the presentations, discussions, and key outcomes from a workshop the Council convened in June 2015. The workshop and the white paper explore alternative pathways to incorporating species and fisheries interactions into the Council's fishery management policies and programs as part of the development of its EAFM Policy. The white paper includes a description of a framework and process for defining key questions, evaluating the adequacy of information and analytical tools to address the questions, and developing analyses to evaluate management strategies to achieve Council management objectives.

A draft of the EAFM Guidance Document is expected to be available for Council consideration at its April meeting.

### Omnibus Industry Funded Monitoring Amendment

The Council adopted preferred alternatives for the omnibus portions of the Industry Funded Monitoring (IFM) Amendment. These alternatives provide an overall structure for IFM programs. In April the Council will consider identifying preferred alternatives for IFM specific to the Atlantic mackerel fishery, which will be followed by public hearings in May and final action at the June 2016 Council meeting.

### Naming the Deep Sea Coral Protection Areas

The Council voted to name a new deep sea coral protection area in honor of the late Senator Frank Lautenberg, a five-term United States senator from New Jersey who was responsible for several important pieces of ocean conservation legislation. The proposed *Frank R. Lautenberg Deep Sea Coral Protection Area* encompasses more than 38,000 square miles of federal waters off the Mid-Atlantic coast. Senator Lautenberg was a champion for ocean stewardship and worked with particular determination to establish protections for deep sea coral ecosystems. He authored several provisions included in the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, including a discretionary provision which gave regional fishery management councils the authority to protect coral habitat areas from fishing gear.

### Collaborative Research Committee

The Collaborative Research Committee met to discuss preliminary alternatives for the Council's long-term involvement in collaborative research (CR). After considering several broad approaches presented by staff, the Committee recommended a hybrid approach which would involve retaining RSA as an option for future consideration but moving forward with steps to improve coordination with NEFSC's Northeast Cooperative Research Program (NCRP). The Committee recommended establishing a technical working group with participants from MAFMC, NEFSC, and GARFO to develop an action plan and craft options for Council consideration at a meeting later in 2016. The working group will explore options for addressing MAFMC collaborative research needs more effectively through NCRP activities as well as options for reconfiguring RSA.

## Ricks E Savage Award

Preston Pate was named this year's recipient of the Ricks E Savage Award. The award is given each year to a person who has added value to the Council's process and management goals through significant scientific, legislative, enforcement, or management activities. Preston Pate was appointed to the Council in 2009, following a distinguished 36-year career with the state of North Carolina. During his six years on the Council he participated on fifteen committees and served as the chairman of the Research Set-Aside Committee. During the presentation of the award, Council Chairman Rick Robins noted that Mr. Pate "had a tremendous impact on the region's fishery management programs and made outstanding contributions to the Council."

## Other Business

**Marine Recreational Information Program (MRIP):** The Council received an update on implementation of improvements to MRIP, including changes in recreational data collection and catch and effort estimation methodologies. Council staff will be participating in the Atlantic Coastal Cooperative Statistics Program's (ACCSP) ongoing work to identify regional needs and priorities for data collection.

**Fisheries Dependent Data Project:** The Council initiated an omnibus amendment to address the regulatory changes needed to fully implement the Agency's Fishery-Dependent Data Visioning Project.

**Improving Stock Assessments:** Northeast Fisheries Science Center staff presented plans for an improved stock assessment process. Proposed changes are focused on improving transparency and collaboration, streamlining operational assessments and assessment updates, and incorporating climate change and ecosystem considerations into assessments.

**Spiny Dogfish Trip Limits:** In response to comments from the Atlantic States Marine Fisheries Commission, the Council voted to consider of a potential increase in the dogfish trip limit to 6000 lbs. at the April 2016 Council meeting.





## PRESS RELEASE

FOR IMMEDIATE RELEASE  
April 19, 2016

PRESS CONTACT: Mary Clark  
(302) 674-2331 (ext. 261)

### Council Approves Changes to Scup Gear-Restricted Areas

During a meeting last week in Montauk, New York the Mid-Atlantic Fishery Management Council approved a framework action to modify the boundary of one of the region's two Scup Gear Restricted Areas (GRAs). The proposed change to the Southern Scup GRA boundary is expected to increase the availability of longfin squid to small-mesh fisheries.

The GRAs were implemented in 2000 and are intended to reduce discard mortality of juvenile scup. The current GRA regulations include a Northern GRA, which is effective from November 1 through December 31, and a Southern GRA, which is effective from January 1 through March 15. Trawl vessels which fish for or possess longfin squid, black sea bass, or silver hake (also known as whiting) are required to use mesh 5 inches or larger in the GRAs during those times of the year. The scup stock has expanded substantially since the GRAs were first implemented, and analysis conducted by scientists at the Northeast Fisheries Science Center indicate that the GRAs were partially responsible for this rebuilding.

The GRAs have been modified several times in response to requests from commercial fishermen. In recent years, advisors have recommended further modification of the GRAs to restore access to certain areas for longfin squid fishing, arguing that modifications to the GRA boundaries would not harm the scup stock

In response to an industry request, the Council initiated a framework action in 2014 to address potential changes to the scup GRAs. The framework considered a range of alternatives, including modifications to the GRA boundaries and elimination of one or both GRAs.

After a lengthy discussion of the impacts of the proposed alternatives, the Council voted to modify the boundary of the Southern Scup GRA. The proposed change, shown in Figure 1, is based on a proposal developed by members of the Council's Summer Flounder, Scup, and Black Sea Bass Advisory Panel.

"By increasing access to important fishing grounds, the Council balanced the concerns of the squid industry with the possible impacts on the scup stock," said the Council's Executive Director, Chris Moore. "If the modification is approved by NMFS, the Council will be working closely with NMFS to monitor scup discards to make sure that mortality of juvenile scup does not increase as a result."

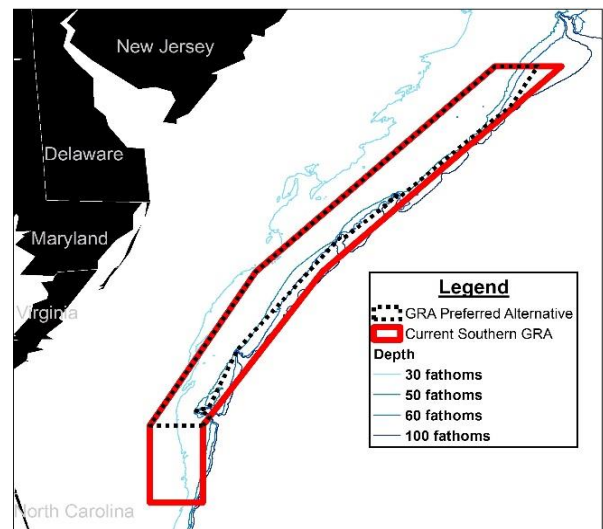


Figure 1. Proposed modification to the Southern Scup GRA boundary.





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**PRESS RELEASE**

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FOR IMMEDIATE RELEASE  
April 25, 2016

PRESS CONTACT: Mary Clark  
(302) 674-2331 (ext. 261)

**Federal Fishery Management Measures Approved for Blueline Tilefish in the Mid-Atlantic**

The Mid-Atlantic Fishery Management Council has approved measures to establish management of blueline tilefish in Federal waters off the Mid-Atlantic and New England coasts. The Blueline Tilefish Amendment includes a suite of measures that will incorporate blueline tilefish as a managed species in the Tilefish Fishery Management Plan.

Blueline tilefish are managed by the South Atlantic Fishery Management Council from Florida to North Carolina, and there are currently no regular federal regulations north of the North Carolina/Virginia border. Last year, after catch of blueline tilefish off the Mid-Atlantic increased markedly, the Council requested that the National Marine Fisheries Service (NMFS) implement emergency measures to constrain landings of blueline tilefish in the Mid-Atlantic. These measures, which include a commercial trip limit of 275 pounds (gutted) and a recreational bag limit of 7 fish per person, are set to expire on June 3, 2016.

If approved by the Secretary of Commerce, the amendment would establish a separate blueline tilefish management unit in Federal waters north of the North Carolina/Virginia border extending up to the boundary with Canada. The management objectives for blueline tilefish would be the same as for golden tilefish, with the addition that “management will reflect blueline tilefish’s susceptibility of overfishing and the need for an analytical stock assessment.”

Based on the recommendation of its Scientific and Statistical Committee (SSC), the Council adopted an Acceptable Biological Catch (ABC) of 87,031 pounds for 2017. The Council voted to allocate 73% of total allowable landings to the recreational fishery and 27% to the commercial sector. This allocation was based on the median of annual commercial-recreational catch ratios from 2009-2013.

For the commercial fishery, the Council adopted a trip limit of 300 pounds gutted weight (head and fins must be attached). In addition, the amendment would require a joint golden/blueline tilefish open access commercial permit to retain blueline tilefish, subject to the applicable trip limit. Standard reporting of catch would be required for commercial vessels and dealers landing blueline tilefish.

For the recreational fishery, the Council recommended an open season from May 1 to October 31, when blueline tilefish are available to most anglers throughout the Mid-Atlantic. Recreational bag limits would be set at 7 fish per person for inspected for-hire vessels, 5 fish per person for uninspected for-hire vessels, and 3 fish per person for private vessels. In addition, the Council recommended mandatory permitting and reporting of golden and blueline tilefish for both for-hire and private recreational fishing in order to develop better information on recreational tilefish landings in the Mid-Atlantic.

“One of the challenges with developing this amendment has been the lack of data about the abundance and historical landings of blueline tilefish in the Mid-Atlantic,” said Council Chairman Rick Robins. “As we transition from emergency management to regular management of the fishery, it will be important for us to seek continual improvement in information on the status, productivity, and catch of blueline tilefish off the Mid-Atlantic. The Council will be working to encourage progress on the research needs identified by our SSC

and will also be highly engaged in developing new information through the upcoming SouthEast Data, Assessment, and Review Assessment (SEDAR) for blueline tilefish.”

The public will have an opportunity to comment on the measures recommended by the Council during the comment period associated with the NMFS proposed rule. Publication of the proposed rule is expected this summer.





PAT MCCRORY  
*Governor*

DONALD R. VAN DER VAART  
*Secretary*

BRAXTON DAVIS  
*Director*

## MEMORANDUM

TO: North Carolina Marine Fisheries Commission

FROM: Michelle Duval  
Division of Marine Fisheries, DEQ

DATE: April 24, 2016

SUBJECT: South Atlantic Fishery Management Council Meeting (March 7-11, 2016)

The South Atlantic Fishery Management Council (Council) met in Jekyll Island, Georgia. The following is a summary of actions taken by the Council. The next meeting will be held in Cocoa Beach, Florida, June 13-17, 2016.

### **Protected Resources Committee**

The Council received updates on various protected resources activities, including a notice of intent to consider additional regulations to reduce sea turtle bycatch in southeastern shrimp fisheries (Texas through North Carolina). Scoping meetings will be held throughout April, including April 13, 2016 in Morehead City. The final rule for North Atlantic right whale critical habitat became effective Feb. 26, 2016; the total critical habitat area is 8,429 square nautical miles and extends from Cape Fear shoals to south of Cape Canaveral. Formal consultation for the snapper grouper fishery was reinitiated due to the recommended actions in Snapper Grouper Regulatory Amendment 16 to modify the existing six-month black sea bass pot closure (approved by the Council in December 2015).

The Council also gave final approval of the Endangered Species Act Integration Agreement between NOAA Fisheries and the Council. The agreement establishes protocols and expectations regarding the level of council involvement in biological opinions.

### **Southeast Data, Assessment, and Review (SEDAR) Committee**

This is the name of the stock assessment process in the southeast, and each Southeast, Data, Assessment and Review, or "SEDAR" is given a number. The Council received updates on the following stock assessment activities:

- *Blueline tilefish stock identification workshop*: The Council approved appointments for a stock identification workshop to be held in late June 2016 in advance of a new benchmark assessment for blueline tilefish (SEDAR 50). The workshop will consider the results of two complementary genetics studies that are being completed. Scientific and management representation from both northeast and southeast regions has been solicited so that both biological stock and management unit recommendations can be considered.
- *Red snapper/gray triggerfish benchmark stock assessments (SEDAR 41); golden tilefish update*: The Council's Scientific and Statistical Committee will be reviewing new benchmark stock assessments for red snapper and gray triggerfish conducted through SEDAR 41, as well as an update to the golden tilefish stock assessment, at their meeting in early May. The Council will subsequently receive the results of those reviews at its June 2016 meeting in Florida.

### **Dolphin Wahoo Committee**

The Council received updates on the status of commercial and recreational landings, as well as the following amendments under review:

- *Dolphin Wahoo Regulatory Amendment 1:* This amendment was approved by the Council in December 2015 and is under review by NOAA Fisheries. It contains a single action to implement a commercial trip limit of 4,000 pounds whole weight once 75 percent of the commercial annual catch limit has been met.
- *Commercial dolphin fishery control date:* The Council approved a June 30, 2015 control date for the commercial dolphin fishery at its December 2015 meeting. The comment period on the control date ended March 7, 2016. A control date informs the public that the Council may consider limiting participation in the fishery in the future.

The Council discussed potential options to be included in an amendment that would establish a tool for temporary allocation shifts (transfers of quota) between commercial and recreational sectors. Consideration of a similar tool is ongoing in the Gulf of Mexico king mackerel fishery, and has been in place for the bluefish fishery managed by the Mid-Atlantic Council for some time. The Council will review the alternatives approved for scoping at its June meeting, as well as the list of items discussed in December 2015 for a comprehensive dolphin fishery amendment. The Council also discussed possibly including re-consideration of bag limit sales by properly licensed and permitted for-hire vessels in a comprehensive amendment.

### **Snapper Grouper Committee**

The committee received updates on the status of commercial and recreational landings, as well as the following amendments under review:

- *Amendment 35 (removal of species and golden tilefish longline endorsement):* Removes mahogany snapper, dog snapper, black snapper and schoolmaster snapper from the fishery management unit and closes a loophole in the regulations regarding golden tilefish commercial longline endorsement holders fishing on the golden tilefish commercial hook-and-line quota. Comments on the proposed rule were due April 4, 2016.
- *Regulatory Amendment 25 (blueline tilefish annual catch limit, black sea bass recreational bag limit, yellowtail snapper fishing year):* Increases the annual catch limit, commercial trip limit and recreational bag limit for blueline tilefish; increases the recreational bag limit for black sea bass; and modifies the fishing year for yellowtail snapper. The proposed rule package is under review by NOAA Fisheries.
- *Regulatory Amendment 16 (black sea bass pot closure):* Modifies the existing November-April prohibition on use of black sea bass pots to allow for limited access beyond certain depths. The proposed rule package is under review by NOAA Fisheries.

*Amendment 37 (hogfish):* This amendment contains actions related to hogfish in response to the recent stock assessment (2014) that determined there were two hogfish stocks: one from Georgia through North Carolina, and a second along the east coast of Florida through the Florida Keys. The Georgia-North Carolina assessment was rejected, while the assessment for the Florida stock indicates it is overfished and overfishing is occurring. The amendment includes actions to establish maximum sustainable yield, annual catch limits and accountability measures for each stock. It also includes actions to modify the minimum size limit and establish a recreational bag limit and commercial trip limit for each stock. It also establishes a rebuilding plan for the East Florida/Florida Keys stock.

The Council reviewed input from public hearings conducted in January 2016 and made modifications as needed. The preferred alternatives for the Georgia-North Carolina stock are: a minimum size limit of 17 inches fork length (commercial and recreational); recreational daily bag limit of two fish/person;

commercial trip limit of 500 pounds whole weight. For the east Florida stock, the preferred alternatives are: a minimum size limit of 16 inches fork length (commercial and recreational); recreational daily bag limit of one fish; recreational fishing season of July through October; commercial trip limit of 25 pounds whole weight. The Council will approve the amendment for secretarial review at its June meeting.

*Amendment 41 (mutton snapper)*: This amendment contains actions pertaining to management of mutton snapper, in response to the latest stock assessment (2015). While the stock is not overfished and overfishing is not occurring, modifications to the annual catch limits are necessary based on a smaller estimated adult population size. The Council reviewed comments from scoping hearings conducted in January 2016 and made adjustments to the alternatives based on public input. The major management actions in this amendment include changes to the commercial and recreational harvest limits both during and outside of the spawning season, as well as an increase in the minimum size limit. The Council will review the revised analyses at its June meeting.

*Amendment 36 (spawning Special Management Zones (SMZs))*: This amendment contains actions to establish spawning Special Management Zones off North Carolina, South Carolina and Florida. The preferred alternatives for the site off North Carolina (five square miles well south of the Big Rock), and the sites off South Carolina (two artificial reef sites, as well as a 3.1 square mile site around Devil's Hole), and the site off south Florida (Warsaw Hole) remained unchanged. The Council also selected a 10-year sunset provision and a no-anchoring provision for all spawning Special Management Zones except the two artificial reef sites, and approved an evaluation plan. The amendment was approved for formal secretarial review.

*Amendment 43 (future red snapper management)*: Council staff provided a review of existing red snapper data, including seasonality and size distribution of commercial and recreational harvest, to inform potential options for future management of red snapper. The Council is scheduled to receive the results of the new benchmark stock assessment (SEDAR 41) in June.

#### Visioning actions

In December 2015, Council members completed a survey to rank different amendment approaches and topics for a Visioning Amendment in 2016. The highest ranked was a Fishery Seasonality/Retention amendment. Additionally, the Council delayed consideration of Snapper Grouper Regulatory Amendment in 2015 until the Vision Blueprint was complete. This draft regulatory amendment included items that address several of the short-term management strategies identified in the Vision Blueprint. To prioritize items for inclusion in a Visioning Amendment, Council members were asked to complete another survey in February 2016 to rank specific management strategies on Fishery Seasonality/Retention and Sub-regional Approaches to Management. Council staff reviewed the survey results and the Council discussed which items to recommend for inclusion in the 2016 Visioning Amendment. The Council may choose to develop one or two amendments (dependent on the activity schedule that the Council approves). Options discussed included:

- Seasonality Amendment – shallow water grouper closure (all sectors)
- Recreational Amendment – aggregate bag limits; deepwater species (bag/size limits); start dates of fishing year; fishing season
- Commercial Amendment – aggregate trip limits; start dates of fishing year
- Retention Amendment – aggregate bag limits/trip limits (all sectors)

#### Mackerel Committee

*Amendment 26 (king mackerel annual catch limits and stock boundary)*: This amendment would adjust the king mackerel annual catch limits based on the SEDAR 38 stock assessment. It includes actions to adjust the boundary between Gulf and South Atlantic stocks; allow for sale of king mackerel incidentally

caught in the directed shark gill net fishery by fishermen with federal commercial king mackerel permits; and establish split season quotas and trip limits for the Southern Zone (Florida east coast through South Carolina). The Council approved this amendment for secretarial review.

2016 Recreational Cobia Season: The 2015 recreational cobia harvest was estimated by NOAA's Marine Recreational Information Program to be 1.54 million pounds, approximately 910,000 pounds higher than the recreational annual catch limit of 630,000 pounds. The current recreational accountability measure for cobia states that if both the recreational and total annual catch limits (690,000 pounds) are exceeded in a particular year, and the stock is not overfished, then the following year's recreational season will be shortened to ensure that the annual catch target (500,000 pounds) is achieved. NOAA Fisheries published a Fishery Bulletin on March 9, 2016 stating the recreational cobia season for 2016 would close on June 20, due to the accountability measure being triggered. NOAA Fisheries staff gave a presentation on the harvest characteristics of the 2015 season that may have contributed to such high levels of harvest, including increased numbers of target and catch trips, and described the analysis used to determine the 2016 harvest season. Council staff provided a historical overview of the fishery as well as a review of the 2013 cobia stock assessment, which established a new stock boundary between the Gulf and Atlantic stocks at the Florida/Georgia border, and indicated a steady decline in spawning biomass over the last several years of the assessment period.

The Council discussed the significant negative economic impacts of the season reduction on the charter industry and associated businesses, and the disproportionate geographic impact on Virginia and northern North Carolina in particular. The Council also discussed the need for an update to the 2013 stock assessment (which included data through 2011), and gave staff direction regarding development of a framework amendment for cobia to prevent such a seasonal restriction from occurring in the future. Actions in the draft framework include: modification to the existing accountability measures; modification of the minimum size limit and recreational bag limit; consideration of a vessel limit; combinations of vessel/size/bag limit modifications; and a change in the start of the fishing year. The Council also approved a motion to request the Atlantic States Marine Fisheries Commission consider a complementary management plan for cobia in state waters, in order to provide the geographic flexibility necessary for equitable access to the resource. The Council will consider a draft framework amendment at its June meeting, and approve the draft for August public hearings. Final action is planned for September 2016 so that measures may be effective in early 2017.

### **Data Collection Committee**

Bycatch Reporting: The Council received a presentation from NOAA Fisheries regarding the proposed rule on guidance for councils to develop a standardized bycatch reporting methodology. All of the fishery management councils have commented on the proposed rule, which will likely be revised significantly this summer. Additionally, the presentation included a review of existing bycatch accounting and reporting in the South Atlantic, along with suggestions to improve the reporting of bycatch for each of the Council's managed fisheries. Most of these improvements focus on electronic reporting. NOAA Fisheries recently introduce a draft national bycatch strategy, which is open for comment through June 3, 2016.

Commercial Electronic Reporting: The electronic version of the existing commercial logbook form being developed by the Atlantic Coastal Cooperative Statistics Program for voluntary use by fishermen is awaiting validation. Additionally, the commercial electronic logbook pilot program conducted by NOAA Fisheries has been completed, and feedback from fishermen is being incorporated. Fishermen were able to upload data via wi-fi at the dock, at home, or via a vendor's web portal. The pilot study showed greater accuracy and timeliness of catch data, and the technology allowed for fishermen to access specific trips to

review notes, etc. at a later date. Concerns about the hardware tested were mostly related to vessel size and configuration (e.g. exposed cabins).

*South Atlantic For-Hire Electronic Reporting:* The Council reviewed input received during January public hearings on the draft amendment. The intent of the amendment is to have charter boats reporting at the same frequency and for similar data elements as headboats (which have had electronic reporting in place since January 2013). The preferred alternatives are to require both headboats and charter boats to report weekly, by midnight of Tuesday following each reporting week; to require charter vessels to report all fish harvested and discarded, regardless of where fishing activity took place (current headboat requirement); and to require that catch location be reported in degrees longitude and latitude or by clicking on the headboat chart grid squares.

Given the need to coordinate with concurrent activities in the northeast regarding charter/for-hire vessel electronic reporting, and the delay in receipt of funds from the Atlantic Coastal Cooperative Statistics Program for the Council's pilot project to test tablet-based reporting software developed by Rhode Island charter captains, the Council voted to delay approval of the amendment until September. Regarding the pilot project, tablets are being sent to volunteers in each of the four southeastern states at the end of April to begin the testing process, and feedback will be incorporated into the draft amendment.

*Citizen Science Workshop*

The Council reviewed a draft blueprint for its Citizen Science program developed as a result of its Citizen Science Design Workshop held Jan. 19-21, 2016 in Charleston. The opportunity to contribute to data collection activities was a widely-expressed sentiment during the Snapper Grouper Visioning Process. The intent of a Citizen Science program is not to replace the existing NOAA Fisheries Cooperative Research Fund, but to supplement it by providing information that may be needed quickly and across large spatial or temporal scales. The Council's Citizen Science Organizing Committee is moving forward to develop important program components as well as "shovel-ready" pilot projects.





PAT MCCRORY  
*Governor*

DONALD R. VAN DER VAART  
*Secretary*

BRAXTON DAVIS  
*Director*

## MEMORANDUM

TO: Braxton Davis, Division of Marine Fisheries Director  
Sammy Corbett, Marine Fisheries Commission Chairman

FROM: Randy Gregory  
Division of Marine Fisheries

DATE: April 29, 2016

SUBJECT: Highly Migratory Species Update

The Highly Migratory Species Advisory Panel's spring meeting was held on March 29 - 31, 2016 in Bethesda, Maryland. The Advisory Panel discussed Amendments to the 2006 Consolidated Highly Migratory Species Fishery Management Plan including a review of implementation for Final Amendment 9 on smoothhound sharks and Amendment 10 on Essential Fish Habitat, including lemon shark aggregations off southeast Florida. Highly Migratory Species Fishery Management Division staff reviewed the upcoming 2016 Atlantic Highly Migratory Species Tournament Economics Survey involving all of North Carolina's billfish tournaments. The Advisory Panel discussed management measures from Amendment 7 regarding General category quotas and individual bluefin quotas in the pelagic longline category.

### Sharks

On April 2, The Highly Migratory Species Fishery Management Division reduced the retention limit for the commercial aggregated large coastal shark and hammerhead shark management groups for directed shark limited access permit holders in the Atlantic region from 36 to 3 large coastal sharks. This adjustment was intended to promote equitable fishing opportunities in the Atlantic region, while still allowing the majority of quota to be harvested later in the year. The agency intends to increase the commercial retention limit around July 15, 2016, as this was the date used for recent prior season opening dates.

National Marine Fisheries Service completed comprehensive status reviews under the Endangered Species Act for common thresher shark (*Alopias vulpinus*) and the bigeye thresher shark (*Alopias superciliosus*). Based on the best scientific and commercial information available, including the status review report (Young et al., 2015), and after taking into account efforts being made to protect these species, the National Marine Fisheries Service determined the common and bigeye thresher do not warrant listing at this time.

### Bluefin Tuna

The General category January sub-quota (49 metric tons) closed March 31. The Angling category fishery (recreational) for large medium and giant "trophy" bluefin tuna (measuring 73" or greater) in the southern area closed effective April 10, 2016, through December 31, 2016. The southern area is the area south of 39°18'N (off Great Egg Inlet, NJ) and outside the Gulf of Mexico.