ASMFC
FISHERIES focus
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Atlantic States Marine Fisheries Commission • 1050 N. Highland Street • Suite 200A-N • Arlington, VA

Working towards healthy, self-sustaining populations for all Atlantic coast fish species or successful restoration well in progress by the year 2015

ASMFC Presents Annual Awards of Excellence

Mr. Michael E. Howard, Mr. Charles A. Wenner, and members of the National Marine Fisheries Service's (NMFS) Beaufort Laboratory Atlantic Menhaden Team (Dr. Douglas S. Vaughan, Dr. Erik H. Williams, Mr. Joseph W. Smith and Ms. Ethel A. Hall) were named recipients of the Commission's Annual Awards of Excellence in Arlington, Virginia for their contributions to the success of fisheries management along the Atlantic coast. Mr. Howard received his award in the Law Enforcement category. Mr. Wenner and the NMFS Beaufort Lab Atlantic Menhaden Team, who were unable to travel to the award ceremony, will be presented awards in the Scientific, Technical, and Advisory category later this year.


From left: ASMFC Executive Director Vince O'Shea with AAE Recipient Mike Howard

Law Enforcement

Mr. Michael E. Howard has been involved in the Commission process for nearly two decades, first as a member and then Coordinator of the Law Enforcement Committee (LEC). He began his career with the Maryland Natural Resources Police (NRP) where he excelled in all forms of conservation law enforcement, particularly fisheries. Much of his career was spent supervising all inland enforcement officers in the lower four counties of Maryland's Eastern Shore. Mr. Howard's final assignment was as Chief of Support Services, at the rank of Major, in Maryland's NRP Annapolis Headquarters. In this position, he not only oversaw functions such as training, vessel maintenance, communications, and records, but also initiated college curriculum specializing in conservation law enforcement at the University of Maryland Eastern Shore. Mr. Howard retired from the NRP in 2001.

As Coordinator for the Commission's LEC from 2002 to 2010, Mr. Howard was responsible for all aspects of the Committee's activities from meeting planning, coordination, and follow-up, to reporting the Committee's positions to management boards. His greatest contribution was his ability to thoughtfully raise issues that would impact marine fisheries law enforcement regionally. Mr. Howard consistently strived to advance the committee's goal of working with fishery managers to develop regulations that would protect the stocks through the fully enforced measures. He recognized the importance of a realistic balance between species management and law enforcement strategies, and his institutional knowledge of the Commission and marine fisheries law enforcement were valuable assets to new Chairs allowing the committee to be an effective body within the Commission. Mr. Howard is a consummate professional and well respected in the law

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Inside This Issue

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 a 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.

Upcoming Meetings

4/11-20:
SAFMC Public Hearings on Proposed Measures for Species Managed Jointly by the South Atlantic and Gulf of Mexico Councils, including King Mackerel, Spanish Mackerel, and Cobia, For more information, visit http://www.safmc.net/Meetings/PublicHearingsandScoping/tabid/624/Default.aspx.

4/12 & 13:
National Fish Habitat Board, Washington, DC.

4/12 - 14:
MAFMC, Historic Inn of Annapolis, 58 State Circle, Annapolis, Maryland.

4/26 - 28:
NEFMC, Hilton Hotel, Mystic, Connecticut.

5/ 4 & 5:
ASMFC Bluefish Aging Workshop, Norfolk, Virginia. For more information, please contact Mike Waine at mwaine@asmfc.org or 703/842-0740.

5/12 (10 AM):
ASMFC Atlantic Herring Section Days Out Meeting, Urban Forestry Center, 45 Elwyn Road, Portsmouth, New Hampshire.

5/17 - 20:
Atlantic Coastal Fish Habitat Program Steering Committee, location to be determined.

5/23 - 26:
ASMFC American Eel Assessment Workshop, Baltimore, Maryland area.

6/13 - 17:
SAFMC, Key West Marriott Beachside Hotel, 3841 N. Roosevelt Blvd., Key West, Florida.

6/14 - 16:
MAFMC, Danfords Hotel & Marina, 25 East Broadway, Port Jefferson, New York.

6/20 - 24:
ASMFC Technical Committee Meeting Week.

6/21 - 23:
NEFMC, Holiday Inn by the Sea, Portland, Maine.

6/27 & 28:
Workshop on Reconciling Spatial Scales and Stock Structures for Fisheries Science and Management, Sheraton Harborside Hotel, Portsmouth, New Hampshire.

Leaders with Courage

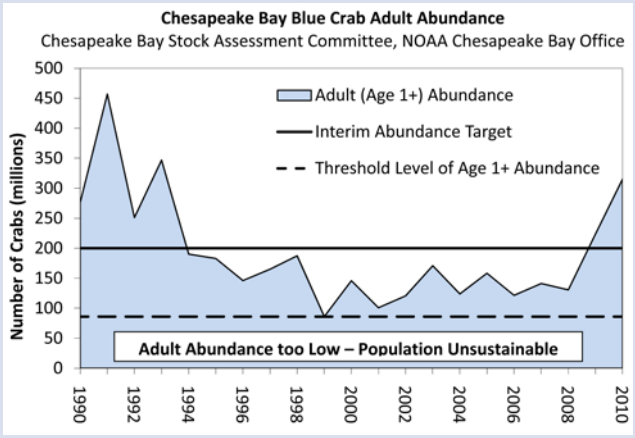
The remarkable and ongoing recovery of the Chesapeake Bay blue crab is an inspiring example of what can be achieved through decisive fisheries management. State officials have brought one of the world's largest blue crab fisheries back from the brink of collapse to healthy abundance in three years.

They have done this in a region known for degraded water quality, expanding dead zones, and large populations of crab predators such as striped bass. They did it during the bottom of the recession, amid strong criticism from lawmakers who questioned the scientific basis for the cutbacks, and in spite of vocal and angry fishermen (some who sued to block action, and others who purposely inflated their landings reports to game the harvest cuts.) They did it because scientists told them the stock was dangerously close to collapse, having declined 70% over the past 15 years.

Although blue crabs can be found in the estuarine waters from Maine to Florida, they are not managed through the Commission. Instead, the individual states promulgate their own crab management plans. Maryland Department of Natural Resources, the Virginia Marine Resources Commission, and the Potomac River Fisheries Commission coordinate the management of blue crabs in the Chesapeake Bay. The rebuilding strategy is based on the blue crab's life history.

Females mate once in life (while soft) during their terminal molt and are capable of producing multiple clutches of fertilized eggs for several years afterwards. Impregnated females migrate to the higher-salinity areas of the lower Chesapeake Bay to produce larvae and over-winter. Crabs are taken in Maryland and Virginia from early spring to mid-fall with traps and trot lines. The fishery ends when water temperatures drop and crabs burrow into the mud to hibernate.

However for nearly a century, fishermen in the lower Bay have targeted the highly concentrated female segment of the population during the winter, using dredge gear, a harvest method scientists say kills two crabs for each one retained. Watermen with few sources of winter income prosecuted the fishery exclusively in Virginia waters. Although stocks had been depressed for more than a decade, management action was stalled by fishermen's opposition to management measures and differences between the two states on how to deal with the winter dredge fishery.

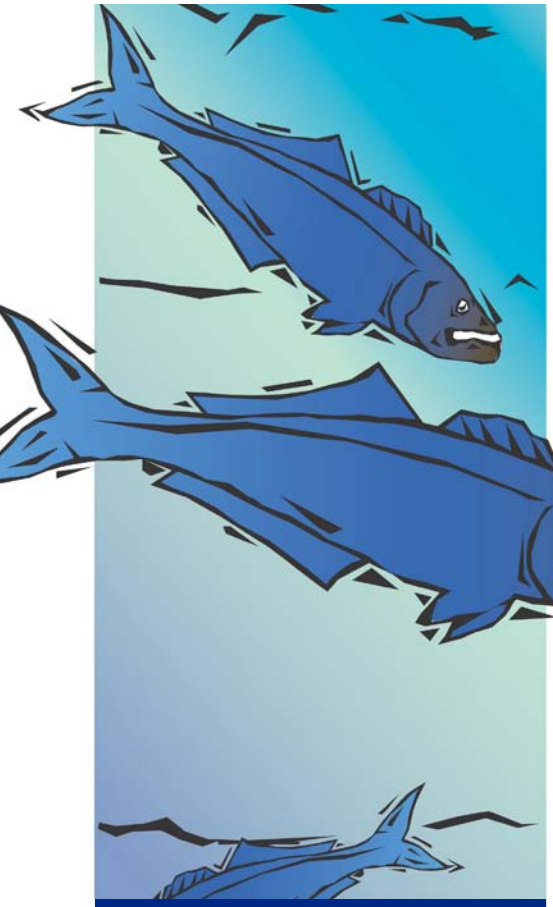


The deadlock was broken in 2007 when Governors Tim Kaine (VA) and Martin O'Malley (MD) agreed to direct their agencies to develop stiff rules that significantly cut harvest of female crabs and shut down Virginia's winter dredge fishery in 2008. Federal funds were used to buy out hundreds of active and latent licenses in both states reducing immediate fishing pressure and protecting the recovery from a resurgence in effort. These funds were also used to help fishermen hardest hit by the restrictions.

The response in the number of overwintering crabs as measured by the winter survey was dramatic -- a more than 300% increase in crabs from 2008 to 2010. Dr. Ron Lipcius, a crab expert at the Virginia Institute of Marine Science, has been widely quoted explaining the results, "The sharp increase in crab abundance was not a random event, nor was it due to improved environmental conditions. It was clearly due to management actions. Now we have to ensure that these females survive to spawn this summer, and that their offspring produce a healthy spawning stock for coming years."

Perhaps as significant as the recovery itself is the continued commitment from Governors Bob McDonnell (VA) and O'Malley to stay the course, as both have publicly noted "two years does not make a trend." The results of the 2011 winter survey will be released later in April, but scientists and managers are expecting it to show increased numbers.

Limiting fishing mortality is the primary tool fisheries managers have to do their job. Yet, they are frequently told to avoid action because factors beyond their control could be affecting stock abundance. Back in 2008 Governors Kaine and O'Malley listened to scientific advice and used the one tool at their disposal to restore blue crabs – harvest controls. Today, in light of their results, their courage to act should be a lesson for us all.



Species Profile: Bluefish
Joint Plan Rebuilds Premier Fighting Fish

Introduction

Bluefish are one of the most popular sport fish along the Atlantic coast. It is a highly mobile species, renowned for its predatory instinct, razor sharp teeth, and aggressive behavior. In the late 1970s, anglers petitioned the Mid-Atlantic Fishery Management Council to develop a Fishery Management Plan (FMP) for Bluefish to address concerns over population declines. The Bluefish FMP, developed in 1989, was the first management plan developed jointly by an interstate commission and regional fishery management council.

Roughly a decade later, concern about the continued decline in bluefish abundance once again necessitated joint management action. Additionally, a coastwide, collaborative research group began studying the dynamics of the coastal bluefish population to help aid management of this important species. Amendment 1 (1998) developed a long-term plan to restore bluefish through progressive harvest restrictions. Since then, the bluefish population slowly rebounded. In 2009, stock biomass exceeded its target level and was announced a rebuilt stock a year earlier than planned. The 2010 stock assessment update supported the rebuilt status with estimates of stock biomass at 344 million pounds, above the target biomass of 324 million pounds. Today, the Council and the Commission continue to cooperatively manage bluefish to maintain its rebuilt status.

Life History

Bluefish are a migratory, pelagic species found throughout the world in most temperate, coastal regions, except the eastern Pacific. Bluefish migrate seasonally, moving north in spring and summer as water temperatures rise and moving south in autumn and winter to waters in the South Atlantic Bight. During the summer, concentrations of bluefish are found in waters from Maine to Cape Hatteras, North Carolina. In winter they tend to be found offshore between Cape Hatteras and Florida. Bluefish generally school by size, with schools that can cover tens of square miles of ocean, equivalent to around 10,000 football fields.

Bluefish are fast growers and opportunistic predators, feeding voraciously on almost any prey they can capture. Over 70 species of fish have been found in their stomach contents, including butterfish, mackerel, and lobster. Razor sharp teeth and a shearing jaw movement allow bluefish to ingest large parts, which increases the maximum prey size bluefish catch. Bluefish live up to 12 years and may exceed lengths of 39" and weights of 31 pounds.

Photo courtesy of Rick Ricozzi, www.rickricozzi.com

Bluefish
Pomatomus saltatrix

Common Names: snapper, baby blues, choppers, elfs, tailors

Interesting Facts:
*** Distributed globally**
*** Voracious predators, known to be cannibalistic**
*** Exhibit feeding behavior called the "bluefish blitz," where large schools of big fish attack bait fish near the surface, churning the water like a washing machine.**
*** As in all extremely active predators, the digestive enzymes of bluefish are powerful and their meat will spoil quickly, so they need to be cooked quickly.**

Largest & Oldest Recorded: 31 lb., 12 oz. and 12 years

Age/Length at Maturity: 2 years/14.9 - 20.1"

Age/Length at Recruitment: 1 year/9.3 - 11.1"

Stock Status: Rebuilt; not overfished and not experiencing overfishing

Bluefish reach sexual maturity at age two and spawn offshore from Massachusetts through Florida. Discrete groups spawn at different times and are referred to by the season in which they spawn: the spring-spawned cohort and the summer-spawned cohort. Recent research has also identified a fall-spawned cohort, demonstrating an expanded and prolonged spawning season. The cohorts mix extensively on the fishing grounds and probably comprise a single genetic stock.

Recreational & Commercial Fisheries

Bluefish support recreational and commercial fisheries along the entire Atlantic coast. The recreational sector is most popular, accounting for 70% of the total catch by weight from 1981 to 2009. Anglers target bluefish near inlets, shoals, and rips that often hold large schools of bait attracting bluefish into a feeding frenzy. The excitement involved in angling these aggressive fighters makes them the second most harvested species behind striped bass. According to the Marine Recreational Information Program (previously known as the Marine Recreational Fishing Statistics Survey), recreational harvest averaged 11 million fish annually from 1981 to 2009 and total catch (harvest plus releases) averaged 18.5 million fish for the same time period. Since Amendment 1 implementation in 1999, recreational catch has generally increased. However, in 2009, anglers caught approximately 13 million bluefish, a 37% decrease from 2008. The proportion of the catch that is released alive has increased from an average of 33% prior to the implementation of Amendment 1, to an average of 64% after the Amendment came into effect.

Commercial fishermen target bluefish using a variety of gears including trawls, gillnets, haul seines, and pound nets. Commercial harvest peaked in the 1980s, with the highest recorded harvest totaling almost 16.5 million pounds (1981). Currently, the commercial fishery is managed under a state quota system and landings since 2005 have ranged between 6.6 and 7.1 million pounds. In 2009, commercial landings reported totaled 6.9 million pounds. Over the past decade, North Carolina, New York, and New Jersey have landed the largest percentage of bluefish.

Stock Status

In 2010, the bluefish stock assessment was updated by the Technical Committee to incorporate 2009 landings and survey indices. The assessment indicates that the stock is not overfished and not experiencing overfishing. The assessment update projected a 2009 stock biomass of 344 million pounds, approximately 106% of its rebuilding target, despite a slight decline from 2008. The stock was declared rebuilt in 2009, a year ahead of the original stock rebuilding deadline. Fishing mortality is estimated to be 0.10, well below the F_{MSY} target of 0.19.

Based on the uncertainty in the assessment update, the Commission slightly decreased bluefish total allowable landings to 27.29 million pounds for 2011, about a two million pound reduction from 2010.

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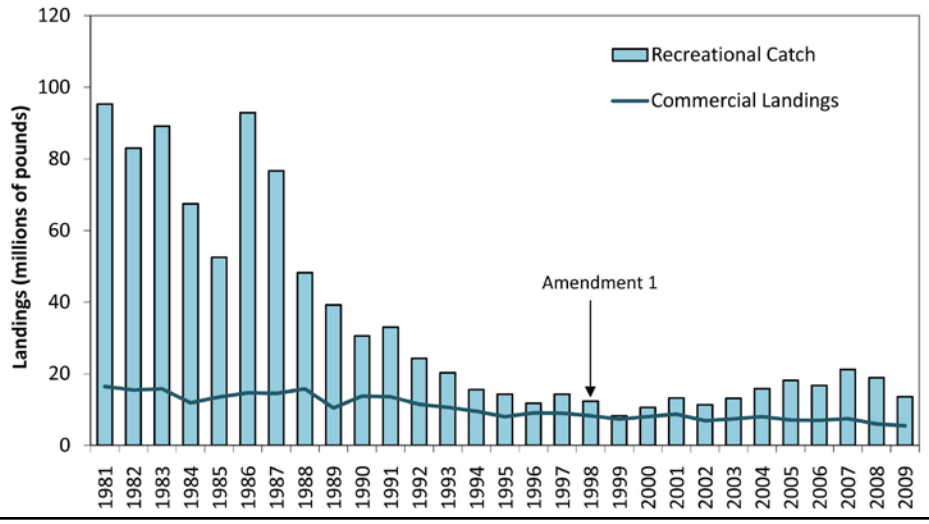
Figure 1. Bluefish Commercial Landings and Recreational Catch
Source: Personal communication from NMFS Fisheries Statistics Division, Silver Spring, MD, 2010



Bluefish Aging Workshop

On May 4 & 5, 2011, the Commission will be hosting a workshop to address aging techniques for bluefish.

Fish are aged by counting annuli (annual growth rings) on hard bony structures (e.g., scales, otoliths, spines, vertebrae). Age information is an important component of stock assessments because it is the basis for determining growth rates, the lifespan of a species, and size-at-age to evaluate stock structure.

Bluefish are currently aged using scales and otoliths, but the morphology of these aging structures specific to bluefish makes it difficult to obtain accurate age data. The workshop will establish consistent aging techniques, explore opportunities to make aging efforts more cost-effective, and seek to identify potential funding sources for a coordinated coastwide aging program.

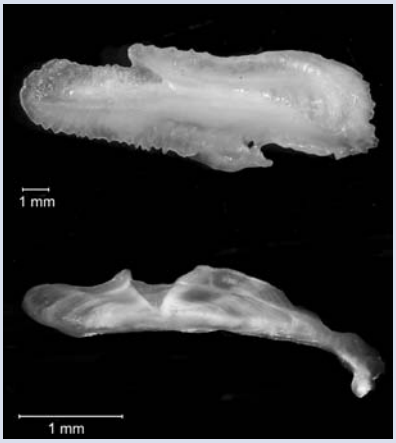
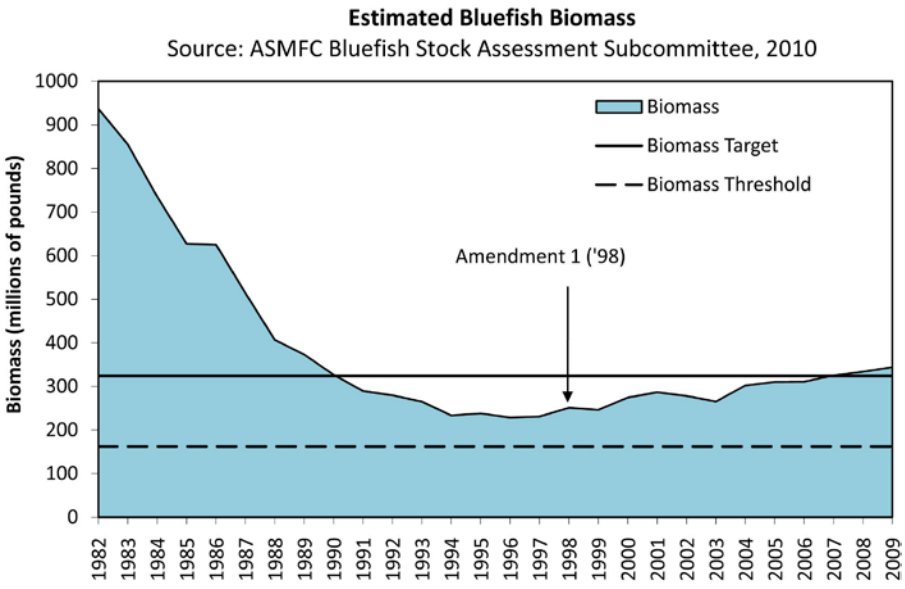


Photo courtesy of Florida Fish and Wildlife Conservation Commission

Species Profile: Bluefish (continued from page 5)



Atlantic Coastal Management

The Commission and Council approved Amendment 1 to the FMP in 1998. Amendment 1 allocates 83% of the resource to recreational fisheries and 17% to commercial fisheries. However, the commercial quota can be increased up to 10.5 million pounds if the recreational fishery is projected to not land its entire allocation for the upcoming year. The commercial fishery is controlled through state-by-state quotas based on historic landings from 1981-1989. The recreational fishery is managed using a 15 fish bag limit.

In 2005, the Stock Assessment Review Committee approved the use of an age-structured assessment program (ASAP), replacing the previously used surplus production model. New biological reference points were implemented based on the updated assessment. The updated reference points for biomass and fishing mortality rate were 162.1 million pounds, and 0.19, respectively. Although the bluefish stock currently exceeds these reference points and is no longer under a formal rebuilding plan, the Council and Commission are exploring uncertainties involved in the ASAP approach. Currently, aging techniques are being developed to obtain a coastwide age structure analysis of the bluefish stock, in an effort to increase the validity of stock assessment results. Managing bluefish using the best available science continues to be a priority for this important fish species. For more information, please contact Michael Waine, FMP Coordinator, at mwaine@asmfc.org or 703/842-0740.

Atlantic Croaker Addendum I Establishes New Biological Reference Points

The Commission's South Atlantic State/Federal Fisheries Management Board has approved Addendum I to Amendment I to the Interstate Fishery Management Plan for Atlantic Croaker. The Addendum changes the management unit to one region (New Jersey through the east coast of Florida) and modifies the biological reference points used to assess stock condition.

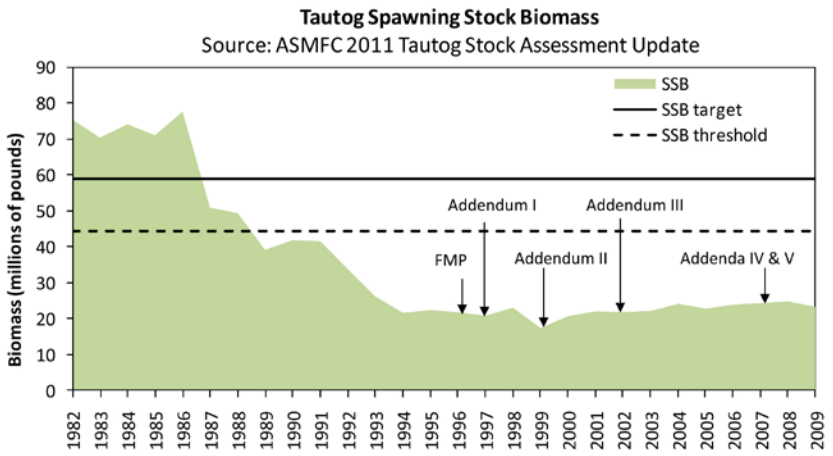
Both measures stem from the recommendations of the 2010 benchmark assessment, which indicates that Atlantic croaker is not experiencing overfishing. Based on the findings of the assessment, Atlantic croaker is now considered to be a single stock on the Atlantic coast. The previous stock assessment, which formed the basis of Amendment 1, divided the stock into Mid-Atlantic and South Atlantic regions and assessed the resource separately in the two regions due to difficulty assessing the resource as a single unit. The 2010 assessment used data from both regions to produce a single, coastwide assessment.

Addendum I also modifies the biological reference points (BRPs) used to assess stock condition since the results of the 2010 assessment cannot be compared to the Amendment 1 BRPs, which are specific to the Mid-Atlantic region only. Addendum I's BRPs are very similar to those in Amendment 1. They use the same definitions for the targets and thresholds (e.g., fishing mortality rate threshold = F_{MSY}), but they differ in that absolute estimates of spawning stock biomass (SSB) and fishing mortality (F) are not estimated. Estimates are not given because of uncertainty in the assessment resulting from inadequate data on the magnitude of croaker discards in the South Atlantic shrimp trawl fishery. The determination of stock status is thus based on the ratios of F and SSB to their respective target and threshold, which are compared to one.

The new targets and thresholds are: F target = $0.75*F_{MSY}$, F threshold = F_{MSY}, SSB target = SSB_{MSY}, and SSB threshold = $0.70*SSB_{MSY}$. If F/F_{MSY} is greater than 1, then overfishing is occurring. If $SSB/(0.70*SSB_{MSY})$ is less than 1, the stock is overfished. In other words, F must be lower than its threshold, and SSB must be higher than its threshold, or the stock will be considered to be experiencing overfishing or be in an overfished condition, respectively. The targets would still represent the levels that management measures are designed to achieve. Copies of Addendum I will be available on the Commission's website at www.asmfc.org under Breaking News by mid-April.

Tautog Addendum VI Seeks to End Overfishing

The Commission's Tautog Management Board has approved Addendum VI to the Interstate Fishery Management Plan for Tautog in response to the latest scientific advice that the stock continues to be overfished with overfishing occurring. According to the 2011 stock assessment update, spawning stock biomass (SSB) has remained at low levels for the last decade, with 2009 SSB estimated at 23.3 million pounds — 39% of the target SSB (59.1 million pounds). Current coastwide fishing mortality (F) is estimated at 0.38, well above the management plan's target of F=0.20. Overfishing has occurred since 2005. These findings and the remaining information contained in the 2011 assessment update were approved by the Board for management use.



In order to end overfishing and initiate stock rebuilding, Addendum VI lowers the F target to 0.15 and requires states to implement measures to achieve a 56% reduction in exploitation by January 1, 2012. The Technical Committee recommended implementing the F target at 0.15 or lower to stop overfishing and improve chances of rebuilding. Tautog's slow growth rate, late maturity, and spawning behavior makes it particularly susceptible to overfishing and limits stock rebuilding. The Technical Committee advised that SSB will not increase under the current F (0.38) and will just reach the SSB threshold (44.3 million pounds) by 2025 under F = 0.15.

Addendum VI requires all states to prohibit the possession of undersized tautog in excess of bag and possession limits. The measure is intended to deter illegal harvest of tautog for the live market. The Board remains concerned about the illegal live harvest and will continue to work with the Commission's Law Enforcement Committee on ways to reduce it. Based on the advice of the Law Enforcement Committee and submitted public comment, the Board did not implement the other measures contained in the public comment draft.

The Addendum can be obtained via the Commission's website at www.asmfc.org under Breaking News or by contacting the Commission at 703/842-0740.

Black Sea Bass Board State Shares & Reduction Schedule Set for 2011 Recreational Fisheries

The Commission's Summer Flounder, Scup, and Black Sea Bass Board has approved state-by-state shares for the 2011 black sea bass recreational season in order to mitigate potential disproportionate impacts to an individual state(s) that coastwide measures may cause. The 2010 regulations resulted in a preliminary estimated harvest of 2.98 million pounds, approximately 1.15 million pounds above the 2010 target. Given that the 2010 regulations were not effective in staying within the target, coastwide harvest will need to be reduced by 37% to achieve, but not exceed, the 2011 target of 1.78 million pounds.

Under state-by-state shares the following states will need to reduce harvest by the identified amount: Massachusetts (43%), Rhode Island (37%), Connecticut (37%), New York (39%), New Jersey (40%), and North Carolina (37%). Over the next two months, states will need to submit their proposed recreational measures to meet the required reduction for technical review and Board approval. The states of Delaware, Maryland, and the Commonwealth of Virginia are not required to meet any harvest reductions and have committed to maintaining status quo measures (25 fish, 12.5 inches TL minimum fish size, and an open season from May 22 to October 11 and November 1 to December 31) for the 2011 fishery.

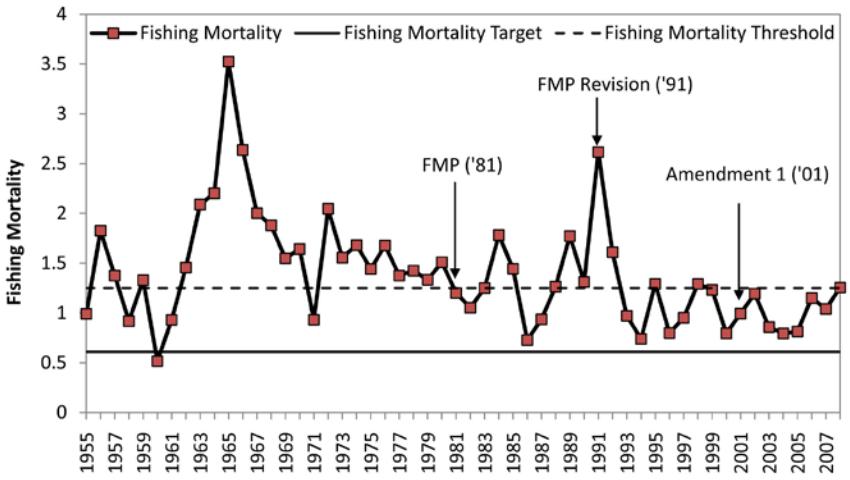
These required reductions apply to state waters for the 2011 fishing season only. Recreational measures for the 2012 fishing season will be coastwide unless the Board decides to change that through future management action.


Photo courtesy of Mark Terceiro, NMFS NEFSC.

Atlantic Menhaden Addendum Initiated to Increase Abundance and Spawning Stock Biomass

The Commission's Atlantic Menhaden Management Board initiated a draft addendum proposing an interim biological reference point of 15% maximum spawning potential (MSP) with the goal of increasing abundance, spawning stock biomass, and menhaden availability as a forage species. The MSP approach identifies the fishing mortality rate necessary to maintain a given level of stock fecundity (number of mature ova) relative to the potential maximum stock fecundity under unfished conditions. In this case, a 15% MSP would equate to a fishing mortality rate threshold required to maintain approximately 15% of virgin stock fecundity. The current MSP level is 9%. The draft addendum will also include a suite of management measures to achieve 15% MSP.

Atlantic Menhaden Fishing Mortality Abundance-Weighted for Ages 2+
Source: 2010 Atlantic Menhaden Stock Assessment and Review Panel Reports



At the same time, the Board placed a high priority on continuing work on developing ecosystem reference points using a multispecies modeling approach (i.e., MSVPA). Ecosystem reference points are expected to address the forage needs of menhaden's predator species such as striped bass, weakfish, and bluefish. This work is anticipated to take a few years.

The Board received an update on the revised 2009 Atlantic menhaden stock assessment, which finds the stock is not overfished but is experiencing overfishing in 2008. Given the current overfishing definition, which sets the fishing mortality rate (F) target at 0.61 and the F threshold at 1.25, this is the first time overfishing has occurred since 1998 (see figure). F in 2008 (the latest year in the assessment) is estimated at 1.26. This change in stock status is a result of a corrected error in the code of the stock assessment model. No other significant changes in estimated stock trends were identified in the stock assessment. The Board accepted the corrected stock assessment for management use.

The Board will review and consider approval of the draft addendum for public comment at the Commission's Summer Meeting. If approved, the draft addendum will be released for public comment in late summer, with state public hearings occurring throughout early fall. Final Board approval of the addendum could happen in November at the Commission's Annual Meeting in Boston, Massachusetts.

State-Specific Spiny Dogfish Shares Established for Southern States

The Commission's Spiny Dogfish and Coastal Sharks Management Board has approved Addendum III to the Spiny Dogfish FMP. The Addendum divides the southern region annual quota of 42% into state-specific shares (see table below). It also allows for quota transfer between states, rollovers of up to five percent and state-specified possession limits, and includes a three-year reevaluation of the measures. The Addendum's provisions apply only to states in the southern region (New York through North Carolina) and do not modify the northern region allocation. The states of Maine to Connecticut will continue to share 58% of the annual quota as specified in Addendum II.

Addendum III was initiated to give the southern states greater control of their spiny dogfish fisheries through state-specific quotas and to achieve consistent allocation for all states in the southern region. The southern region's previous allocation was established in Addendum II, which set a regional allocation with 26% of the annual quota to New York through Virginia and 16% to North Carolina. States were interested in lowering daily possession limits when demand and value are low and increasing them when demand and value are greatest—but the southern region allocation did not allow them (with the exception of North Carolina) to do so without having less access to the regional quota. Copies of Addendum III will be available on the Commission's website at www.asmfc.org under Breaking News by mid-April.

Southern Region State Shares. Quota allocation differs slightly from specific options presented in the draft addendum and are based on needs of states in the southern region with a consideration of historic landings.

	NY	NJ	DE	MD	VA	NC
Percent of Annual Coastwide Quota	2.707%	7.644%	0.896%	5.920%	10.795%	14.036%
Allocation for 2011/2012 Fishing Season (in pounds) Based on 20 Million Pound Coastwide Quota	541,400	1,528,800	179,200	1,184,000	2,159,000	2,807,200

Science Highlight: *Ecosystem-Based Fisheries Management*

Over the last few years, the Commission, NOAA Fisheries, and several Regional Fishery Management Councils have begun to incorporate ecosystem-based fisheries management (EBFM) strategies into their fishery management programs. Although each agency's definition of EBFM is different, all include several common elements. In general, EBFM strategies are adaptive management approaches that are specific to a geographic region, account for environmental influences and uncertainties, and strive to balance diverse ecological, social, and economic objectives.

By developing EBFM strategies, the Commission and its partner agencies are attempting to move beyond the traditional focus on single-species dynamics by considering environmental and human influences on fish populations and their sustainable harvest (e.g. multispecies interactions, climate change, coastal development). EBFM strives to integrate ecological, social, and economic goals while recognizing humans as key components of the ecosystem. EBFM also engages a broad and diverse group of stakeholders in a collaborative process to define problems and find solutions providing mutual benefit.

ASMFC's Focus on Ecosystems

The Commission's first foray into ecosystem-based assessment and management began in 2005 with development of the multispecies virtual population analysis (MSVPA) model for Atlantic menhaden and its major predators (striped bass, bluefish and weakfish). The MSVPA is a tool for simultaneously modeling the dynamics of both predators and their prey using diet and migration data in addition to harvest and survey information. The MSVPA has been used in the last two menhaden stock assessments to generate estimates of age-specific predation mortality on menhaden. In the most recent 2010 menhaden assessment, both age-specific and time-varying estimates of natural mortality on menhaden where generated by the MSVPA and used in the single-species menhaden assessment model to specify trends in predation mortality over the last 30 years. In addition, the MSVPA is currently being used to characterize potential changes in prey availability for striped bass, bluefish, and weakfish that may occur if fishing mortality on menhaden were reduced.

The Commission continued to expand its work on multispecies interactions with the formation of the Multispecies Technical Committee (MSTC) in 2007. In 2008, the MSTC updated and made improvements to the MSVPA such as the incorporation of a broader range of predator diet data. Beginning in 2010, the MSTC began developing additional biomass dynamic and mass-balance models that incorporate predation and other environmental effects on menhaden dynamics. The MSTC also began formulating a suite of ecological reference point options for menhaden.

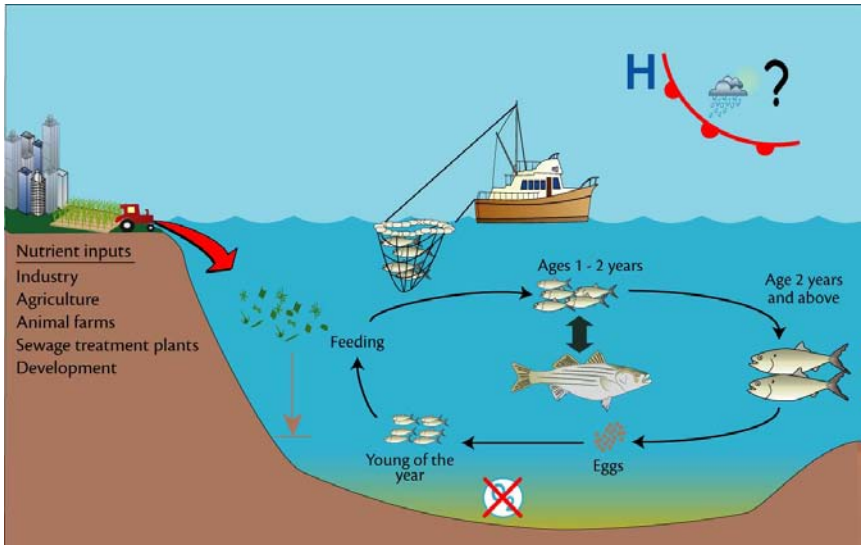


Image courtesy of Chesapeake Eco-check, http://www.eco-check.org/

Development of a Formal EBFM Strategy for the Commission

In 2009, the Commission's ISFMP Policy Board charged the Management and Science Committee (MSC) with the task of drafting a proposal to formally incorporate ecosystem considerations into its interstate fisheries management process. An EBFM Team was formed consisting of a subset of Commissioners and representatives from the MSC, MSTC, Habitat Committee, and Assessment Science Committee. The Team has drafted an overarching goal and objectives for the Commission's EBFM Strategy that will continue to be developed in 2011.

In addition to developing an EBFM strategy, the MSC has also begun compiling available population estimates and other sources of information on the dynamics of forage fish species common to many of the major predators managed by the Commission. In November 2010, the MSC resolved to incorporate available information on forage fish trends as a section in upcoming predator assessments and FMPs beginning with the 2012 striped bass benchmark stock assessment. The goal of this effort is to provide managers with information about potential trends in prey availability in the absence of a multispecies model.

The Commission has begun the process of expanding its current single-species management structure to incorporate ecosystem components (e.g. predation mortality, prey availability, habitat consideration) at the level of the individual

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Delaware Anglers to Use Electronic Logbooks

Recreational anglers in Delaware are now able to enter their logbook information electronically using a web-based reporting application of the Standard Atlantic Fisheries Information System (SAFIS). The application was developed and integrated into SAFIS by the Atlantic Coastal Cooperative Statistics Program (ACCSP), a state and federal partnership for Atlantic coastal fisheries data collection and data management, at the request of the Delaware Division of Fish and Wildlife (DFW).

A logbook is an invaluable tool to anglers since it can provide a way to narrow their strategies for any given set of conditions. The electronic logbook will be a more efficient way for anglers to take a look at the past and save the daily entries of logbook information. Staff of DFW will also now have the ability to analyze catch data more quickly and accurately.

Richard Wong, DFW Fisheries Biometrician, states, "You can retrieve reports about what species of fish you caught for the year, how many you kept and released, where you fished, what gears you used and more. You can even record your shellfish catches if you happen to be a recreational crabber or clammer." He continues "Anglers can use the electronic logbook for free and enjoy its features, while at the same time they will be helping the Division better understand what's 'really' going on out there with our recreational species. Our aim is to provide a useful, interesting tool for our anglers, crabbers and clammers while enabling us to improve fishing for all Delaware anglers."

Delaware is the fifth state to start using the logbook. New Jersey began using the electronic logbook to report striped bass in January of 2008. Massachusetts has expanded the application to report over 30 species in May of 2009. Rhode Island and Maryland released their versions in 2010.

ACCSP
Good Data, Good Decisions

For more details on the eLogbook in Delaware please visit www.fw.delaware.gov/Pages/Logbook.aspx.

About ACCSP
ACCSP is a cooperative state-federal program to design, implement, and conduct marine fisheries statistics data collection programs and to integrate those data into a single data management system that will meet the needs of fishery managers, scientists, and fishermen. For more information about the Program please contact Ann McElhatton, Outreach Coordinator, at info@accsp.org.

Atlantic Striped Bass Addendum Initiated to Reduce Fishing Mortality

The Commission's Atlantic Striped Bass Management Board has initiated development of Draft Addendum III with the goals of reducing striped bass fishing mortality (F) up to 40% and further protecting spawning stock when it is concentrated and vulnerable. The addendum was initiated in order to allow managers to promptly respond to the results of the stock assessment update in the fall if necessary. Provisions of the addendum, if passed, could be implemented prior to the start of the 2012 fishing year.

The Board's action responds to recent trends in the fishery and resource, including a 66% decline in estimated recreational catch from 2006 to 2009; a 25% decline in estimated striped bass abundance from 2004 to 2008; and lowered recruitment in recent years. Additionally, states in the northern extent of the fishery have expressed concern over decreased availability of striped bass as a result of the diminished water quality in the Chesapeake Bay during the summer months that may also contribute to increased prevalence of mycobacteriosis in striped bass.

Draft Addendum III will propose a range of fishing management measures including, but not limited to, adjustments to commercial and recreational minimum size (for jurisdictions outside Chesapeake Bay and Albemarle Sound/Roanoke River), reductions in annual coastal commercial allocation, reductions in recreational bag limits, revisions to the target F rate (for Chesapeake Bay and Albemarle Sound/Roanoke River), and reductions on fishing for striped bass in known spawning areas during the spawning season by at least 50% (for jurisdictions bordering the Hudson River, Delaware River, Chesapeake Bay and Albemarle Sound/Roanoke River).

The commercial and recreational fishery is currently managed through Amendment 6 to the Striped Bass Fishery Management Plan. The Amendment, passed in 2003, allocates the coastal commercial quota and set a two fish bag limit and a 28 inch size minimum for the recreational fishery, with the exception of the Chesapeake Bay fisheries, Albemarle Sound/Roanoke River fisheries, and states with approved alternative regulations.

The Draft Addendum will be developed for preliminary review by the Atlantic Striped Bass Management Board in August. For more information, please contact Kate Taylor, FMP Coordinator, at ktaylor@asmfc.org or 703/842-0740.

Annual Awards of Excellence (continued from page 1)

enforcement and scientific communities, working diligently for marine conservation in various capacities for over 35 years.

Scientific, Technical, and Advisory
Mr. Charles A. Wenner, former Senior Marine Biologist with South Carolina Department of Natural Resources Marine Resources Research Institute, dedicated his career to improving the data upon which stock assessments are built. A long-standing member of several of the Commission's species technical committees, Mr. Wenner long sought to improve aging databases for Atlantic croaker, bluefish, red drum, and weakfish.

Over the years, Mr. Wenner developed a number of fisheries initiatives on aging Atlantic croaker, bluefish, red drum, and weakfish. In the mid-1990s, he spearheaded the effort to ensure weakfish were aged using more reliable methods of aging ear bones, or otoliths, rather than scales. Furthermore, he obtained funding to place personnel on NMFS Fall Trawl Survey to collect otoliths from weakfish, which his lab subsequently aged. He also made the generous offer (and followed through on it) to age weakfish otoliths from any other state willing to send him the hard parts. He labored in a legendary fashion over red drum, aging more than 30,000 otoliths for the 2000 stock assessment while simultaneously conducting the long running fishery-independent trammel survey. Mr. Wenner has devoted significant time and effort over the years to ensure quality data is available for fishery managers to make informed management decisions.

NMFS Beaufort Atlantic Menhaden Team, located in the Beaufort, North Carolina, has been a cornerstone of fisheries data collection and stock assessments, particularly with Atlantic menhaden, for over 40 years. The Team's dedication to Atlantic menhaden science is impressive, especially given that no federal management plan for the species exists. The retirement of several team members in the near future will no doubt be a huge loss for the Commission and its member states. Fortunately, team leader Dr. Erik H. Williams, Supervisory Research Fish Biologist, is committed to making certain the high level of work and the fluid partnership between state and federal agencies continues. Dr. Williams also contributes his modeling expertise to the team and communicates his complex technical work in a clear and effective manner.

The remaining members of the team are Dr. Douglas Vaughan, Mr. Joseph Smith, and Ms. Ethel Hall. Dr. Vaughan is a seasoned and invaluable team member who has participated and led many menhaden stock assessments. His unparalleled knowledge of past menhaden studies and assessments has been a huge asset to the Atlantic Menhaden Technical Committee and Stock Assessment Subcommittee.

Mr. Smith has facilitated long-standing and productive relationships with the menhaden fishing industry to collect key data and information. His encyclopedic knowledge of the industry's evolution over the past century and his successful working relationship with the menhaden industry have been indispensable to the Commission's menhaden management program.

Ms. Hall is the longest serving member of the team and has consistently aged menhaden samples for over 40 years. Her efforts have led to the most impressive and robust aging database for any species along the Atlantic coast. Atlantic menhaden science and stock assessment approaches have been greatly advanced by the combined efforts of the members of the NMFS Beaufort Lab Atlantic Menhaden Team.

Science Highlight (continued from page 9)

species management boards. Reaching consensus on exactly how EBFM should be implemented on a broader scale is the next challenge. A workshop among Commissioners was hosted in August 2010 to consider approaches in other regions (New England, South Atlantic, Chesapeake Bay) and identify next steps towards implementing EBFM (visit http://www.asmfc.org/meetings/summer2010/EcosystemWorkshop.pdf for workshop materials and presentations). Given the fact that all species cannot sustain maximum productivity at the same time, trade-offs among different species management board goals will need to be considered carefully. Complicating matters is the fact that environmental conditions are changing constantly, causing inter-species dynamics to shift in both expected and unexpected ways. Implementation of an effective and meaningful EBFM strategy for the Commission will require the use of a flexible, adaptive management process and a willingness to consider trade-offs among species that will balance the needs and realities of the ecosystem with those of single-species fisheries.

Details on the Commission's multispecies modeling projects are available at http://www.asmfc.org/multispeciesAssessments.htm. For more information, please contact Dr. Genny Nesslage, Senior Stock Assessment Scientist at 703/842-0740 or gnesslage@asmfc.org.

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ASMFC Recognizes Kristina A. Ballard for 20 Years of Service

On March 22, 2011, Kristina Ballard was formally recognized by the Commission's Executive Director, John V. O'Shea, and ASMFC Commissioners for 20 years of faithful and dedicated service to the Atlantic States Marine Fisheries Commission. Kristina began working at the Commission on January 22, 1991 as the bookkeeper. When she first joined the staff, the Commission had eight employees and a budget of $770,00. In the years since her arrival, she has sought out and been assigned increasing responsibilities. Her most recent promotion has been to Accounting Manager, where she is responsible for preparing payroll, taxes, and benefits for 32 employees, while fully accounting for the Commission's grants and annual budget.

Throughout her career, she has distinguished herself through her dedication and loyalty to the Commission. As a result of her tenacity and efficiency, the Commission's employees are paid on time and meeting participants are promptly reimbursed for their expenses. Moreover, the Commission's long history of problem free audits is a direct reflection of her accounting skills. Kristina has accomplished all this with a can do attitude that has been an inspiration to everyone she has worked with. Congratulations, Kristina!