

Atlantic States Marine Fisheries Commission

Annual Performance of the Stocks: 2015 Review

July 2015

Objective: – Support the ISFMP Policy Board’s review of stock rebuilding performance and management board actions and provide direction to management boards for 2015 Action Plan.

- A. Validate status/rate of progress (acceptable/not acceptable)
- B. If not acceptable, identify appropriate corrective action

Species Groups: – Species are grouped under five major categories (1) rebuilt/sustainable; (2) recovering/rebuilding; (3) concern; (4) depleted; and (5) unknown, as defined below.

Rebuilt/Sustainable – Stock 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.

Recovering/Rebuilding – Stocks exhibit stable or increasing trends. Stock biomass is between the threshold and the target level established by the FMP.

Concern – Those stocks developing emerging issues, e.g., increased effort, declining landings, or impacts due to environmental conditions.

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

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

Status as of 2015

Rebuilt/Sustainable:

American Lobster (GOM/GBK)
Atlantic Herring
Atlantic Menhaden
Black Drum
Bluefish
Scup
Spanish Mackerel
Spiny Dogfish

Recovering/Rebuilding:

Red Drum

Concern:

Atlantic Croaker
Atlantic Striped Bass
Black Sea Bass
Coastal Sharks
Horseshoe Crab
Tautog
Summer Flounder
Winter Flounder (GOM)

Depleted:

American Eel
American Lobster (SNE)
American Shad
Northern Shrimp
River Herring
Weakfish
Winter flounder (SNE/MA)

Unknown:

Atlantic Sturgeon
Jonah Crab
Spot
Spotted Seatrout

Status as of 1998

Rebuilt/Rebuilding

Atlantic Herring
Atlantic Striped Bass
Bluefish
Black Sea Bass
Spanish Mackerel
Summer Flounder

Concern/Depleted

American Lobster (SNE)
Atlantic Menhaden
Northern Shrimp
Red Drum
Scup
Spiny Dogfish
Tautog
Weakfish
Winter Flounder (SNE/MA and GOM)

Unknown

American Eel
American Shad
Atlantic Croaker
Atlantic Sturgeon
Horseshoe Crab
River Herring
Spot
Spotted Seatrout

Summary Table of Rebuilt/Sustainable Species

Species	Biomass % of Target	Assessment Schedule	Caveats/Notes (what actions need to be taken to maintain rebuilt status)
American Lobster (Gulf of Maine/Georges Bank)	375% of abundance threshold (2015 assessment)		The stock is not overfished and overfishing is not occurring. Dramatic stock abundance increase since the late 1980's and at an increasing rate since 2005. Average spawning stock and recruit abundance are above the 75 th percentile while young of year indicators are generally below the median.
Atlantic Herring	>200% of biomass target adjusted for retrospective bias (Operational Assessment 2015)		Area 1A annual quota fully harvested for last several years, with the exception of 2012. Harvest controls implemented to slow landings (TAC, days-out). Draft Amendment 3 to explore spawning protections.
Atlantic Menhaden	90% of fecundity target	Assessment Update - 2017	The stock is not overfished and is not experiencing overfishing. Abundance of older fecund fish in the population. Significant changes occurred through the benchmark assessment including the addition of fishery independent datasets and a change the model structure to incorporate the spatial resolution of the reduction and bait fisheries.
Black Drum	192% of B_{MSY} (2015 assessment)		The stock is not overfished and is not experiencing overfishing.
Bluefish	77% of SSB target (2015 Benchmark assessment)	SARC 60 Benchmark Assessment – completed June 2015	The stock is not overfished and is not experiencing overfishing. Due to life history characteristics (pelagic species, opportunistic feeder, multiple spawning events per years), bluefish are considered less vulnerable to becoming overfished relative to the updated Biological Reference Points. Updated Biological reference points do reflect a 24% decrease in SSB relative to SARC 41 due to new information and configurations of the model (SARC 60).
Scup	209% of SSB target (2015 Benchmark assessment)	SARC 60 Benchmark Assessment – completed June 2015	The stock is not overfished and is not experiencing overfishing. There is no consistent internal retrospective pattern in F, SSB, or recruitment evident in the scup assessment model.
Spanish Mackerel	$SSB_{2011}/SSB_{MSY}=1.49$; $SSB_{2011}/M_{SST}=2.29$ (2012 benchmark stock assessment)		The stock is not overfished and is not experiencing overfishing.
Spiny Dogfish	100% of SSB Target (2013 NEFSC update)	Assessment Update - Fall 2015	2008-2013 SSB exceeded target SSB. Increased recruitment in the past four years suggests a 'filling out' of the oscillations in future population projections.

Summary Table of Species Undergoing Recovery/Rebuilding

Species	Biomass % of Target	Assessment Schedule	Caveats/Notes (what actions need to be taken to continue rebuilding)
Red Drum	Unknown, but age 1-3 abundance generally increasing (NJ-NC) or stable (SC-FL); overfishing not occurring.	Benchmark Assessment 2015	Northern stock component above SPR target; cannot determine similar results for southern component due to uncertainty. Lack of adequate adult data results in estimates of abundance and exploitation for fish age 1-3 only, and only the trend is reliable for the southern component. Age 1-3 exploitation generally increasing in southern region since 1992.

Overview of Species of Concern

Atlantic Croaker: Concern

2010 Stock Assessment Findings

- Atlantic croaker is not experiencing overfishing. Biomass has been increasing and the age-structure of the population has been expanding since the 1980's. Atlantic croaker are considered to be a single stock on the Atlantic coast.
- Due to a high degree of uncertainty in the amount of shrimp trawl discards, the overfished status could not be determined. Similarly, values of spawning stock biomass (SSB) and fishing mortality (F) are not considered reliable; however, estimated trends show increasing biomass and decreasing fishing mortality.

Board Adherence to Scientific Advice

- In July 2015, the PRT completed traffic light analysis for the 2014 fishing year, as per Addendum II. The results showed declining trends in the fishery independent indices as well as a drop in both commercial and recreational landings. While the harvest index was above the 30% threshold with a red proportion of 44.5%, management measures were not tripped since the abundance index was below the threshold at 14.2%.

Scientific Advice Based on Assessment Findings

- The 2010 Review Panel stressed the importance of developing valid estimates of shrimp trawl discards to improve the certainty of future assessment results. The following were also highlighted as needs for data and analysis:
 - Fishery-dependent biological sampling to improve age length keys
 - More information on growth rates, age structures, estimates of fecundity, and maturity
 - Increased focus on collecting subsamples in the species southern range through fishery independent surveys

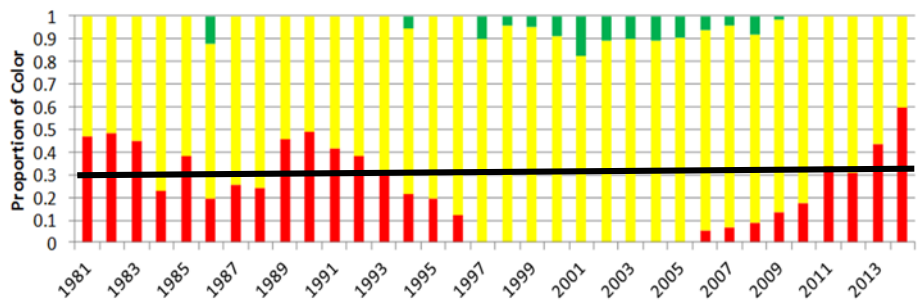
Monitoring and Management

- Under the TLA management program, if thresholds for both population characteristics (adult abundance and harvest) achieve or exceed the management threshold of 30% for the specified three year period, management action will be taken.

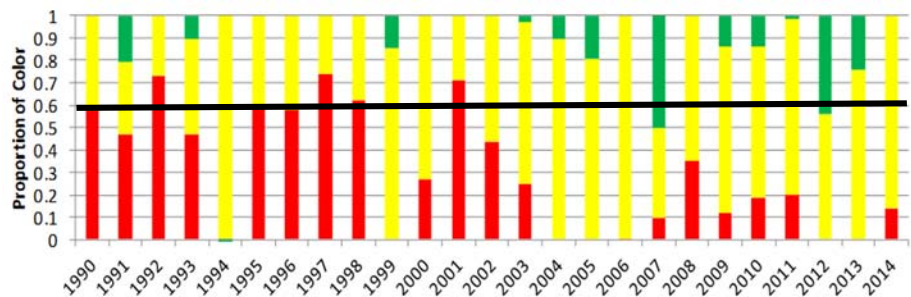
Rebuilding Trajectory: Increasing

Next Assessment: Benchmark stock assessment scheduled for 2016

Harvest composite characteristic index for Atlantic croaker.



Adult abundance composite characteristic index for Atlantic croaker.



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

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

Overview of Species of Concern

Atlantic Striped Bass: Concern

2013 Benchmark Assessment Findings

- Assessment results show F in the terminal year (2012) was above the new F target, and SSB has been steadily declining below the target since 2006 (F and SSB Figures). This indicates that even though the stock is not overfished and overfishing is not occurring, SSB is approaching its overfished threshold and stock projections show SSB will likely fall below the threshold in the coming years because of poor year classes from 2005-2010 that are moving through fishery.
- The 2011 year class was strong and will mature into the spawning stock in 2016-2017 (recruitment/SSB figure below).

Scientific Advice Based on Assessment Findings

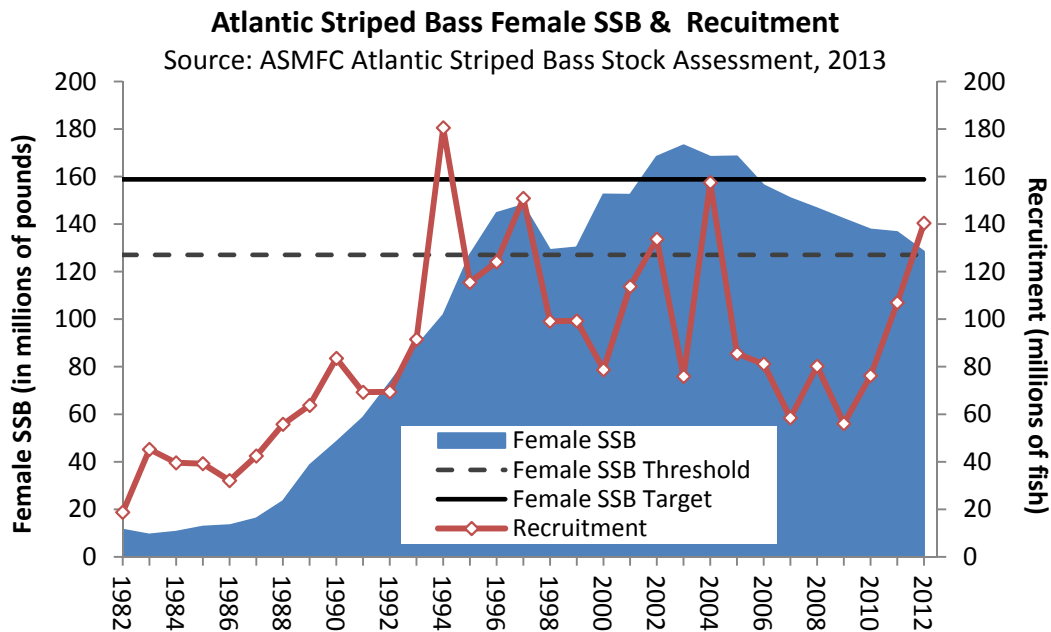
- The 2013 benchmark stock assessment approved by the Board for management use recommended changes to the fishing mortality (F) reference points to be consistent with the spawning stock biomass (SSB) reference points. In order to achieve the proposed F reference points, the Board will need to reduce harvest across all sectors.

Board Adherence to Scientific Advice

- In response to results of the 2013 benchmark assessment, the Board approved Addendum IV in 2014 which implemented new F reference points as well as state-level regulations to reduce F to a level that is at or below the new F target for the 2015 fishing season.
- Final state regulations implemented through Addendum IV were approved by the Board in May 2015 and consisted of bag and size limit changes in the recreational fishery and quota reductions in the commercial fishery.

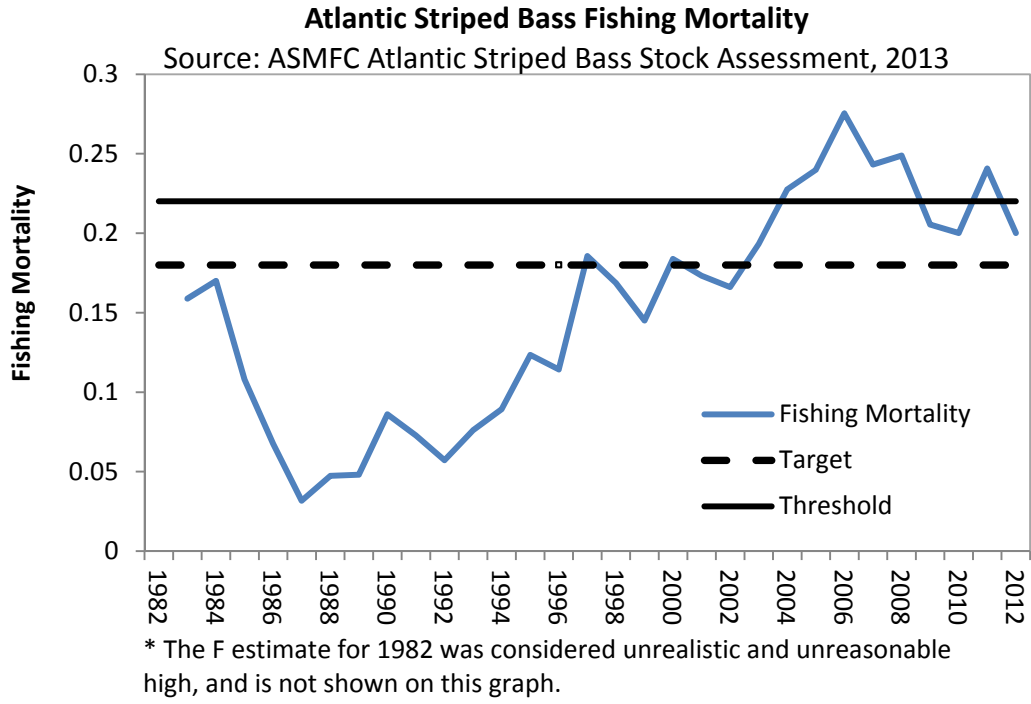
Next Assessment: 2015 stock assessment update. Next benchmark assessment is scheduled for 2018

Rebuilding Trajectory: Spawning stock biomass declining



Timeline of Management Actions: Amendment 1 & 2 (1984); Amendment 3 (1985); Amendment 4 (1990); Amendment 5 (1995); Amendment 6 (2003); Addendum I (2007); Addendum II (2010); Addendum III (2012), Addendum IV (2014)

Overview of Species of Concern



Overview of Species of Concern

Black Sea Bass: Concern

Assessment Findings

- Although the resource was declared rebuilt in 2009, black sea bass' unique life history characteristics (e.g., the species changes sex from female to male) contributes to some level of uncertainty about the size of the stock, as well as the species' response to exploitation.
- Due to the uncertainty an over fishing limit (OFL) cannot be specified for the fishery, which means a level of catch cannot be derived from model results.
- 2012 assessment indicates resource is not overfished nor experiencing overfishing, with biomass estimated at 102% of the biomass target.

Significant Sources of Uncertainty

- Assessment assumes a completely mixed stock, while tagging information suggest otherwise
- Evidence of changes in the spatial distribution of the species, specifically an expansion of the species into more northern areas.
- Due to the unusual life history strategy (females changing sex to male) the assumptions of a constant natural mortality rate (M) in the model for both sexes may not adequately capture the dynamics in M.
- The unique life history also makes the determination appropriate reference points difficult

Prioritized Research to Reduce Scientific Uncertainty

- Develop reference points and assessment methods to account for the unique life history.
- Explore the utility of a spatially structured assessment to address the incomplete mixing of the stock
- Evaluate the implication of range expansion to stock and fishery dynamics

Scientific Advice Based on Assessment Findings

Board Adherence to Scientific Advice

Next Assessment:

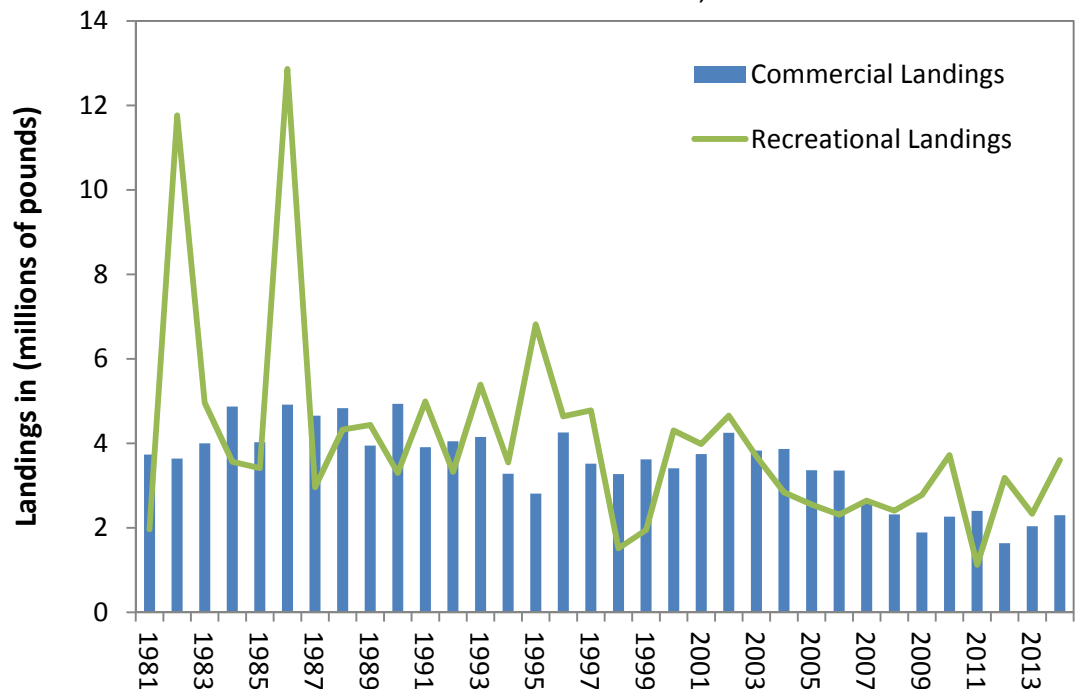
Benchmark assessment in December 2016

Rebuilding Trajectory:

unknown

Black Sea Bass Commercial and Recreational Landings

Source: ACCSP and MRIP, 2015



Timeline of Management Actions: FMP ('96); 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)

Overview of Species of Concern

Coastal Sharks: Concern

Assessment Findings

Species or Complex Name	Stock Status		References/Comments
	Overfished	Overfishing is Occurring	
Pelagic			
Porbeagle	Yes	No	Porbeagle Stock Assessment, ICCAT Standing Committee on Research and Statistics Report (2009)
Blue	No	No	ICCAT Standing Committee on Research and Statistics Report (2008)
Shortfin mako	No	No	ICCAT Standing Committee on Research and Statistics Report (2012)
Large Coastal Sharks (LCS)			
Blacktip	Unknown	Unknown	SEDAR 11 (2006)
Aggregated Large Coastal Sharks - Atlantic Region	Unknown	Unknown	SEDAR 11 (2006); difficult to assess as a species complex due to various life history characteristics/ lack of available data
Small Coastal Sharks (SCS)			
Atlantic Sharpnose	No	No	SEDAR 34 (2013)
Bonnethead	No	No	SEDAR 34 (2013)
Finetooth	No	No	SEDAR 13 (2007)
Hammerhead			
Scalloped	Yes	Yes	SEFSC Scientific Review by Hayes, et al. (2009)
Blacknose			
Blacknose	Yes	Yes	SEDAR 21 (2010)
Smoothhound			
Smooth Dogfish	No	No	SEDAR 39 (2015)
Research			
Sandbar	Yes	No	SEDAR 21 (2010)
Prohibited			
Dusky	Yes	Yes	SEDAR 21 (2010)

Board Adherence to Scientific Advice

- Based on TC advice, the Board approved FMP regulations that generally complement regulations in federal waters, ensuring F does not exceed F_{MSY} or $F_{REBUILD}$, and protecting sandbar shark pupping grounds in state waters.
- There is general concern among members of the TC that a 12-to-88 fin-to-carcass ratio may create a loophole because different states retain different fin sets. The Board approved Addendum V to remove the fin-to-carcass ratio for spiny dogfish, which is consistent with the Shark Conservation Act.
- The Coastal Sharks Management Board approved a July 1, 2015 opening date for the large coastal sharks species group. All other species groups will open in conjunction with federal waters' fisheries. Additionally,

Overview of Species of Concern

- Based on the TC recommendation, the Board approved a 36 fish possession limit for sharks in the large coastal shark species group (silky, tiger, blacktip, spinner, bull, lemon, nurse, scalloped hammerhead, great hammerhead, and smooth hammerhead sharks) for 2015.

Monitoring and Management Measures

- May 15 – July 15 closed season from NJ-VA to protect pupping females for the following species: silky, tiger, blacktip, spinner, bull, lemon, nurse, scalloped hammerhead, great hammerhead, and smooth hammerhead.
- Fins to remain attached to the carcass through landing for all species except smooth dogfish.
- Recreational fishing controlled through possession limits with a 4.5' fork length size limit for all species except for Atlantic sharpnose, finetooth, blacknose, and bonnethead which do not have a size limit, and 6.5' for all hammerhead shark species.
- Recreational anglers can only harvest sharks caught with a handline or rod & reel.

Next Assessment: Variable by species/complex

Rebuilding Trajectory: Variable by species/complex

Overview of Species of Concern

Horseshoe Crab: Concern

Assessment Findings

- Abundance has increased in the Southeast and Delaware Bay Region (New Jersey through coastal Virginia), and decreased in New York and New England.
- In the Delaware Bay, increasing trends were most evident for juveniles, followed by adult males. A small increase in adult females is now beginning to be observed in the Virginia Tech Benthic Trawl Survey. These patterns are indicative of population recovery, given that horseshoe crab females take longer to mature than males.
- Declines in the New England population were also apparent in the 2004 assessment; however, declines in New York represent a downturn from the 2004 assessment. The Technical Committee believes decreased harvest quotas in Delaware Bay encouraged increased harvest in nearby regions.
- The Technical Committee recommends continued precautionary management to address effects of redirected harvest from Delaware Bay to outlying populations.

Regional Trends in Horseshoe Crab Abundance

Region	Time series duration of longest dataset	Conclusion about population change
New England	1978 - 2008	Declined
New York	1987 - 2008	Declined
Delaware Bay	1988 - 2008	Increased
Southeast	1993 - 2009	Increased

Needed Information/Data

- Coastwide survey or surveys by broader geographical region
- Reference points
- A mechanism to include biomedical landings in regional assessments without compromising data confidentiality

Board Adherence to Scientific Advice

- Addendum VII, approved in 2012, implemented the Adaptive Resource Management (ARM) framework, which was used to set annual specifications for horseshoe crabs of Delaware Bay origin. 2013 was the first year the ARM framework was used.

Monitoring and Management Measures

- Precautionary cap on harvest
- Reporting harvest for bait by month, sex, and harvest method (done consistently)
- Reporting biomedical harvest and mortality (inconsistent methods of reporting across states)
- Identify spawning and nursery habitat (completed in most states)
- Addendum VI extended the management measures under Addendum V (Delaware Bay).

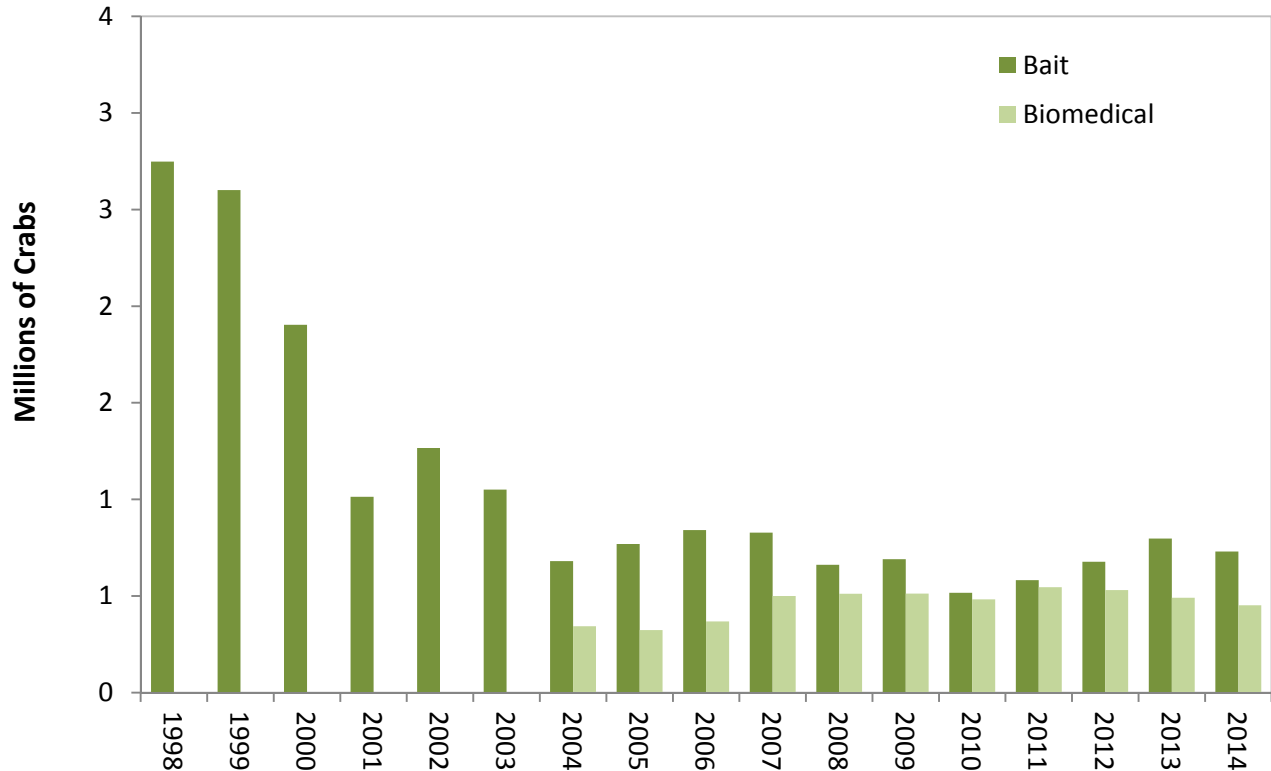
Next Assessment: Assessment update in 2016

Rebuilding Trajectory: Varies by region (see table)

Overview of Species of Concern

Coastwide Horseshoe Crab Bait Landings & Biomedical Harvest*

Source: ASMFC Preliminary State Reports, 2015



***Note: 2014 harvest numbers for both bait and biomedical are preliminary and do not include all state landings**

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 (1999); Addendum I (2000); Addendum II (2001); Addendum III (2004); Addendum IV (2006); Addendum V (2008); Addendum VI (2010); Addendum VII (2012)

Overview of Species of Concern

Summer Flounder: Concern

Assessment Findings (2015 Assessment Update)

- Not overfished, but overfishing was occurring relative to the biological reference points (BRP) from the 2013 SAW 57 benchmark assessment ($F=.359$ in 2014, 16% above $F_{msy}=3.09$).
- Spawning stock biomass (SSB) was estimated to be 40,323 mt in 2014, 65% of the target (62,394 mt)
- Recruitment over the last four years (2010-2013) were below average.
- Reported 2014 landings in the commercial fishery were approximately 8% over the commercial quota
- Coastwide recreational harvest in 2014 were approximately 6% above the recreational harvest limit

Scientific Advice Based on Assessment Findings

- Retrospective patterns are evident in the assessment and have substantial implications for the reliability of the model projections.
- Projections are made assuming the ABC will be harvest fully, but not exceeded. However, there are trends in harvest indication an increase likelihood of catches exceeding ABSs.
- In 2016 and 2017, the probability of overfishing is higher than the MAFMC's risk policy.

Board Adherence to Scientific Advice

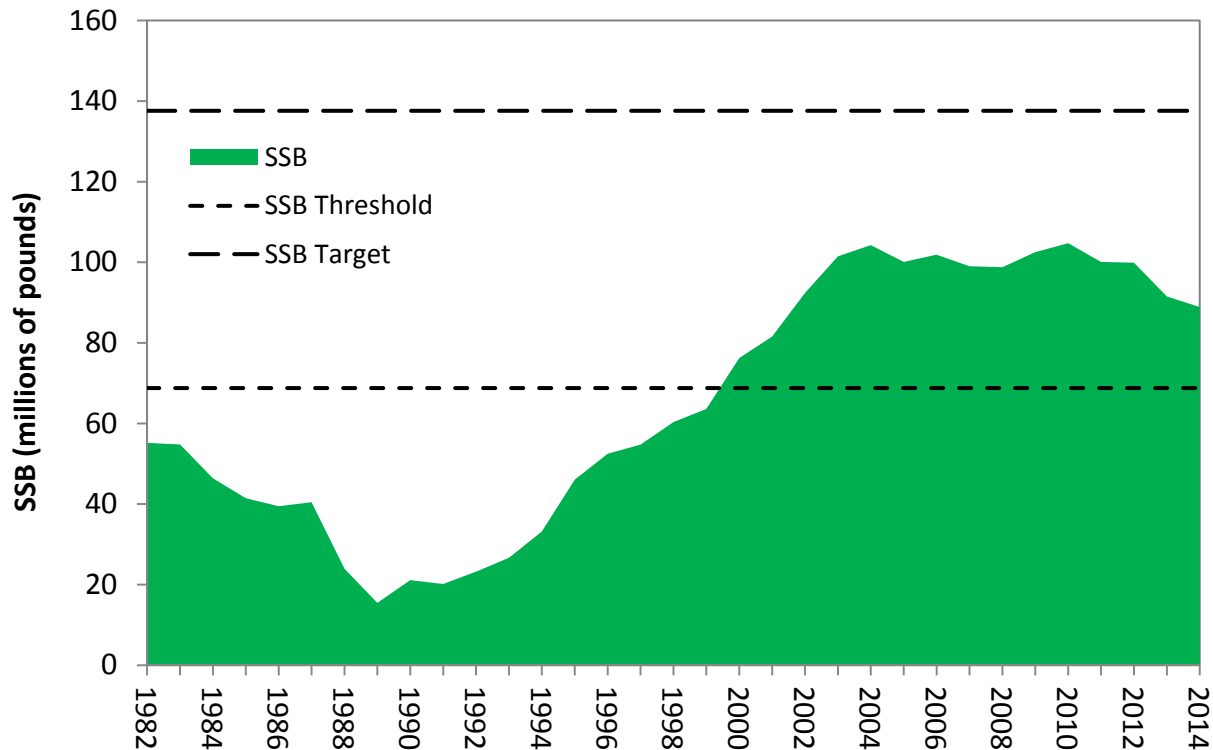
- Action will be taken at the Joint meeting with the MAFMC in August

Next Assessment: Not currently scheduled

Rebuilding Trajectory:

Summer Flounder Spawning Stock Biomass (SSB)

Source: Northeast Fisheries Science Center Stock Assessment Update, 2015



Timeline of Management Actions: FMP (1988); Amendment 1 (1991); Amendments 2 -5 (1993); Amendment 6 (1994); Amendment 7 (1995); Amendments 8 & 9 (1996); Amendment 10 (1997); Amendment 11 (1998); Amendment 12 (1999); Amendment 13 (2003)

Overview of Species of Concern

Tautog: Concern

Assessment Findings

2015 Benchmark Stock Assessment

- Overfished and overfishing is occurring on a coastwide basis
- Assessment recommends two regional approaches to assess and manage the resource (see table below for stock condition by regional stock definitions)

2011 Stock Assessment Update

- SSB has remained at low levels for the last decade, with 2009 SSB estimated at 10,553 metric tons — 39% of the target SSB (26,800 metric tons).
- 2011 coastwide fishing mortality estimated at 0.38, well above the management plan’s target of F=0.20
- Overfishing has occurred since 2005.

Scientific Advice Based on Assessment Findings (2011 Assessment Update)

- Technical Committee recommended target F = 0.15 (39% reduction) or lower to rebuild stock
- Technical Committee projects the stock will exceed threshold around 2019 and will not exceed target within 15 years.

Board Adherence to Scientific Advice

2015 Benchmark Stock Assessment

- Board has initiated new amendment to consider regional stock definitions, reference points and management measures
- Board will consider approving Public Information Document for public comment in August

2011 Stock Assessment Update

- Addendum VI (2011) reduced target F to 0.15 and required states to implement measures to achieve a 56% reduction in exploitation by January 1, 2012.

Next Assessment: None scheduled

Rebuilding Trajectory: Flat

Stock Region	Stock Status	SSB Target (in MT)	SSB Threshold (in MT)	F Target	F Threshold
Coastwide (All states)	Overfished Experiencing Overfishing	20,612	15,459	0.10	0.13
REGIONAL OPTION 1					
Massachusetts/Rhode Island/Connecticut	Overfished Experiencing Overfishing	3,883	2,912	0.15	0.20
New York – New Jersey	Overfished Not Experiencing Overfishing	3,570	2,640	0.17	0.26
Delaware/Maryland/ Virginia	Overfished Not Experiencing Overfishing	2,090	1,580	0.16	0.24
REGIONAL OPTION 2					
Massachusetts – Rhode Island	Overfished Experiencing Overfishing	2,633	1,975	0.16	0.38
Connecticut – New Jersey	Overfished Experiencing Overfishing	4,695	3521	0.17	0.24
Delaware/Maryland/ Virginia	Overfished Not Experiencing Overfishing	885	664	0.16	0.24

Overview of Species of Concern

Winter Flounder - GOM: Concern

Overfished Unknown: (2011 SAW 52)

- The SAW/SARC GOM analytical assessment model was not accepted, BMSY and FMSY are unknown, and consequently the F and SSB targets could not be generated.
- While the overfished status is unknown, the Review Panel is concerned that recent biomass estimates substantially decreased despite relatively low catch. Reasons for the apparent decline in biomass are not well understood.

Overfishing not Occurring

- A proxy F Threshold of 0.31 was derived from a length-based yield per recruit analysis. The overfishing status is based on the ratio of 2010 catch to survey based swept area estimate of biomass exceeding 30 cm in length. 2010 F estimated at 0.23

Board Adherence to Scientific Advice

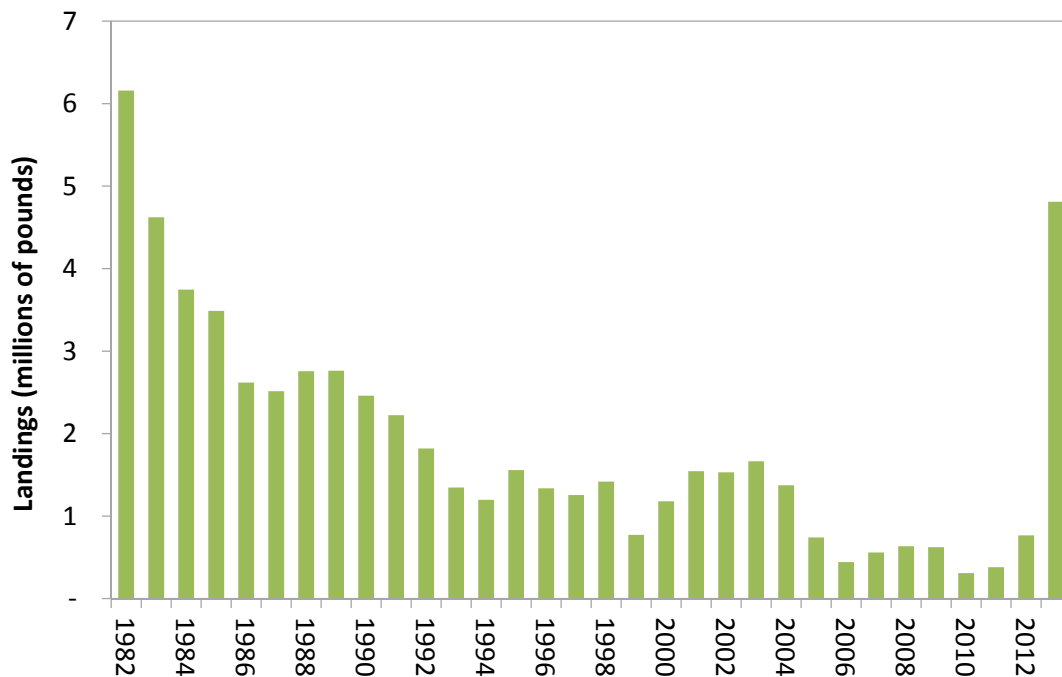
- GARM III estimated an 11% F reduction necessary to achieve F_{MSY}
- Addendum I measures, implemented in 2009, estimated to reduce recreational and commercial harvest by 11% and 31% respectively
- In response to the 2011 stock status, NOAA Fisheries increased the 2012 state water sub-component to 272 mt (a 450% increase of 2010's level) based on the overfishing status. Following this federal action, the Commission's Winter Flounder Board approved Addendum II in October 2012 to increase the maximum possession limit for non-federally permitted commercial vessels to 500 pounds.
- In 2014, NMFS maintained the state water sub-component at 272 mt. The Commission's Board also maintained the same management measures as 2013 for the 2014 fishing season.

Next Assessment: Assessment update September 2015

Rebuilding Trajectory: Status unknown

Gulf of Maine Winter Flounder Commercial Landings

Source: Northeast Fisheries Science Center, 2014



Timeline of Management Actions: FMP & Addendum I (1992); Addendum II (1998); Amendment 1 (2005); Addendum I (2009); Addendum II (2012); Addendum III (2013)

Overview of Depleted Species

American Eel: Depleted

Depleted: Trend analyses and model results indicate the American eel stock has declined in recent decades and the prevalence of significant downward trends in multiple surveys across the coast is cause for concern (2012 Benchmark Assessment).

Overfishing Determination: No overfishing determination can be made at this time.

Assessment Findings

- In recent decades there has been neutral or declining coastwide abundance.
- Decreasing trends in yellow eels were seen in the Hudson River and South Atlantic regions
- Although commercial fishery landings and effort in recent times have declined in most regions (with the possible exception of the glass eel fishery), current levels of fishing effort may still be too high given the additional stressors affecting the stock such as habitat loss, passage mortality, and disease as well as potentially shifting oceanographic conditions.
- Management efforts to reduce mortality on American eels in the U.S. are warranted.

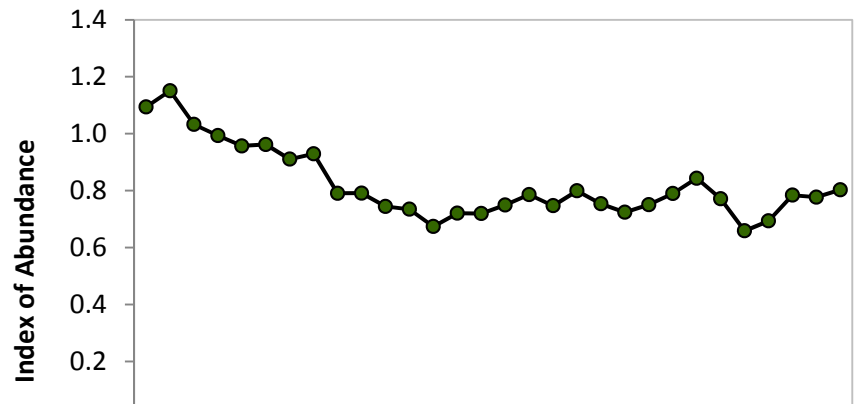
Board Adherence to Scientific Advice

- Based on results of the 2012 benchmark stock assessment the Board has implemented two Addenda to reduce fishing mortality on American eels.
- Addendum III (2013) increased the commercial and recreational minimum size to 9 inches, reduced the recreational bag limit from 50 fish/day/angler to 25 fish/day/angler, prohibited most silver eel fisheries, and places restrictions on the growth of pigmented eel fisheries.
- Addendum IV (2014) establishes a 907,671 pound coastwide quota for yellow eel fisheries, reduces Maine's glass eel quota to 9,688 pounds (2014 landings), and allows for the continuation of New York's silver eel weir fishery in the DE River. Management triggers exist for yellow eel state quotas if necessary.

Next Assessment: None scheduled

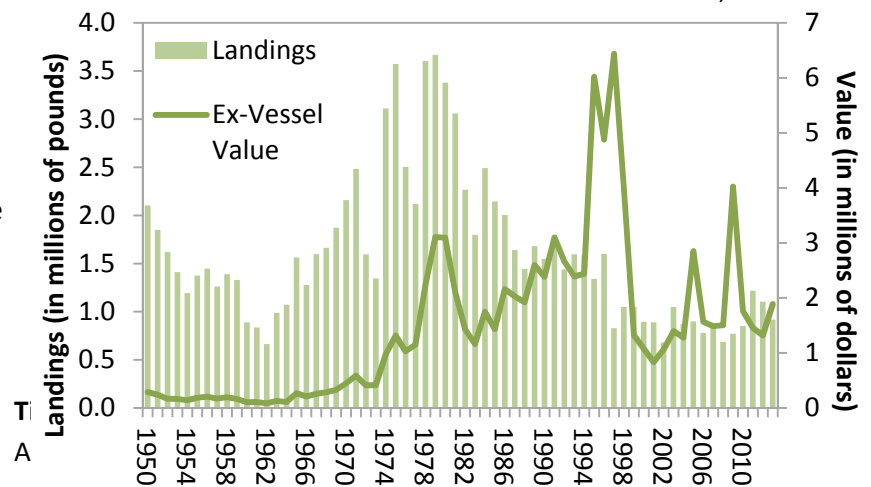
30-Year Index of Abundance for Yellow-phase American Eels along the Atlantic Coast

Source: 2012 American Eel Benchmark Stock Assessment Report



Commercial Landings and Value

Source: 2012 American Eel Benchmark Stock Assessment Report & Personal comm. NMFS Fisheries Statistics Division, 2014



Rebuilding Trajectory: Unknown

Overview of Depleted Species

American Lobster - SNE: Depleted

Assessment Findings (2015 Benchmark Stock Assessment)

- Depleted and overfishing not occurring:
- Abundance at 42% of threshold
- Current exploitation (0.27) below threshold (0.41)
- Basecase estimates for recruitment are near zero and the lowest on record
- The inshore portion of the stock shows a dramatic decline in spawning stock abundance
- The stock has not rebuilt and is in recruitment failure

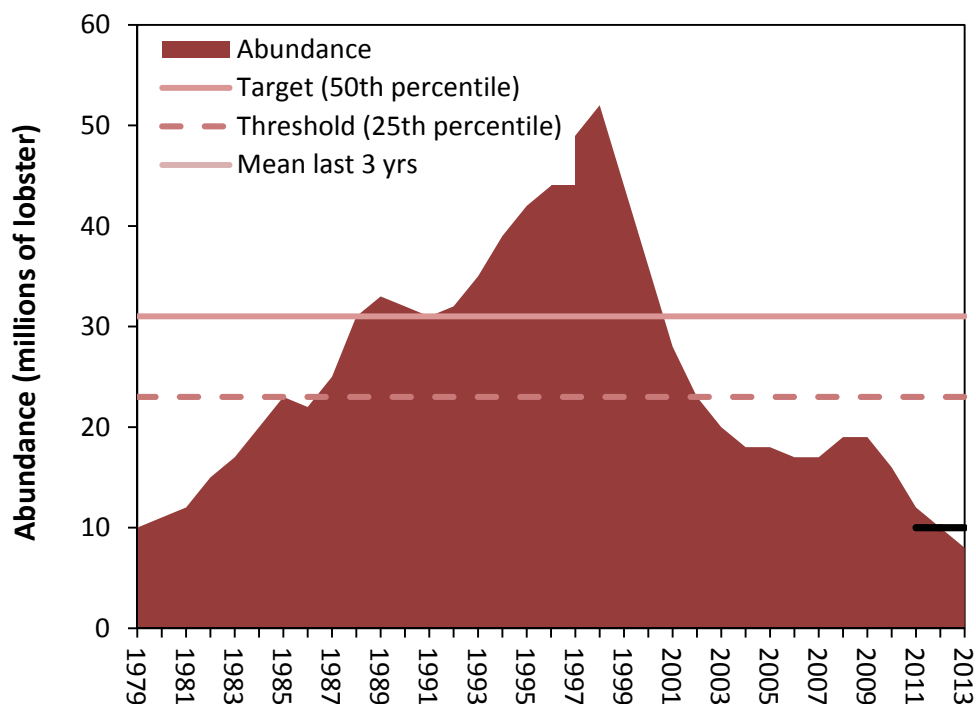
Board Adherence to Scientific Advice

- TC advised to use output controls, Board continues to use input measures
- TC advised to not allow conservation equivalency in LCMA 6, Board approved program
- TC advised 100% trip level harvester reporting; Board adopted 10%
- TC advised 50-75% reductions in SNE LCMAs; Board approved 10% reduction.

Rebuilding Trajectory: Population continues to decline; Addendum XI (May 07) established a 15-year rebuilding timeline (ending in 2022) with a provision to end overfishing immediately.

Southern New England Lobster Abundance

Source: American Lobster Benchmark Stock Assessment, 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 – XXIII ('13); Addendum XXIII ('14); Addendum XXIV ('15)

Overview of Depleted Species

American Shad: Depleted

2007 Assessment Findings

- 86 river systems assessed; 64% of which have unknown stock status
- Collectively, stocks are at all-time lows and do not appear to be recovering

Scientific Advice Based on Assessment Findings

- Improved monitoring (fishery independent and dependent) and fish passage
- Management measures based on total mortality (Z), which combines fishing and natural mortality.
- Lower JAI threshold needed to trigger management action
- The next assessment has not been scheduled.

Board Adherence to Scientific Advice

- Management Board approved Amendment 3 in February 2010
- Management actions contained in the Amendment are based on recommendations from the stock assessment.
- Member states/jurisdictions were required to submit sustainable fishery management plans (SFMPs) by August 1, 2012 (for TC review and Board approval). As of January 1, 2013, the Shad and River Herring Management Board approved SFMPs for Massachusetts, Connecticut, the Delaware River, the Potomac River, North Carolina, South Carolina, Georgia, and Florida. States/jurisdictions without approved SFMPs by January 1, 2013 were required to close their American shad fisheries, with the exception of catch and release recreational fisheries.
- By August 1, 2013, states/jurisdictions were required to submit a Habitat Plan, which contains a summary of current and historical spawning and nursery habitat; the most significant threats to those habitats; and a habitat restoration program to improve, enhance and/or restore habitat quality and quantity. In February 2014, the Board approved habitat plans for the majority of states and jurisdictions.

Next Assessment: Assessment update in 2017

Rebuilding Trajectory: Variable by River System (see accompanying table)

Trends in Stock Status of American Shad Populations

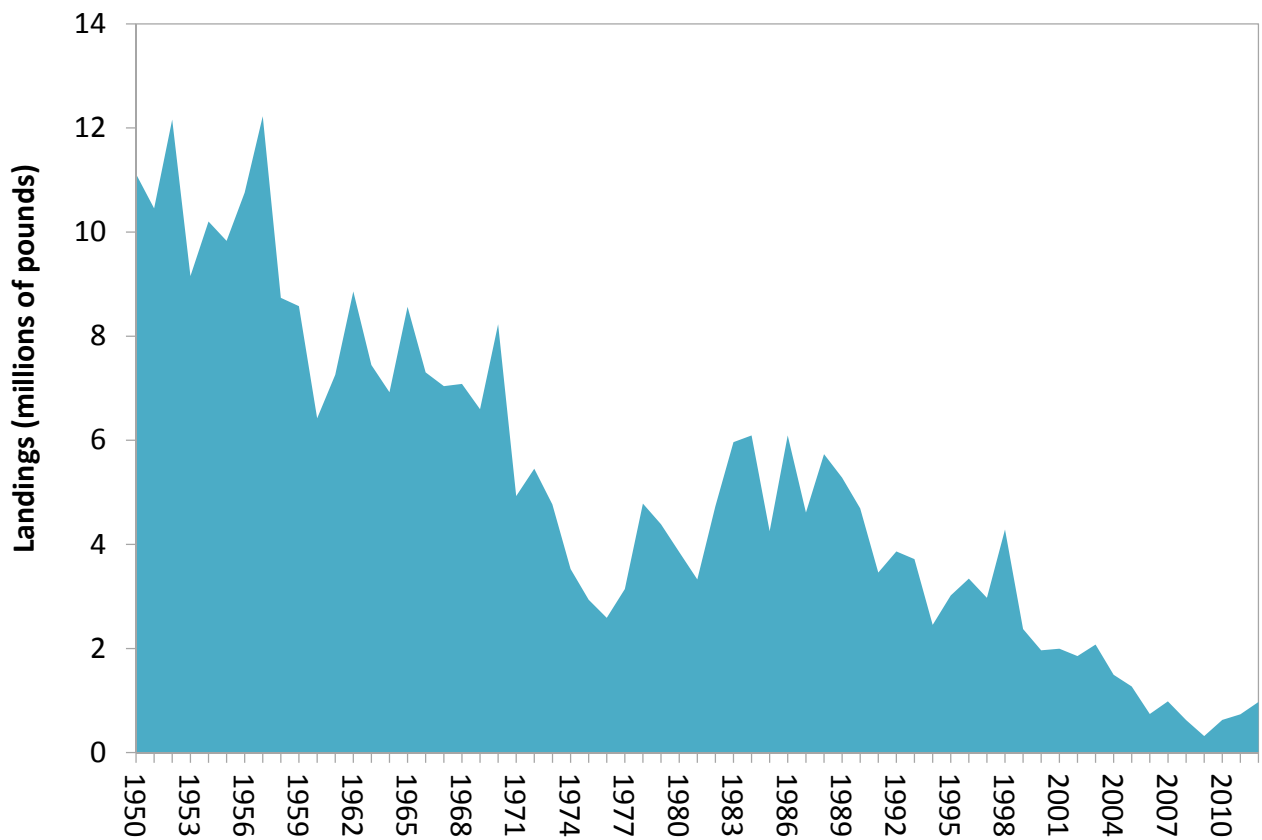
Trends based on a comparison of 2007 assessment results to 1998 assessment results. Sources: ASMFC American Shad Stock Assessment Reports for 2007 and 1998

State	River	Trend
ME	Saco and Kennebec	Declining
NH	Exeter	Declining
MA	Merrimack	Low, Stable
RI	Pawcatuck	Declining
CT/MA	Connecticut	Stable
NY	Hudson	Declining
NY/PA/NJ/DE	Delaware River and Bay	Low, Stable
PA	Susquehanna	Declining
DC/MD/VA	Potomac	Increasing
MD	Nanticoke	Low
	York	Increasing
	James	Declining
VA	Rappahannock	Stable
	Santee	Increasing
SC	Edisto	Declining
	Altamaha	Declining
GA	St. Johns	Declining
FL		Declining

Overview of Depleted Species

American Shad Commercial Landings

Source: NMFS Fisheries Statistics Division, 2014



Timeline of Management Actions: FMP (1985); Amendment 1 (1999); Amendment 3 (2010)

Overview of Depleted Species

Northern Shrimp: Depleted

Assessment Findings (2014 Benchmark Stock Assessment)

- Due to uncertainties in the stock assessment model, the 2014 benchmark assessment was not accepted by the peer review panel for management use and the Northern Shrimp Technical Committee (TC) used a suite of indicators to determine the status of the stock.
- Using these indices, the TC found the northern shrimp stock is collapsed and abundance and biomass indices for 2012-2014 were the lowest on record in the 31-year time series (figures below).
- Due to failed recruitment, the northern shrimp stock is not expected to recover until at least 2017 as the 2013 year class makes

Scientific Advice Based on Assessment Findings

Due to recruitment failure, a collapsed stock, and long term trends in environmental conditions, the Technical Committee recommended the Section implement a moratorium on fishing in 2015.

Board Adherence to Scientific Advice

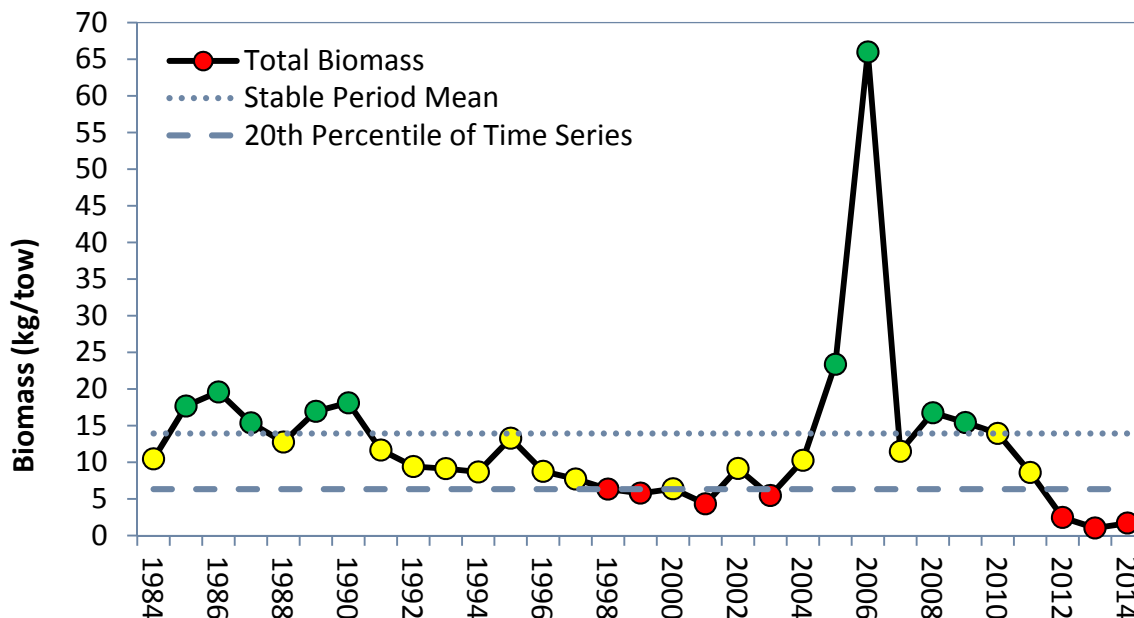
- Adhering to the Technical Committee's recommendations, the Northern Shrimp Section implemented a fishery moratorium for both the 2014 and 2015 fishing season.
- Due to recent failed recruitment and collapse of the stock, in 2014, the Section initiated development of Amendment 3 to the Interstate Fishery Management Plan. The amendment explores a limited entry program to reduce fishing effort and stabilize the fishery.

Next Assessment: 2015 Assessment Update

Rebuilding Trajectory: Declining

Total Biomass of Northern Shrimp from the Gulf of Maine Summer Shrimp Survey

Stock Status Report for Gulf of Maine Northern Shrimp, 2014

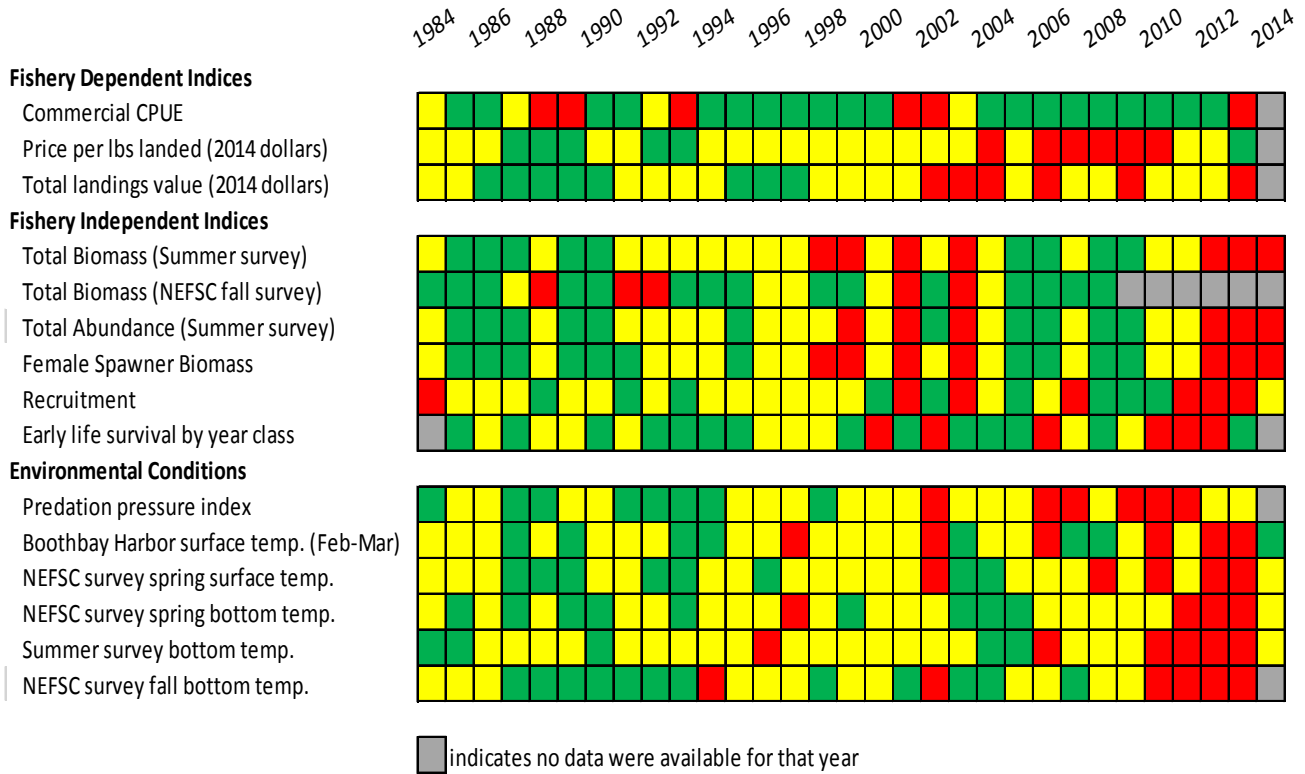


The graph represents the annual biomass index relative to the reference period (dashed line) and to the 20th percentile of the time series (dotted line). The reference period (1985-1994) is the time period during which the fishery experienced stable landings and value. Green dots are values that are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

Overview of Depleted Species

Strict Traffic Light Approach (STLA) Results

Red indicates unfavorable conditions or status, yellow indicates intermediate values, and green indicates favorable conditions or status.



Timeline of Management Actions: FMP (1986); Amendment 1 (2004); Amendment 2 (2011); Addendum I (2012)

Overview of Depleted Species

River Herring: Depleted

Depleted: The coastwide meta-complex of river herring stocks on the US Atlantic coast is depleted to near historic lows (2012 Benchmark Assessment).

Overfishing Determination: No overfishing determination can be made at this time.

Assessment Findings

- Of the 52 stocks of alewife and blueback herring for which data were available, 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.
- 14 out of 15 river specific YOY indices showed no (7 rivers) or declining (7 rivers) trends.
- Mean length, maximum age and mean length-at-age for both species have declined.
- Recent domestic landings totaled <2 million pounds in any given year.
- Commercial landings by domestic and foreign fleets peaked at 140 million pounds in 1969.
- The “depleted” determination was used instead of “overfished” and “overfishing” because of the many factors have contributed to the declining abundance of river herring including habitat loss, predation, and climate changes

Board Adherence to Scientific Advice

- In 2009, the Board approved Amendment 2, in response to concern for river herring stocks.
- The Amendment prohibits state waters commercial and recreational fisheries beginning January 1, 2012, unless a state or jurisdiction has a sustainable management plan reviewed by the Technical Committee and approved by the Management Board.
- Amendment 2 required states to implement fisheries-dependent and independent monitoring programs, and contains recommendations to conserve, restore, and protect critical river herring habitat.
- As of January 1, 2012, the Shad and River Herring Management Board approved sustainable fishery management plans for Maine, New Hampshire, New York, North Carolina and South Carolina.

Next Assessment: Assessment update in 2018

Rebuilding Trajectory: Unknown

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

Source: 2012 River Herring Benchmark Stock Assessment Report

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

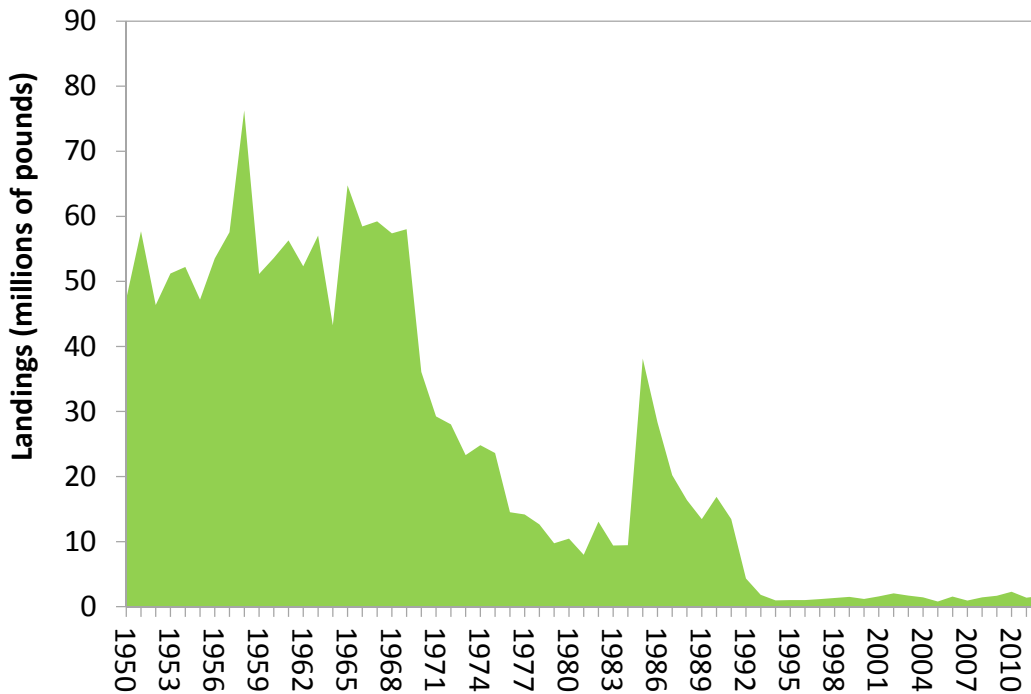
A = Alewife, B = Blueback Herring

Status relative to historic levels is pre-1970. Recent trends reflect last ten years of data.

Overview of Depleted Species

River Herring Commercial Landings

Source: NMFS Fisheries Statistics Division, 2014



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

Overview of Depleted Species

Weakfish: Depleted

Depleted: Spawning potential at 10% of target (2009 benchmark assessment, SARC)

Overfishing Not Occurring: While fishing mortality (F) fell below F_{MSY} in 1996, recent fishery removals are considered to be unsustainable due to high natural mortality (M)

Assessment Findings

- Age 1+ weakfish biomass at an all-time low of 10.8 million pounds in 2008, putting the resources at 3% of an unfished stock.
- While the fishing mortality rate has been modest and stable during the period of biomass decline, natural mortality has risen substantially since 1995. Potential factors include predation, competition, and changes in the environment.

Board Adherence to Scientific Advice

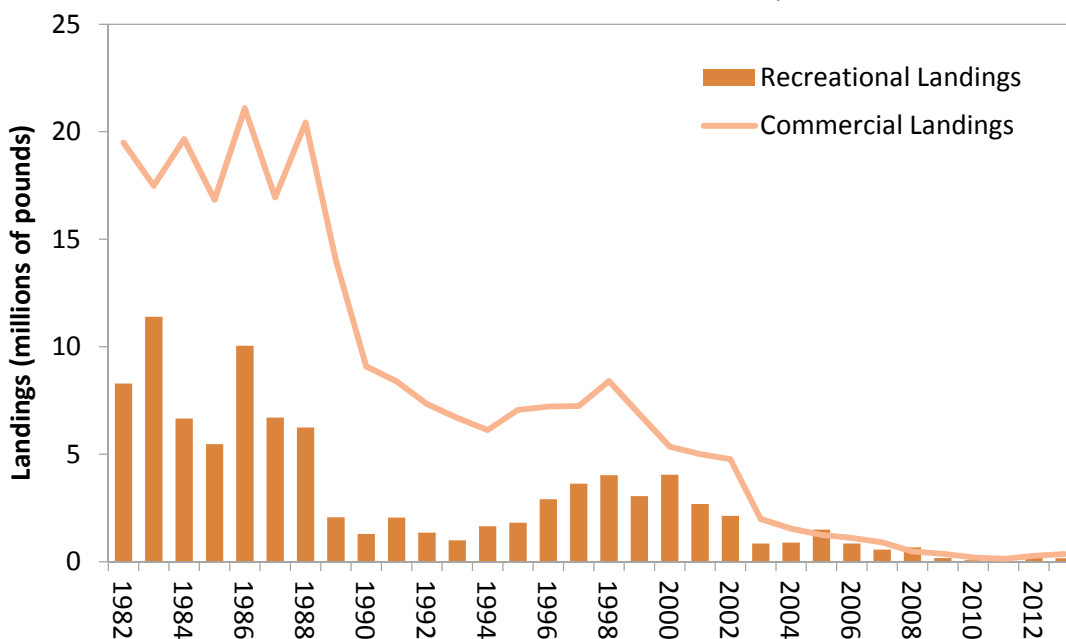
- Based on results of the 2009 stock assessment and peer review, the Board approved Addendum IV, which 1) revised the biological reference points; 2) implemented a commercial trip limit, and 3) reduced the recreational bag limit, the commercial bycatch limit, and the finfish trawl fishery's allowance for undersized fish.
- The Board will annually assess stock status indicators (e.g., relative F, juvenile indices) to monitor weakfish population changes until the next benchmark assessment.

Next Assessment: Benchmark: 2015

Rebuilding Trajectory: Declining

Weakfish Recreational and Commercial Landings

Source: NMFS Fisheries Statistics Division, 2014



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)

Overview of Depleted Species

Winter Flounder - SNE/MA: Depleted

Overfished: Stock is at 16% of SSB target (based on 2011 SAW/SARC 52)

Overfishing is Not Occurring: 2010 $F = 0.051$ well below F target (0.217)

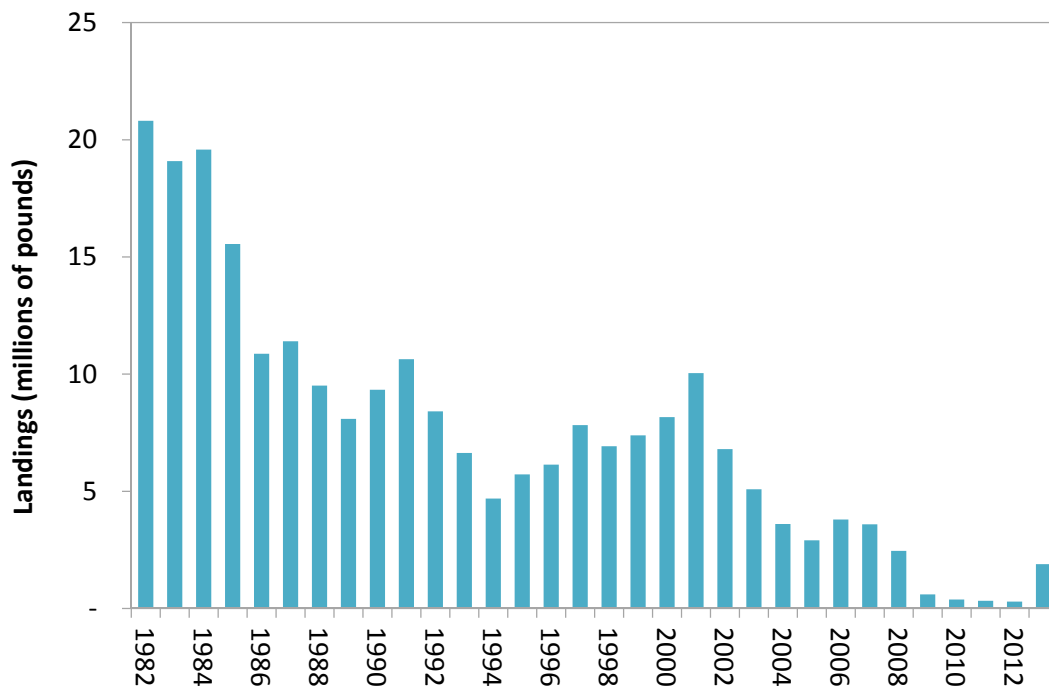
Board Adherence to Scientific Advice

- GARM III estimated a 100% F reduction to achieve $F_{REBUILD}$
- Following the TC advice, the Board approved Addendum I in May 2009, establishing small possession limits to discourage directed fishery and prevent increases in dead discards. Following the TC advice, the Board maintained a 50-pound trip limit for non-federally permitted commercial vessels when it set the 2013 specifications.
- In 2014, NOAA Fisheries extended the rebuilding timeline for this stock and allowed for increased fishing opportunities. The Board extended the recreational season from March 1 through December 31 to increase fishing opportunities based on species' availability.
- NOAA Fisheries set a new rebuilding target of 2023 for SNE/MA winter flounder and lifted the fishing moratorium implemented in 2009. For 2013, NOAA Fisheries set the state water sub-component at 235 mt and a total stock-wide annual catch limit of 1,612 mt (a 167% increase from 2012's 603 mt). The Commission's Winter Flounder TC advises that an average annual stock increase of 15% is necessary to rebuild by 2023.

Next Assessment: Assessment Update September 2015

Rebuilding Trajectory: Flat but projected to be increasing in 2015

SNE/MA Winter Flounder Commercial Landings
Northeast Fisheries Science Center, 2014



Timeline of Management Actions: FMP & Addendum I (1992); Addendum II (1998); Amendment 1 (2005); Addendum I (2009); Addendum II (2012); Addendum III (2013)

Overview of Species of Unknown Stock Status

Atlantic Sturgeon: Unknown

Available Information

- Current populations throughout the species' range are at low levels of abundance.
- The Hudson River stock may be showing a small increase in abundance, along with some rivers in Georgia and South Carolina, suggesting some population rebuilding.
- Commercial landings of Atlantic sturgeon peaked in 1890 at 7.5 million pounds.
- Effective April 6, 2012, NMFS listed five distinct population segments (DPS) of Atlantic sturgeon under the Endangered Species Act (Gulf of Maine DPS as threatened and the New York Bight, Chesapeake Bay, Carolina and South Atlantic DPS' as endangered)
- The states have been working with NOAA Fisheries on their Section 10 incidental take permits
- An Atlantic sturgeon bycatch reduction workshop was conducted in January 2013 to discuss technological solutions for reducing bycatch of Atlantic sturgeon and sea turtles.
- NOAA Fisheries released a draft biological opinion that found the continued operation of 7 Northeast federal fisheries does not jeopardize the survival or recovery of Atlantic sturgeon.

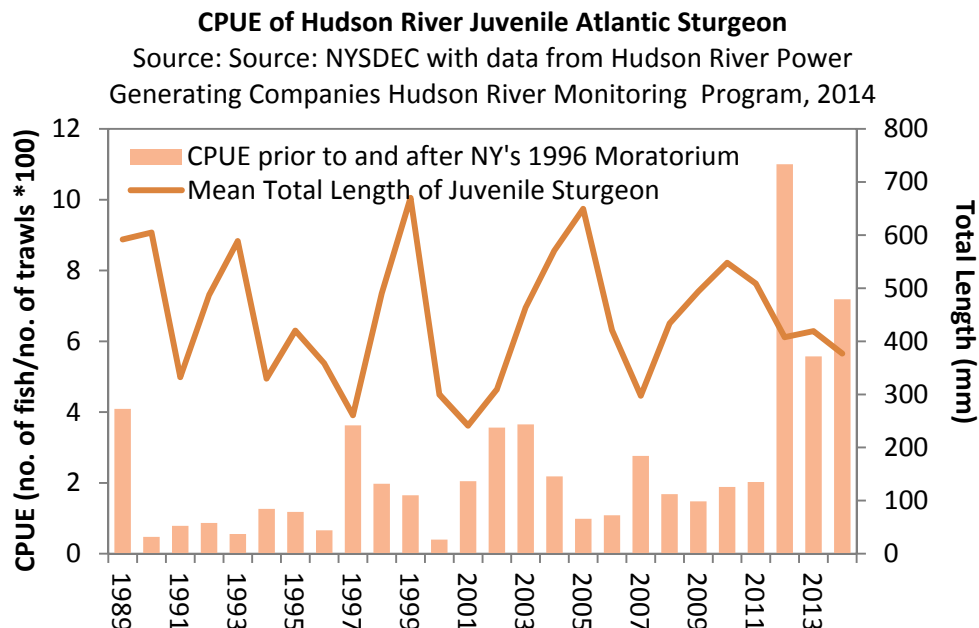
Needed Information/Data

- Conduct assessments of population abundance and age structure in various river systems
- Clearly define unit stocks of Atlantic sturgeon
- Improve bycatch and ship strike estimates.
- Further quantify critical habitat

Monitoring and Management Measures

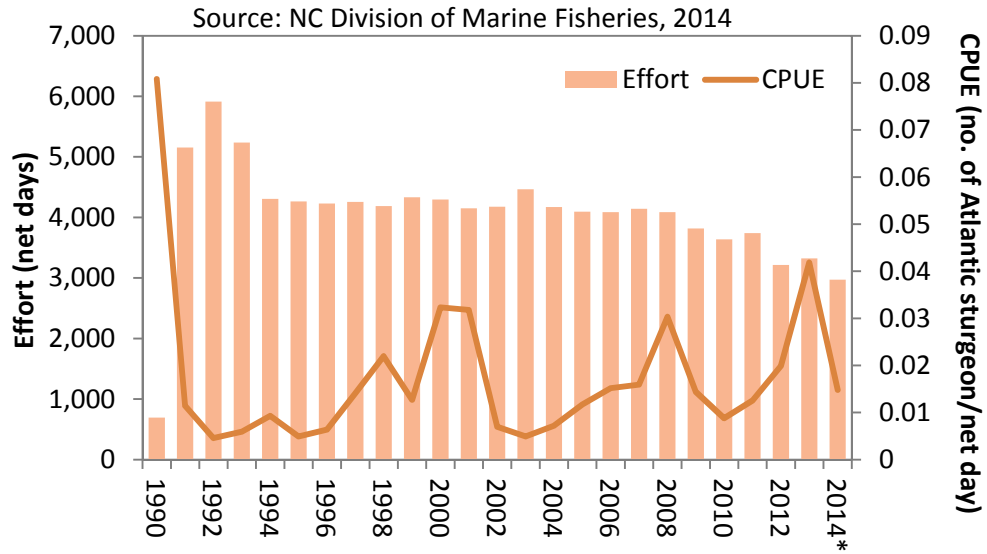
- Monitoring: States must report annually on Atlantic sturgeon bycatch, fisheries-independent monitoring, habitat status and authorized aquaculture operations.
- Management: Coastwide moratorium until 2038.

Next Assessment: 2017 benchmark assessment



Overview of Species of Unknown Stock Status

Fishery-independent Catch Rates of Juvenile Atlantic Sturgeon in Albermarle Sound



Timeline of Management Actions: FMP (1990); Amendment 1 (1998); Addendum I (2001); Addendum II (2005); Addendum III (2006)

Overview of Species of Unknown Stock Status

Jonah Crab: Unknown

Available Information

- Jonah crab landings have increased 6.48 fold since the early 2000's, with over 17 million pounds of crab landed in 2014.
- The status of the Jonah crab resource is relatively unknown and there is currently no data on juvenile recruitment.
- Bottom trawl surveys conducted by the MA Division of Marine Fisheries found Jonah crab are frequently caught north, rather than south, of Cape Cod.
- The Northeast Fisheries Science Center 2014 surveys showed record high abundance in Georges Bank and Gulf of Maine regions. The spring survey in Southern New England has been fairly stable.

Needed Information/Data

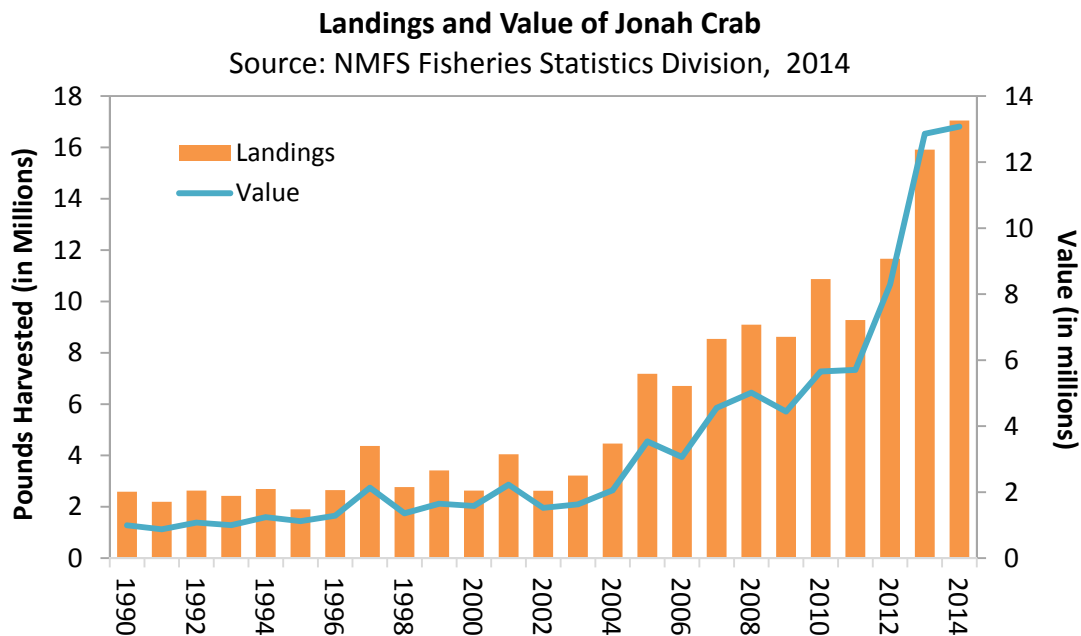
- Conduct age-at-maturity studies in U.S. waters.
- Investigate the extent and motivation of annual migrations patterns.
- Research the recruitment of juvenile Jonah crabs into the fishery.
- Determine the extent of sampling as well as the size distribution, sex composition, and ovigerous condition of Jonah crabs.

Management and Monitoring Measures

- Following recommendations of the Jonah Crab Fishery Improvement Project, which highlighted the need for management measures in the fishery, the Board tasked the Plan Review Team with developing a Draft FMP for Jonah crab in October 2014.
- In May 2015, the Board approved the Draft FMP for Jonah Crab for public comment. Options include commercial and recreational management measures (commercial minimum size, recreational possession limit, allow for whole or parts, bycatch provisions).
- The Board will consider approval of the Final FMP in August.

Next Assessment

No assessment is currently scheduled for Jonah crab due to a lack of data.



Overview of Species of Unknown Stock Status

Spot: Unknown

Unfavorable Data Trends

- Coastwide commercial landings have declined since 1950; with a high of 14.52 million pounds landed in 1952 and a low of 1.27 million pounds in 2012.
- Recreational catches between 1981 and 2014 are variable but show a slight decline.
- Commercial catch-at-age data, which showed an expansion of the age structure in the early 2000s, has contracted the last several years.
- Length-at-age and weight-at-age have decreased for ages 1-3 from 2009-2012 for both measures.
- Recruitment indices show great inter-annual variability as expected, but those with longer time series exhibit a decline in the magnitude of peaks over time with poor recruitment in 2009 and 2011.
- Most indices of adult spot abundance in the species core area exhibit high inter-annual variability.

A stock assessment has not been completed; ability to conduct a defensible assessment has been hindered by inadequate discard data, particularly in the South Atlantic shrimp trawl fishery.

Board Adherence to Scientific Advice

- The Management Board followed recommendations from the Plan Review Team to monitor the stock with available data the last four years, evaluate data availability and adequacy for a stock assessment, and conduct a life history workshop.
- In 2014, the Plan Review Team recommended spot for a stock assessment, which was subsequently scheduled for 2016.
- TLA analysis of the 2014 fishing year showed a decline in harvest, primarily driven by a fall in commercial landings. Adult abundance also fell and was above the 30% threshold at 43.5%. Management measures were not tripped since the harvest index was just below the threshold at 29.4%.

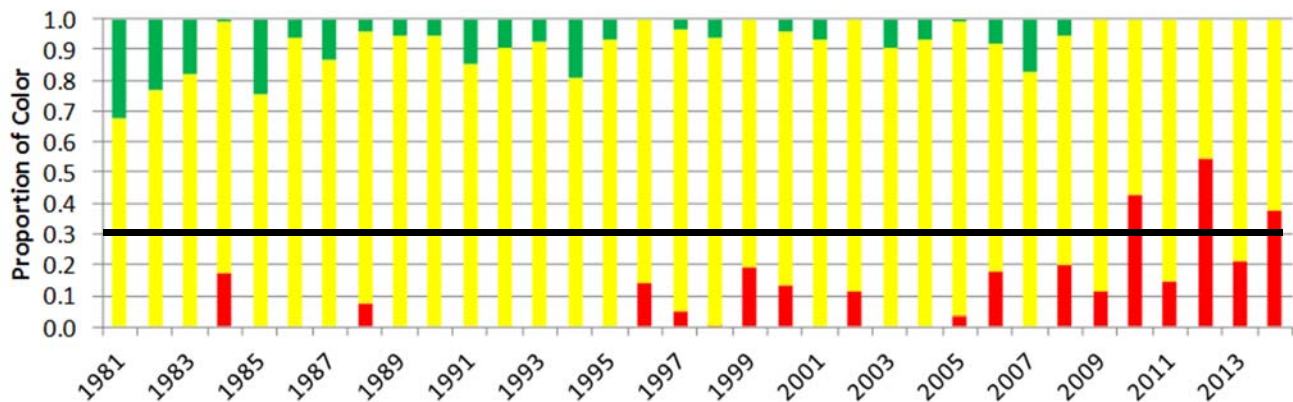
Monitoring and Management Measures

- Omnibus Amendment, approved in 2011, updated the spot FMP by adding management triggers to annually monitor the stock status of spot until a coastwide stock assessment is completed. The Amendment also sought to increase the level of research and monitoring on spot bycatch.
- Addendum II (2014) established the Traffic Light Approach as the new management framework to evaluate trends in the fishery. When harvest and abundance thresholds are exceeded for two years, management actions are developed.

Next Assessment: 2016

Traffic Light Analysis of Spot Commercial and Recreational Harvest

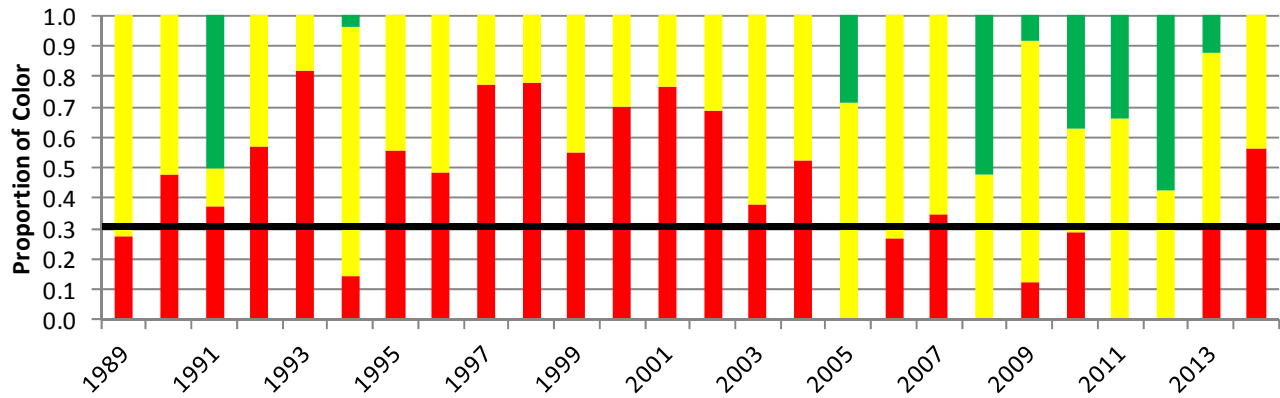
Solid line represents 30% threshold.



Overview of Species of Unknown Stock Status

Traffic Light Analysis of Spot Fishery-independent Survey Indices

Solid line represents 30% threshold.



Management response is triggered when proportion of red exceeds the 30% threshold level (black line) 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)

Overview of Species of Unknown Stock Status

Spotted Seatrout: Unknown

Available Information

- Commercial landings have decreased from 1960 to 2012
- Recreational catches have increased from 1981 to 2013; however, the number of releases has also increased and harvest has remained stable.
- State stock assessments
 - NC (including VA): stock assessment covering 1991-2008 indicated SPR below 20% in recent years
 - SC: SPR just above 20% goal in 1992; non-peer reviewed assessment through 2004 indicated SPR below 20% goal
 - GA: SPR below 20% goal in 1995
 - FL: SPR = 67% northeast region, 45% southeast regions during 2007-2009; goal of 35% SPR

Needed Information/Data

- Examine the stock structure of spotted seatrout on a regional basis, with an emphasis on tagging techniques
- Collect data on the size or age of spotted seatrout released alive by anglers and the size and age of commercial discards
- Develop state-specific juvenile abundance indices and fecundity estimates

Monitoring and Management

- Amendment I sets the objective of the FMP to achieve 20% spawning potential to minimize the possibility of recruitment failure. Florida has established a 35% SPR.
- The Omnibus Amendment, approved in 2011, updated the Spotted Seatrout FMP to include at 12" TL minimum size and recommended measures to protect the spawning stock.

Next Assessment: No coastwide assessment planned or recommended by PRT due to the non-migratory nature of the species and the lack of available data.

Timeline of Management

Actions: FMP (1985);
Amendment 1 (1991);
Omnibus Amendment (2011)

Spotted Seatrout Recreational Catch & Commercial Landings

Source: NMFS Fisheries Statistics Division, 2014

