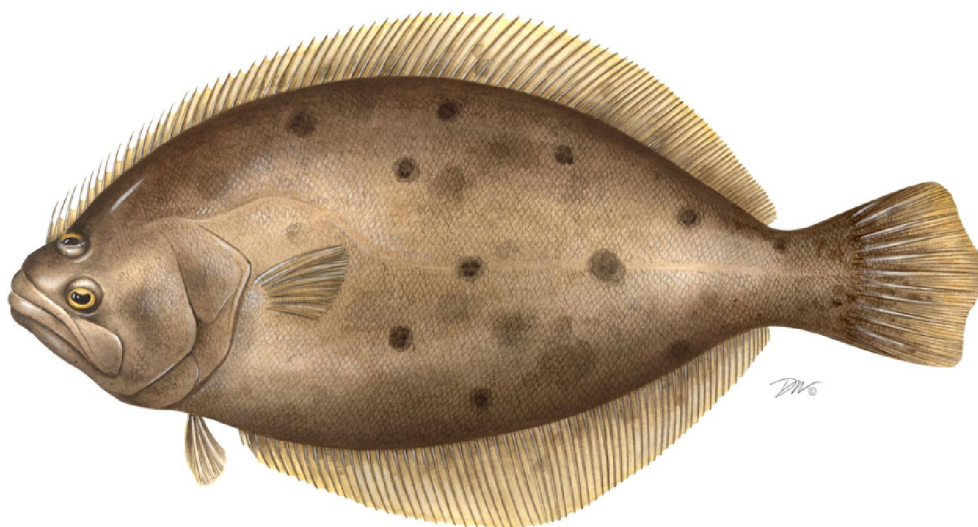


2016 REVIEW OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
FISHERY MANAGEMENT PLAN FOR THE 2015 SUMMER FLOUNDER FISHERY

SUMMER FLOUNDER
(Paralichthys dentatus)



Prepared by

Kirby Rootes-Murdy (ASMFC)

Summer Flounder Plan Review Team

Kirby Rootes-Murdy (ASMFC), Chair

Kiley Dancy (MAFMC)

John Maniscalco (NYSDEC)

October 2016

2015 REVIEW OF THE ASMFC FISHERY MANAGEMENT PLAN FOR SUMMER FLOUNDER (*Paralichthys dentatus*)

I. Status of the Fishery Management Plan

The summer flounder (*Paralichthys dentatus*) fishery of the Atlantic Coast is managed jointly by the ASMFC Summer Flounder, Scup, and Black Sea Bass Management Board (Board) and the Mid-Atlantic Fishery Management Council (MAFMC or Council). The original ASMFC Fishery Management Plan, established in 1982, recommended a 14 inch minimum size. The MAFMC Plan, prepared in 1988 and based on the ASMFC plan, established a 13" minimum size. Since then, fourteen amendments have been developed and approved, except Amendment 1 which would have required a 5–1/2" minimum mesh size in the codend of trawls and Amendment 11 which would have reallocated commercial quota shares.

The objectives of the FMP have not changed and are to: 1) reduce fishing mortality of summer flounder to assure overfishing does not occur; 2) reduce fishing mortality on immature summer flounder to increase spawning stock biomass; 3) improve yield from the fishery; 4) promote compatible management regulations between State and Federal jurisdictions; 5) promote uniform and effective enforcement of regulations; and 6) minimize regulations to achieve the stated objectives.

The management unit includes summer flounder in US waters in the western Atlantic Ocean from the southern border of North Carolina northward to the US - Canadian border. States and jurisdictions with a declared interest in the summer flounder FMP include all those from North Carolina through Massachusetts except Pennsylvania and the District of Columbia, as well as NMFS and USFWS. An ASMFC plan review team, Technical Committee, and species board, and the MAFMC Demersal Species Committee are actively working on this plan. A joint ASMFC-MAFMC Technical Monitoring Committee provides annual framework adjustment advice.

Amendment 2 (approved in August 1992) provided a strategy for reducing fishing mortality to F_{max} , balanced against reasonable impacts on the fishermen. Commercial management measures included a federal (EEZ) moratorium on entry into the commercial fishery, vessel and dealer permitting and reporting requirements, an annual commercial quota, and minimum mesh requirements (5.5" diamond or 6" square mesh in the net's codend) with an exemption program. Recreational fishery measures include for-hire permit requirements, size limits, possession limits, and seasonal closures.

The management system established under Amendment 2 has been modified by the following amendments, framework actions, and addenda. Amendment 3 (approved in July 1993) revised the mesh requirement exemption program and modified the poundage thresholds for the mesh requirements (change to 2 seasonal thresholds instead of year-round 100 lbs). Amendment 4 (approved in September 1993) revised the state-specific shares of the coastwide quota allocation in response to a reporting issue in Connecticut. Amendment 5 (approved in December 1993) allows states to transfer or combine their commercial quota shares. Amendment 6 (approved in May 1994) allows properly stowed nets with a cod end mesh size less than that stipulated in the plan to be aboard vessels in the summer flounder fishery. Amendment 7 (approved May 1995) adjusted the stock rebuilding schedule and capped the 1996-1997 commercial quotas at 18.51 million pounds. There is no Amendment 8 or 9 to the ASMFC FMP. The Council adopted Scup management measures as Amendment 8 and Black Sea Bass measures as Amendment 9, while the Board adopted separate Scup and Black Sea Bass Management Plans.

Amendment 10, approved by the Board in May 1997, initially sought to examine the commercial quota management system. Its scope was expanded to address a number of federal and state issues in the

fishery, including: 1) allow framework adjustments to the minimum mesh for any portion of the net; 2) require 5.5" diamond or 6" square mesh in the entire net of trawls; 3) continue the federal moratorium on entry; 4) remove the requirement that federally permitted vessels must land summer flounder every year; 5) modify the federal vessel replacement criteria; 6) implement state *de minimis* criteria; 7) prohibit transfer at sea; 8) require states to report summer flounder landings from state waters to the NMFS; and 9) allow states to implement a summer flounder file at sea permit system. The amendment also proposed alternative commercial quota schemes, including 1) a trimester quota with state-by-state shares during summer, 2) a trimester coastwide quota of equal periods, and 3) a revision to the allocation formula. Ultimately, the Board and Council decided to maintain the current state-by-state quota allocation system.

Amendment 12, approved by the Board in October 1998, was developed to bring the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan in to compliance with the new and revised National Standards and other required provisions of the Sustainable Fisheries Act. Specifically, the amendment revised the overfishing definitions (National Standard 1) for summer flounder, scup and black sea bass and addressed the new and revised standards relative to the existing management measures (National Standard 8-consider effects on fishing communities, National Standard 9-reduce bycatch, National Standard 10-promote safety at sea). The Amendment also identified essential habitat for summer flounder, scup and black sea bass. Finally, Amendment 12 added a framework adjustment procedure that allows the Council to add or modify management measures through a streamlined public review process. Amendment 12 was partially approved by NMFS on April 28, 1999.

In December 2000, the Board approved Amendment 13. Although there were some management alternatives included in public hearing drafts of the document that could have resulted in changes to summer flounder management measures, none were approved for implementation. As a result, Amendment 13 has no impact on the summer flounder fishery.

Framework Adjustment 2 to the Summer Flounder, Scup and Black Sea Bass FMP, adopted in January 2001, provided the information and analyses necessary to implement a system of conservation equivalency for the recreational summer flounder fishery. Based on a coastwide recreational harvest limit, Framework 2 allows states to customize summer flounder recreational management measures in order to address issues associated with the availability of summer flounder on spatial and temporal scales.

Addenda III and IV were approved on January 29, 2001. Addendum IV provides that, upon the recommendation of the relevant monitoring committee and joint consideration with the Council, the Board will make a decision concerning what state regulations will be rather than forward a recommendation to NMFS. The states will then be responsible for implementing the Board's decision. Addendum III established specifications for the 2001 recreational summer flounder fishery.

The Board approved Addendum VIII in December of 2003. Under this addendum, state-specific targets for recreational landings are derived from the coastwide harvest limit based on each state's proportion of landings reported in 1998.

The Board approved Addendum XIII in August of 2004. This addendum modifies the FMP so that, within a given year, TALs for the summer flounder, scup, and/or black sea bass can be specified for up to three years. Multi-year TALs do not have to be constant from year to year, but instead are based upon expectations of future stock conditions as indicated by the best available scientific information during the year in which specifications are set.

The Board approved Addendum XV in December of 2004. The addendum was developed to allow for a change in the allocation scheme for the increase commercial quota from 2004 to 2005, approximately 1.3 million pounds, as well as the additional quota from 2004 to 2006, approximately 1.6 million pounds. For the fishing years 2005 and 2006, the associated quota increases were allocated to the following states as a bycatch allocation. 75,000 pounds of summer flounder will be allocated each to Maryland, New York, Connecticut, and Massachusetts; 15,000 lbs to Delaware; 5,000 lbs to Maine; and 90 lbs to New Hampshire.

The Board approved Addendum XVII in August of 2005. Addendum XVII established a program wherein the Board could sub-divide the recreational summer flounder coastwide allocations into voluntary regions. This is an additional management tool in the management toolbox. This addendum also allowed the averaging or combination of multiple years of data (i.e. landings-per-angler, length-frequency distributions) in analyses to determine the impacts of proposed recreational management programs. The programs also included minimum fish sizes, possession limits, and fishing seasons. The averaging of annual harvest estimates will not be allowed.

The Board approved Addendum XVIII in February of 2006. The addendum sought to stabilize fishing rules close to those that existed in 2005, in part, to minimize the drastic reductions that were facing three states at the time. The addendum allowed the three states (NY, CT, and MA) facing large reductions in their harvest targets to capitalize on harvest opportunities that are foregone by states that chose to maintain their 2005 recreational fishing rules in 2006.

Addendum XIX, approved in August 2007, broadened the descriptions of stock status determination criteria contained within the Summer Flounder, Scup, and Black Sea Bass FMP to allow for greater flexibility in those definitions, while maintaining objective and measurable status determination criteria for identifying when stocks or stock complexes covered by the FMP are overfished. It establishes acceptable categories of peer-review for stock status determination criteria. When these specific peer-review metrics are met and new or updated information is available, the new or revised stock status determination criteria may be incorporated by the Commission directly into the annual management measures for each species, rather than requiring a modification to the FMP.

The Board approved Addendum XXV in February of 2014. The addendum implemented regional conservation equivalency for the 2014 fishing year, and sought to respond to the unintended consequence of using conservation equivalency (e.g., state-specific recreational management measures) to stay within the annually established coastwide recreational harvest limit for summer flounder through regional management. For 2014, the regions were the following: Massachusetts; Rhode Island; Connecticut through New Jersey; Delaware through Virginia; and North Carolina. All states within a region have same minimum size, bag limit, and season length. A continuation of Addendum XXV was codified in Addendum XXVI by the Board ASMFC Winter Meeting in February 2015. Addendum XXVI continued the regional management measures established in 2014 through 2015.

II. Status of the Stock

The most recent summer flounder assessment update was the June 2016 Stock Assessment Update.

Relative to the biological reference points established during the 2013 benchmark assessment, the stock is not overfished and but overfishing is occurring. Fishing mortality (F) on fully selected age 4 fish ranged between .793 and 1.776 from 1982-1996 and then decreased to .284 in 2007. Since 2007 the fishing

mortality has increased to .390 in 2015, 26% above the SAW 57 maximum fishing mortality threshold ($F_{\text{Threshold}} = F_{\text{MSY}} = F_{35\%} = 0.309$).

Spawning stock biomass (SSB) decreased from 55.16 million lbs in 1982 to 15.58 million lbs in 1989 and then increased to peaks of 101.48 million lbs in 2003 and 104.73 million lbs in 2010. SSB was estimated to be 36,240 metric tons (mt) = 79.90 million lbs in 2015, 58% of the biomass target reference point = $SSB_{\text{MSY}} = SSB_{35\%} = 62,394 \text{ mt} = 137.555 \text{ million lbs}$, and 16% above the 2013 SAW 57 $\frac{1}{2} SSB_{\text{MSY}}$ proxy = $\frac{1}{2} SSB_{35\%} = 31,197 \text{ mt} = 68.78 \text{ million lb}$. NMFS previously declared the summer flounder stock rebuilt based on the 2011 assessment update, which included stock status determinations using data through 2010. A new rebuilding plan would be triggered in the event that estimated biomass falls below the minimum stock size threshold.

Average recruitment from 1982 to 2015 is 41 million fish at age 0. The 1983 and 1985 year classes are the largest in the assessment time series at 75 and 62 million fish, while the 1988 year class is the smallest at only 10 million fish. The update shows that recruitment of age 0 fish was below the time series average each year from 2010 through 2015. The 2015 year class is estimated to be below average at 23 million fish.

III. Status of the Fishery

Commercial landings peaked in 1984 at 37.77 million lbs, and reached a low of 8.8 million lbs in 1997. From 2005 through present commercial landings have been variable, with two peak years (16.91 million lbs in 2005 and 16.57 million lbs in 2011) that have been followed by steady declines. Over the last four years landings have continued to decline in part due to annual quota limits. From 2012-2014 the landings have exceeded the commercial coastwide quota. 2015 commercial landings declined to 10.6 million pounds, approximately 96% of the coastwide quota. The principle gear used in the fishery is the otter trawl. Commercial discard losses in the otter trawl and scallop dredge fisheries are estimates from observer data and recently account for 5 to 10% of the total commercial catch.

Recreational harvest from 2005 to present have also shown steady declines in part due to the coastwide recreational harvest limit. From 2009 through 2013 harvest was below the recreational harvest limit (RHL); in 2014 coastwide harvest exceeded the RHL by 5% at 7.39 million lbs. In 2015, the coastwide harvest was significantly lower than previous years despite similar regulations, at 4.72 million lbs. Recreational discard losses have recently accounted for 15 to 20% of the total catch.

IV. Status of Assessment Advice

The 2016 assessment updates indicates that while catch in recent years has not been substantially over the ABCs, the projected fishing mortality rates have been exceeded and projected spawning stock biomass target has not been achieved. These results appear to be largely driven by poor recruitment, an underestimation of the fishing mortality level in the last years of the assessment, and declining biomass indices. Harvest limits were adjusted for 2016 and beyond to address overfishing.

Biological Reference Points (SSB and F estimates updated by the 2016 Stock Assessment Update)

- $F_{\text{Threshold}} = F_{\text{MSY}} = F_{35\%} = 0.309$
- Current (2015) $F=0.390$ overfishing is occurring
- Spawning Stock Biomass (SSB) threshold = 68.8 million lbs
- SSB target = 137.6 million lbs
- Current SSB (2015) = 79.9 million lbs stock is not overfished

V. Status of Research and Monitoring

Several states and NMFS conduct seasonal sampling cruises using an otter trawl to assess the condition of summer flounder populations inshore and in the Exclusive Economic Zone (EEZ). Massachusetts collects sex and maturity samples and local abundance indices from spring and fall otter trawl surveys, as well as young of the year information in its winter flounder juvenile seine survey. The Commonwealth monitored the commercial fishery through the observation of six directed trawl fishery trips, as well as through dealer Integrated Voice Response (IVR) systems and mandatory fishermen's logbook. Rhode Island monitors the commercial quota for summer flounder using an automated IVR system and dealers are required to provide weekly reports through the IVR of summer flounder landings. Connecticut commercial summer flounder landings are monitored through monthly commercial fishermen logbooks, and weekly and monthly dealer reports. These reports contain daily records of fishing and dealer purchase activity. There was no sea sampling or port sampling activity for summer flounder in 2004. New York conducts a survey of recreational anglers on open boats throughout the marine district to collect additional data on size composition of kept and discarded fish and also a small mesh otter trawl survey in the Peconic Bays that samples summer flounder. New York requires trip level reporting from all of its commercial fishermen and monitors quota through a combination of trip reports and dealer reports. New Jersey collects data from the commercial trawl fishery and conducts an ocean trawl survey from which data on summer flounder are collected and catch-per-unit-of-effort and distribution information are generated for juveniles and adults. Delaware's commercial landings are monitored through a mandatory monthly harvest report from all state-licensed fishermen. Maryland constructs a juvenile index from trawl data collected in the ocean side bays and is also compiling data on population age, sex, and size from summer flounder taken in pound nets. A statewide voluntary angler survey is conducted and records location, time spent fishing, number of fish caught, number kept, and lengths of the first 20 fish caught. Virginia prepares a young-of-the-year index from data collected from beach seine and trawl surveys. North Carolina conducts two otter trawl surveys for juvenile fluke, conducts tagging programs to determine migrations and to assess mortality, and collects information on age and growth and catch-per-unit-of-effort for the winter trawl fishery, the estuarine gill net fishery, pound net fisheries, the ocean sink net fishery and the long haul seine fishery.

VI. Status of Management Measures and Issues

Management measures imposed upon harvesters of summer flounder include an annual commercial quota and recreational harvest limit, minimum sizes, minimum mesh requirements for trawls, permits and administrative fees for dealers and vessels, a moratorium on entry into the fishery, mandated use of sea samplers, monitoring of sea turtles in the southern part of the management unit, and collection of data and record keeping by dealers and processors. Fishing mortality has been controlled by a Total Allowable Landings (TAL) since 1983, allocated into a commercial quota (60% of the TAL) and a recreational harvest limit (40% of the TAL). The commercial quota is allocated to each state based on landings during a baseline period, and any overages are subtracted from a state's quota for the following year. The state allocations of the commercial quota are included in table 1.

Summer Flounder Compliance Criteria

The PRT found no compliance issues.

De Minimis

Delaware requests *de minimis* status. The PRT notes that they meet the requirement of *de minimis*.

COMMERCIAL FISHERY

The following measures may change annually. The 2015 measures are indicated.

Minimum size: 14"

Minimum mesh and threshold: 5.5 diamond, 6" square

Regulation of mesh beyond the codend: 5.5" diamond or 6" square throughout the mesh

2015 Commercial quota: 11.07 million pounds

The following measures are not subject to annual adjustment.

Quota management provisions: States are required to adopt appropriate measures to manage their quota shares. States may transfer or combine their quota shares as specified in Amendment 5. States must document through a vessel and dealer reporting system all landings that are not otherwise included in the federal monitoring of permit holders. States are required to forward all landings information to the NMFS for inclusion in quota reporting.

Transfer at Sea: States must prohibit permitted summer flounder vessels from transferring summer flounder from one vessel to another at sea. (As specified in Amendment 10)

De minimis status: States having commercial landings less than 0.1% of the coastwide total will be eligible for *de minimis* status. (As specified in Amendment 10). Delaware has requested *de minimis* status and meets the requirements.

RECREATIONAL FISHERY

The Management Board chose to adopt regional management through conservation equivalency for the 2015 recreational fishery under the provisions of Framework 2 (see table 3 for state measures). As such, the Federal recreational bag limit and minimum fish size were waived and the fishing season and vessel owners were subject only to the regulations in their states.

2015 recreational harvest limit: 7.38 million lbs.

OTHER MEASURES

Filet at sea permit: Party or charter vessels in state waters will be allowed to filet at sea if they obtain a state issued permit allowing such activity. (As specified in Amendment 10)

Reporting:

1. States must submit a commercial fishery management proposal by October 1 of each year. The proposal must detail the specific management measures that the state intends to use to manage their commercial quota allocation. The proposal must be reviewed and approved by the Management Board.
2. States must submit an annual compliance report to the Chairman of the Summer Flounder Plan Review Team by June 1 of each year. The report must detail the state's management program for the current year and establish proof of compliance with all mandatory

management measures and all framework changes specified for the current year. It should include landings information from the previous year, and the results of any monitoring or research program.

This summary of compliance criteria is intended to serve as a quick reference guide. It in no way alters or supersedes compliance criteria as contained in the Summer Flounder FMP and Amendments thereto.

VII. Current State-by-State Implementation of FMP Requirements

1993 - 2015 Summer Flounder FMP Compliance Schedule

COMMERCIAL:

14" minimum size	3/1/97
5.5" codend mesh	1/1/98
Ability to regulate mesh in any portion of the net	1/1/98
5.5" diamond or 6" square mesh, body	6/3/98
Prohibition of transfer at sea	1/1/98
Mandatory reporting to NMFS of landings from state waters	1/1/98
Small mesh exemption program	1/21/93
Flynet minimum mesh size exemption	1/21/93

RECREATIONAL:

Regional Management Measures under conservation equivalency	2/2015
---	--------

GENERAL

Submission of annual commercial management plan	10/1/97, annually thereafter
Submission of annual landings and compliance report	6/1/98, annually thereafter

Table 1. State by state allocation for annual commercial quota

State	Allocation (%)
Maine	0.04756%
New Hampshire	0.00046%
Massachusetts	6.82046%
Rhode Island	15.68298%
Connecticut	2.25708%
New York	7.64699%
New Jersey	16.72499%
Delaware	0.01779%
Maryland	2.03910%
Virginia	21.31676%
North Carolina	27.44584%
Total	100%

Table 1. Summer Flounder Commercial Landings by State (2005-2015) in pounds.

Source: ACCSP. 2014-2015. Commercial Landings Summaries (Dealer Reports)- Confidential; generated by K.Rootes-Murdy; using ACCSP Data Warehouse, Arlington, VA. & State Compliance Reports (2016)

State	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015**
MA	1,274,429	920,549	659,784	644,404	731,174	851,889	1,132,192	891,495	859,150	694,777	748,731
RI	2,925,365	2,122,528	1,515,684	1,473,439	1,793,891	2,289,379	2,824,032	2,064,076	1,799,394	2,054,951	1,714,143
CT	448,594	316,533	205,115	220,510	256,768	308,341	401,377	298,849	280,652	253,442	291,997
NY	1,172,279	1,219,842	929,132	832,415	1,119,093	1,330,015	1,483,785	1,237,126	999,206	833,577	829,187
NJ	2,156,909	2,379,733	1,697,472	1,540,811	1,798,903	2,165,325	2,830,686	2,268,793	1,995,298	1,826,455	1,687,859
DE	5,427	4,376	2,261	1,213	2,952	1,858	836	677	913	1,687	1,349
MD	337,652	247,743	228,809	208,219	213,564	263,302	259,392	139,824	165,134	164,384	175,285
VA	3,869,171	2,756,952	1,853,693	1,651,575	1,978,754	2,589,786	4,050,998	4,111,708	4,868,842	2,049,045	2,274,329
NC	4,064,474	3,981,430	2,670,122	2,406,611	2,859,048	6,622,004	5,708,254	1,087,427	543,247	2,906,789	2,878,753
Total	17,073,033	13,949,754	9,774,075	9,002,613	10,774,754	16,455,427	18,724,801	11,801,702	11,511,836	10,785,107	10,601,633

**2015 Landings are still preliminary

Table 2. Recreational Landings by State (2005-2015) in weight (pounds).

Source: "Personal Communication with National Marine Fisheries Service, Statistics Division October 2016"

State	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
MA	642,865	608,499	368,084	635,196	121,120	137,611	202,665	175,110	64,365	238,604	146,532
RI	509,931	783,010	553,056	831,062	348,603	458,873	511,544	335,506	372,672	636,207	600,597
CT	434,796	424,539	371,907	567,132	195,883	132,013	186,834	191,119	888,906	391,168	337,194
NY	3,738,023	2,343,908	3,249,126	2,738,108	1,449,759	1,612,298	1,718,121	1,760,650	1,954,821	1,668,848	1,569,139
NJ	3,200,427	3,860,756	2,727,838	2,113,217	2,466,799	1,614,357	2,116,951	3,063,723	3,286,543	3,608,939	1,442,827
DE	209,842	247,811	330,307	147,895	259,169	159,976	182,733	141,935	159,185	227,913	114,638
MD	303,459	71,625	206,522	169,323	168,025	91,834	55,686	61,514	108,690	179,313	103,613
VA	1,730,817	2,005,412	1,311,429	883,168	917,153	789,856	880,639	658,476	449,002	370,230	342,545
NC	145,175	156,842	218,441	64,571	103,867	111,539	100,543	101,642	70,874	67,791	64,065
Total	10,915,335	10,502,402	9,336,710	8,149,672	6,030,378	5,108,357	5,955,716	6,489,675	7,355,058	7,389,013	4,721,150

Table 4. 2015 recreational management measures for summer flounder by state.

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts	16	5 fish	May 22-September 23
Rhode Island	18	8 fish	May 1-December 31
Connecticut*	18	5 fish	May 17-September 21
*At 41 designated shore sites	16		
New York	18	5 fish	May 17-September 21
New Jersey*	18	5 fish	May 22-September 26
*NJ Pilot shore program 1 site	16	2 fish	May 22-September 26
Delaware	16	4 fish	All year
Maryland	16	4 fish	All year
PRFC	16	4 fish	All year
Virginia	16	4 fish	All year
North Carolina	15	6 fish	All Year

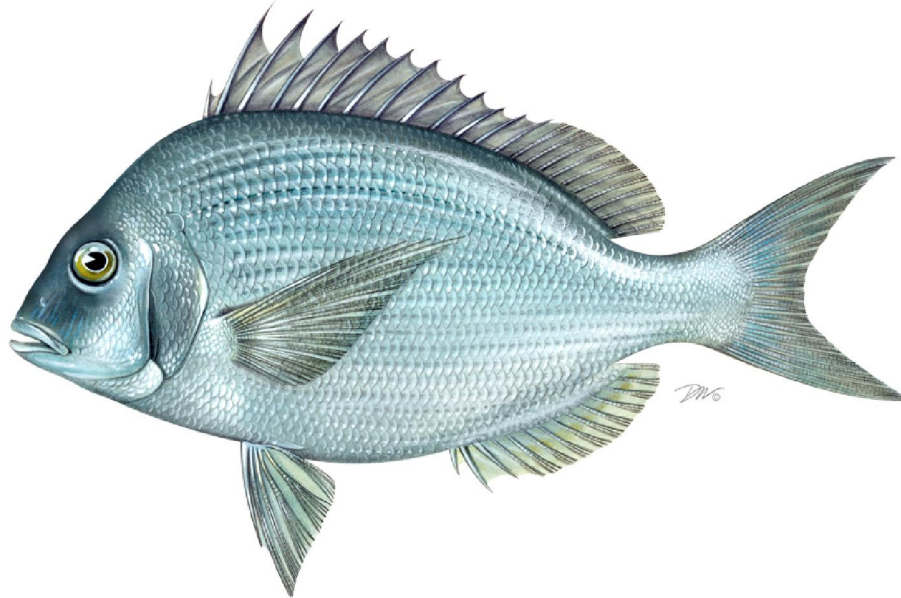
Table 3. 2016 recreational management measures for summer flounder by state.

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts	16	5 fish	May 22-September 23
Rhode Island	18	8 fish	May 1-December 31
Connecticut	18	5 fish	May 17- September 21
CT shore program (46 designed shore sites)	16		
New York	18	5 fish	May 17- September 21
New Jersey*	18	5 fish	May 21- September 25
NJ Shore program site (ISBSP)	16	2 fish	May 21-September 25
New Jersey/Delaware Bay COLREGS**	17	4 fish	May 21-September 25
Delaware	16	4 fish	January 1- December 31
Maryland	16	4 fish	January 1- December 31
PRFC	16	4 fish	January 1- December 31
Virginia	16	4 fish	January 1- December 31
North Carolina	15	6 fish	January 1- December 31

*New Jersey east of the COLREGS line at Cape May, NJ will have management measures consistent with the northern region of Connecticut – New York.

**New Jersey west of the COLREGS line at Cape May, NJ inside Delaware Bay will have a similar size limit to the southern region (DE-VA), the same possession limit as the southern region (DE-VA), and the same season length as the northern region of Connecticut – New York.

2016 REVIEW OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
FISHERY MANAGEMENT PLAN for the 2015 SCUP FISHERY
SCUP (*Stenotomus chrysops*)



Prepared by:

Kirby Rootes-Murdy, ASMFC

Scup Plan Review Team

Kirby Rootes-Murdy, Chair

Kiley Dancy, MAFMC

Julia Beaty, MAFMC

October 2016

2016 Review of the Atlantic States Marine Fisheries Commission
Fishery Management Plan for Scup for the 2015 Fishing Year

I. Status of the Fishery Management Plan

ASMFC management of scup was initiated as one component of a multi-species FMP addressing summer flounder, scup and black sea bass. The Commission approved the Fishery Management Plan for Scup in March 1996. Amendment 12 to the Summer Flounder, Scup, and Black Sea Bass FMP, which established revised overfishing definitions, identification and description of essential fish habitat, and defined the framework adjustment process, was approved by the Commission in October 1998.

The FMP included a seven-year plan for reducing fishing effort and restoring the stock. The primary concerns were excessive discarding of scup and near collapse of the stock. Management measures implemented in the first year of the plan (1996) included: dealer and vessel permitting and reporting, 9-inch commercial minimum size, 4-inch mesh restriction for vessels retaining over 4,000 pounds of scup, and a 7-inch recreational minimum size. The biological reference point to define overfishing when the plan was initially developed was F_{MAX} , or $F=0.25$. To allow flexibility in addressing unforeseen conditions in the fishery, the plan contained provisions that allow implementation of time and area closures. The plan also specified the option for changes in the recreational minimum size and bag limit, or implementation of a seasonal closure on an annual basis.

Addendum 1 to the Summer Flounder, Scup, and Black Sea Bass FMP explains the quota management procedure for management and distribution of the coastwide commercial quota that was approved in September 1996 and implemented as a coastwide Total Allowable Catch (TAC) in 1997. Addendum 1 also details the state-by-state quota system for the summer period (May through October) that was implemented in 1997. Each state receives a share of the summer quota based on historical commercial landings from 1983-1992.

In June 1997, the Commonwealth of Massachusetts filed a lawsuit against the Secretary of Commerce stating that the historical data used to determine the quota shares underestimated the commercial landings of scup. Massachusetts also stated that the resulting quota share discriminated against Commonwealth of Massachusetts residents. On April 27, 1998, the U.S. District Court voided the state-by-state quota allocations for the summer quota period in the federal fishery management plan, and ordered the Secretary of Commerce to promulgate a regulation that sets forth state-by state quotas in compliance with the National Standards. The court order does not technically affect the state-by-state quota allocations that are included in the ASMFC Addendum 1 to the Summer Flounder, Scup, and Black Sea Bass FMP. The Summer Flounder, Scup, and Black Sea Bass Management Board developed three Emergency Rules to address the quota management during the summer quota period during 1999, 2000 and 2001.

Amendment 12 to the Summer Flounder, Scup and Black Sea Bass FMP established a biomass threshold for scup based on the maximum value of the 3-year moving average of the NEFSC spring bottom trawl survey index of spawning stock biomass. The Amendment stipulated that

the scup stock was overfished when the spawning stock biomass index fell below this value. Amendment 12 also defined overfishing for scup to occur when the fishing mortality rate exceeded the threshold fishing mortality. Subsequent addenda modified the reference points.

In 2002, the Board developed Addendum V to the FMP in order to avoid the necessity of developing annual Emergency Rules for summer period quota management. Addendum V established state shares of the summer period quota based on historical commercial landings from 1983-1992, including additional landings from Massachusetts added to the NMFS database in 2000. State shares implemented by this addendum will remain in place until the Board takes direct action to change them.

Another significant change to scup management occurred with the approval of Addendum VII in February 2002. This document established a state specific management program for the 2002 recreational scup fishery based on the average landings (in number of fish) for 1998-2001. Only Massachusetts through New York (inclusive) were permitted to develop individual management programs. Due to the extremely limited data available, the Board developed specific management measures for the states of New Jersey, Delaware, Maryland, Virginia, and North Carolina. The addendum had no application after 2002.

Addendum IX established a state specific management program for the 2003 recreational scup fishery based on the average landings (in number of fish) for 1998-2001. Only Massachusetts through New York (inclusive) were permitted to develop individual management programs. Due to the extremely limited data available, the Board developed specific management measures for the states of New Jersey, Delaware, Maryland, Virginia, and North Carolina. The addendum had no application after 2003.

Addendum XIX, approved in August 2007, broadened the descriptions of stock status determination criteria contained within the Summer Flounder, Scup, and Black Sea Bass FMP to allow for greater flexibility in those definitions, while maintaining objective and measurable criteria for identifying when stocks are overfished. It establishes acceptable categories of peer-review for stock status determination criteria. When these specific peer-review metrics are met and new or updated information is available, the new or revised stock status determination criteria may be incorporated by the Commission directly into the annual management measures for each species.

Addendum XX sets policies to reconcile quotas overages to address minor inadvertent quota overages. It was approved in November 2009. It streamlines the quota transfers process and establishes clear policies and administrative protocols to guide the allocation of transfers from states with underages to states with overages. It also allows for quota transfers to reconcile quota overages after the year's end.

States with a declared interest in the Scup FMP are Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, and North Carolina. The Commission's Summer Flounder, Scup, and Black Sea Bass Management Board serves as the species management board, and the Demersal Species Committee guides plan development for the MAFMC. The Summer Flounder, Scup, and Black Sea Bass Technical Committee addresses

technical issues. Industry advice is solicited through the Scup and Black Sea Bass Advisory Panel, and annual review and monitoring is the responsibility of the Scup Plan Review Team.

II. Status of the Stock

The most recent benchmark stock assessment for scup took place in 2015. Based on information through 2014, the scup stock was not overfished or experiencing overfishing relative to the new reference points defined in 2015 SAW 60 assessment. The stock assessment model for scup changed in 2008 from a simple index-based model to a complex statistical catch at age model. The model now incorporates a broader range of fishery and survey data than was used previously.

Since 1984, recruitment (e.g., the number of fish entering the population) estimates are influenced mainly by the fishery and survey catches-at-age, and averaged 109 million fish during 1984-2014. The 1999, 2006, and 2007 year classes are estimated to be the largest of the time series, at 222, 222, and 218 million age 0 fish. Below average recruitment occurred in 2012 and 2013. The 2014 year class is estimated to be above average at 112 million age 0 fish.

The reference points are $F_{MSY} = F_{40\%} = 0.220$. $F_{40\%}$ is the rate of fishing that will result in 40% of the spawning potential of an unfished stock. The spawning stock biomass target is equal to $SSB_{40\%} = 87,302$ mt or 192.47 million pounds. The 2015 stock assessment indicates the 2014 F was 0.127 and SSB was 403 million pounds, therefore overfishing is not occurring and the stock is rebuilt.

III. Status of the Fishery

Commercial scup landings, which had declined by over 33% to 8.8 million pounds in 1988 from peak landings (approximately 49 million lbs) in 1960, increased to 15.6 million pounds in 1991, then steadily dropped to the lowest value in the time series, 2.7 million pounds in 2000. Since 2001, commercial landings have continued to increase nearly every year to about 15.03 million pounds in 2011. Since 2011 commercial landings have varied, ranging from 14.88 million lbs in 2012, to 17.87 million pounds in 2013. In 2015 commercial landings were 15.86 million lbs, about 75% of the commercial quota (Table 3). Since 1979 approximately 80% of the commercial landings have been landed in Rhode Island (38%), New Jersey (26%), and New York (16%). Otter trawl is the principal gear, accounting for 65%-90% of commercial landings since 1979.

The recreational fishery for scup is significant, with the greatest proportion of the catches taken in states of Massachusetts through New York. Since 1981, recreational harvest has averaged 32% of total landings (commercial and recreational). From 2005 to 2014, recreational harvest has ranged from 2.69 million lbs in 2005 to 5.11 million lbs in 2013. In 2015 recreational harvest was 4.61 million lbs, about 74% of the recreational harvest limit (Table 4).

IV. Status of Assessment Advice

The 2015 Benchmark Stock Assessment indicated that while the scup biomass is nearly 200% the biomass target, the trend moving forward is likely a decreased from a recent year's peak. As such, the Board and Council moved to decrease commercial quotas and recreational harvest limits from 2015 levels in 2016 and 2017 based on the biomass projections outlined in the stock assessment.

V. Status of Research and Monitoring

Commercial landings data are collected by the NMFS Vessel Trip Report system and by state reporting systems. The NEFSC sea sampling program collects commercial discard information. Biological samples (age, length) from the commercial fishery are collected through NEFSC weighout system and by the state of North Carolina. Recreational landings and discard information is obtained through the Marine Recreational Information Program. The Commonwealth of Massachusetts collected length frequency information for the recreational fishery in 2001 as part of a federally funded effort to monitor the recreational and commercial directed fisheries. One non-directed fishery assumed to have substantial scup bycatch was also monitored. This monitoring effort decreased substantially in 2002 as the study received funding for one year. Fishery independent abundance indices are available from surveys conducted by the NEFSC, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and the Virginia Institute of Marine Science.

VI. Management Measures and Developing Issues

Addendum 1 to the Scup FMP specifies the commercial quota management scheme. The annual coastwide quota is divided among three periods. The Winter I period is January through April, the summer period is May through October, and November and December make up Winter II. During the winter periods, the quota is coastwide and is limited by trip limits. The summer allocation is divided into state shares. When a winter period allocation is landed, the states and the NMFS must prohibit landings. When a state lands its summer allocation it is expected to close its fishery and the NMFS will close that state for landings by federally permitted vessels. The quota, as well as accompanying trip limits, will be set annually. [Note: The Federal FMP currently contains a coastwide commercial quota during the summer period due to the court decision described in Section I]. The Board has expressed interest in exploring alternative quota programs for scup. In December 2015 the Board recommended that the Technical Committee develop an analysis to support future considerations related to possibly changing the length of each of the three quota periods. This work is ongoing.

Scup FMP Compliance Criteria:

COMMERCIAL FISHERY for 2015

The following management measures may change annually.

Minimum size of possession: 9" Total Length

Minimum mesh and threshold: Otter trawls must have a minimum mesh size of 5" for the first 75 meshes from the terminus of the net and a minimum mesh size of 5" throughout the net for codends constructed with fewer than 75 meshes.

Threshold to Trigger Minimum Mesh Requirements: 500 pounds of scup from November 1 through April 30 and 200 pounds or more of scup from May 1 through October 31.**

Maximum roller rig trawl roller diameter: 18"

Pot and trap escape vents: 3.1" round, 2.25" square

Pot and trap degradable fastener provisions: a) untreated hemp, jute, or cotton string 3/16" (4.8 mm) or smaller; b) magnesium alloy timed float releases or fasteners; c) ungalvanized, uncoated iron wire of 0.094" (2.4mm) or smaller

Commercial quota: 21.23 million pounds (adjusted for overages and research set-asides)

ASMFC Summer Quota: 8,270,083 lbs (State by State Shares in Table 1)

Winter I and II landing limits: Winter I = 9,578,008 lbs, 1,000 lbs trip limits when the quota reaches 80%; Winter II = 5,468,728 lbs

**Starting in 2016, the threshold to trigger minimum mesh requirements will be increased from 500 pounds to 1,000 pounds

The following required measures are not subject to annual adjustment:

Vessel and dealer permitting requirements: States are required to implement a permit for fishermen fishing exclusively in state waters, and for dealers purchasing exclusively from such fishermen. In addition, states are expected to recognize federal permits in state waters, and are encouraged to establish a moratorium on entry into the fishery.

Vessel and dealer reporting requirements: States are required to implement reporting requirements for state permitted vessels and dealers and to report landings from state waters to the NMFS.

Scup pot or trap definition: A scup pot or trap will be defined by the state regulations that apply to the vessels principal port of landing.

Quota management requirements:

Winter I and II: States are required to implement landing limits as specified annually, States are required to notify state and federal permit holders of initial period landing limits, in-period adjustments, and closures. States are required to prohibit fishing for, and landing of, scup when a period quota has been landed, based on projections by NMFS. States must report landings from state waters to the NMFS for counting toward the quota

Summer: States are required to implement a plan of trip limits or other measures to manage their summer share of the scup quota. States are required to prohibit fishing for, and landing of, scup when their quota share is landed. States may transfer or combine quota shares. States must report all landings from state waters to the NMFS for counting toward the state shares.

RECREATIONAL FISHERY for 2015

Addendum IX (2003) established a state-specific management program for Massachusetts through New York (inclusive), and specific management measures for the states of New Jersey, Delaware, Maryland, Virginia, and North Carolina. The states have continued this approach since 2004 to present.

The following measures may change annually:2015 Recreational Measures

2015 Minimum size, possession limits and seasonal closure: Table 5

2015 Recreational Harvest Limit: 6.80 million pounds

2016 Minimum size, possession limits and seasonal closure: Table 6

OTHER MEASURES

Reporting: States are required to submit an annual compliance report to the Chair of the ASMFC Scup Plan Review Team by June 1 of each year. This report should detail the state's management program for the current year and establish proof of compliance with all mandatory management measures. It should include landings information from the previous year, and the results of any monitoring or research programs.

De minimis: States having commercial landings during the summer period that are less than 0.1% of the summer period quota are eligible for *de minimis* consideration. States desiring *de minimis* classification must make a formal request in writing through the Plan Review Team for review and consideration by the Scup Management Board.

This summary of compliance criteria is intended to serve as a quick reference guide. It in no way alters or supersedes compliance criteria as contained in the Scup FMP and any Amendments thereto.

Compliance Issues

The PRT found no compliance issues.

De Minimis

The state of Delaware request *de minimis* status. The PRT notes Delaware meets the *de minimis* requirements.

VII. State Compliance with Required Measures

Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, and North Carolina are required to comply with the provisions of the Scup FMP. All states implemented regulations in compliance with the requirements approved by the Board.

Scup FMP Compliance Schedule

Commercial Fishery

Management Measures	
ability to implement and enforce period landing limits	1/1/97
ability to notify permit holders of landing limits and closures 1/1/97	5/1/97
ability to close the summer fishery once the state share is harvested	5/1/97
ability to close the winter fisheries once the period quota is harvested	5/1/97
9" total length minimum size limit	6/30/96
Minimum mesh size of 5" diamond mesh throughout codend	1/1/05
Pot and trap escape vents (min 3.1" square/rectangular; each side at least 2.25" in length), degradable fasteners	6/30/96
Roller diameter restriction	6/30/96
Vessel permit and reporting requirements, state	1/1/97
Dealer permit and reporting requirements, state	1/1/97

Recreational Fishery

Management Measures	
Size limit	6/30/96
Possession limit	6/30/96

General

States submit annual monitoring and compliance report	6/1 annually
---	--------------

Annual Specifications

Commercial		
Winter I Landing Limits	11/1/05	1/1/15
Winter II Landing Limits	11/1/05	11/1/15

Recreational

Massachusetts– New York (inclusive)	
State specific minimum size, possession limit and season	3/15
New Jersey – North Carolina (inclusive)	
Federal coastwide minimum size, possession limit and season	12/14

Table 1. 2015. State by State Quota (Summer Period)

State	Share	2015 ASMFC Quota
ME	0.00121	10,007
MA	0.21585	1,785,122
RI	0.56189	4,646,910
CT	0.03154	260,814
NY	0.15823	1,308,592
NJ	0.02916	241,189
MD	0.00012	984
VA	0.00165	13,646
NC	0.00025	2,059
Total	0.99991	8,269,322

Table 2. Summary of scup management measures, 2005-2015.

Harvest Limits and measures	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
ABC (m lbs)								40.88	38.71	35.99	33.77
TAC (m lbs)	18.65	19.79	13.97	9.9	15.54	17.09	31.92				
Commercial ACL (m lbs)	-	-	-	-	-	-	-	31.89	30.19	28.07	26.35
Commercial quota-adjusted (m lbs) ^a	12.23	11.93	8.9	5.24	8.37	10.68	20.36	27.91	23.53	21.95	21.23
Commerical. landings	8.18	9.00	9.24	5.22	8.20	10.73	15.03	14.88	17.87	15.93	15.85
Recreational ABC (m lbs)	-	-	-	-	-	-	-	8.99	8.52	7.92	7.43
Recreational harvest limit-adjusted (m lbs) ^a	3.96	4.15	2.74	1.83	2.59	3.01	5.74	7.55	7.55	7.03	6.8
Recreational landings	2.69	3.72	4.56	3.79	3.23	5.97	3.67	4.17	5.11	4.12	4.61
Commercial fish size (in)	9	9	9	9	9	9	9	9	9	9	9
Min. mesh size (in, diamond)	5	5	5	5	5	5	5	5	5	5	5
Mesh threshold	500/ 200	500/ 200	500/ 200	500/ 200	500/ 200	500/ 200	500/ 200	500/ 200	500/ 200	500/ 200	500/ 200

^A 2005-2014 commercial quotas and recreational harvest limits were adjusted for the Research Set Aside (RSA) program. The RSA program was suspended for 2015.

Table 3. Scup commercial landings by state 2005-2015 in pounds.

Source: ACCSP. 2014-2015. Commercial Landings Summaries (Dealer Reports)- Confidential; generated by K. Rootes-Murdy; using ACCSP Data Warehouse, Arlington, VA. & State Compliance Reports (October 2016)

State	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015**
MA	1,134,759	1,088,148	1,104,316	527,325	718,751	1,030,688	1,243,810	2,005,268	1,094,975	1,185,816	1,187,763
RI	3,423,611	3,671,250	3,892,671	2,133,001	1,785,994	4,298,595	6,335,391	6,309,321	4,689,540	6,932,462	6,948,847
CT	327,861	297,912	255,884	283,101	203,607	323,757	644,030	905,060	1,194,949	811,106	811,106
NY	2,185,836	2,305,161	2,280,112	1,203,661	1,845,908	2,689,443	3,542,538	4,306,621	4,407,231	3,190,433	3,174,868
NJ	1,914,358	1,392,868	1,575,144	773,829	1,528,545	1,550,249	1,966,479	978,531	2,033,083	1,925,591	2,351,643
DE	0	0	3	0	0	0	9	1	4	4	8
MD	927				9,000	27,183	54,229	8,263		230,104	530,761
VA	287,891	80,292	22,579	95,939	211,576	371,376	620,480	339,868	913,113	660,324	694,281
NC	351,609	139,420	66,856	205,703	244,337	102,745	308,907	4,098	28,394	159,930	160,508
Total	9,627,665	9,065,404	9,259,713	5,222,559	6,547,718	10,394,036	14,715,873	14,857,031	14,361,289	15,095,770	15,859,785

**2015 Landings are still preliminary

Table 4. Scup recreational landings, 2005-2015, by state in weight.

Source: "Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division. October 2016"

State	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
MA	203,201	218,996	75,860	150,031	874,952	1,023,248	836,156	1,795,634	1,850,909	1,634,104	1,286,537
RI	430,747	470,286	353,450	632,839	139,576	398,178	567,697	497,505	816,837	975,812	591,693
CT	213,131	107,479	108,528	115,821	359,845	1,346,631	1,194,680	921,010	2,126,257	561,182	497,495
NY	859,156	1,677,998	1,596,391	1,450,861	1,460,314	1,990,339	714,789	592,238	978,444	1,132,448	2,211,709
NJ	70,952	241,567	86,073	72,697	141,861	610,660	42,223	113,332	100,419	45,847	29,501
DE	3,870	319	2,365	1,338	821	0	40	86	0	35	589
MD	85,192	58,386	157,360	89,729	36	11	7	0	0	0	204
VA	8,507	0	586	3,920	527	5,284	10,413	1,425	1,238	0	1,846
NC	0	0	0	0	0	0	27	148	0	769	87
Total	1,874,756	2,775,031	2,380,613	2,517,236	2,977,932	5,374,351	3,366,032	3,921,378	5,874,104	4,350,197	4,619,661

Table 5. 2015 State Scup Recreational Measures

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts For Hire	10	45 fish from May 1- June 30; 30 fish from July 1- Dec 31	May 1- December 31
Private Angler	10	30 fish; private vessels with 6 or more persons aboard are prohibited from possessing more than 150 scup per day	May 1- December 31
Rhode Island For Hire	10	30 fish from May 1-Aug 31 and Nov 1-Dec 31; 45 fish from Sept 1-Oct 31	May 1- December 31
Private Angler	10"; and 9" or greater for shore mode at 3 designated sites	30 fish	May 1- December 31
Connecticut For Hire	10	30 fish from May 1-Aug 31 and Nov 1-Dec 31; 45 fish from Sept 1-Oct 31	May 1- December 31
Private Angler	10; and 9" for shore mode at 46 designated sites	30 fish	May 1- December 31
New York For Hire	10	30 fish from May 1-Aug 31 and Nov 1-Dec 31; 45 fish from Sept 1-Oct 31	May 1- December 31
Private Angler	10	30 fish	May 1- December 31
New Jersey	9	50 fish	Jan 1-Feb 28 and July 1 – December 31
Delaware	8	50 fish	All Year
Maryland	8	50 fish	All Year
Virginia	8	30 fish	All Year
North Carolina	8	50 fish	All Year

Table 6. 2016 State Scup Recreational Measures

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts For Hire	10	45 fish from May 1- June 30; 30 fish from July 1- Dec 31	May 1- December 31
Private Angler	10	30 fish; private vessels with 6 or more persons aboard are prohibited from possessing more than 150 scup per day	May 1- December 31
Rhode Island For Hire	10	30 fish from May 1-Aug 31 and Nov 1-Dec 31; 45 fish from Sept 1-Oct 31	May 1- December 31
Private Angler	10"; and 9" or greater for shore mode at 3 designated sites	30 fish	May 1- December 31
Connecticut For Hire	10	30 fish from May 1-Aug 31 and Nov 1-Dec 31; 45 fish from Sept 1-Oct 31	May 1- December 31
Private Angler	10; and 9" for shore mode at 46 designated sites	30 fish	May 1- December 31
New York For Hire	10	30 fish from May 1-Aug 31 and Nov 1-Dec 31; 45 fish from Sept 1-Oct 31	May 1- December 31
Private Angler	10	30 fish	May 1- December 31
New Jersey	9	50 fish	Jan 1-Feb 28 and July 1 – December 31
Delaware	8	50 fish	All Year
Maryland	8	50 fish	All Year
Virginia	8	30 fish	All Year
North Carolina	8	50 fish	All Year

Table 7. Scup Landings by period.

Year	Period	Commercial Quota	Trip Limits	Landings (lbs)	Date Closed	% of Quota Landed
2005	Winter I	5,518,367	15,000/1,000	3,684,768	--	66.8
	Summer	4,764,806	--	4,001,662	--	89.5
	Winter II	1,987,718	1,500	1,380,444	--	74.6
2006	Winter I	3,554,991	30,000/1,000	3,626,237	--	102
	Summer	4,647,569	--	3,219,929	--	69.3
	Winter II	3,729,581	2,000/1,000	2,115,323	--	56.7
2007	Winter I	4,012,895	30,000/1,000	3,400,934	--	84.8
	Summer	3,464,914	--	4,254,987	21-Sep	122.8
	Winter II	1,417,991	2,000/1,000	1,590,747	--	112.2
2008	Winter I	2,291,699	30,000/1,000	2,356,716	--	102.8
	Summer	1,437,558	--	1,935,074	16-Jul	134.6
	Winter II	940,948	2,000/1,000	892,318	--	94.8
2009	Winter I	3,777,443	30,000/1,000	3,774,583	--	99.9
	Summer	2,930,733	--	3,072,340	--	104.8
	Winter II	1,334,791	2,000/1,000	1,356,961	--	101.7
2010	Winter I	4,964,716	30,000/1,000	4,740,681	--	95.4
	Summer	4,286,759	--	4,175,206	--	97.4
	Winter II	1,754,325	2,000/1,000	1,482,669	--	84.5
2011	Winter I	6,897,648	30,000/1,000	5,648,867	--	81.9
	Summer	7,930,504	--	6,349,749	--	80.1
	Winter II	3,245,500	2,000/1,000	2,556,214	--	78.8
2012	Winter I	12,589,558	50,000/1,000	5,190,370	--	41.2
	Summer	10,870,390	--	6,326,576	--	58.2
	Winter II	11,635,321	8,000	2,484,470	--	21.4
2013	Winter I	10,613,157	50,000/1,000	7,431,296	--	70.0
	Summer	9,163,877	--	7,684,995	--	83.9
	Winter II	6,932,998	8,000	2,324,250	--	33.5
2014	Winter I	9,900,000	50,000/1,000	5,833,858	--	58.9
	Summer	8,548,364	--	7,146,612	--	83.6
	Winter II	7,232,471	12,000	2,318,732	--	32.1
2015	Winter I	9,578,008	50,000/1,000	6,681,081	--	69.8
	Summer	8,269,322	--	7,703,455	--	93.1
	Winter II	5,468,726	12,000	1,904,529	--	34.8

2016 REVIEW OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
FISHERY MANAGEMENT PLAN FOR the 2015 BLACK SEA BASS FISHERY
Black Sea Bass (*Centropristis striata*)



Prepared by:

Kirby Rootes-Murdy (ASMFC)

Black Sea Bass Plan Review Team

Kirby Rootes-Murdy, Chair

Kiley Dancy, MAFMC

John Maniscalco, NYSDEC

October 2016

2016 Review of the Atlantic States Marine Fisheries Commission Fishery Management Plan for Black Sea Bass

I. Status of the Fishery Management Plan

ASMFC management of black sea bass was initiated as one component of a multi-species fishery management plan (FMP) addressing summer flounder, scup, and black sea bass. In 1990, summer flounder was singled out for immediate action under a joint ASMFC and Mid-Atlantic Fishery Management Council (MAFMC or Council) plan. Further action on the scup and black sea bass plan was delayed until 1992 to expedite the summer flounder FMP and subsequent amendments. The joint Black Sea Bass FMP was completed and approved in 1996. The MAFMC approved regulations for black sea bass as Amendment 9 to the Summer Flounder FMP in May 1996.

The management unit of the Black Sea Bass FMP includes all black sea bass in U.S. waters in the western Atlantic Ocean from Cape Hatteras, North Carolina north to the Canadian border. Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, and North Carolina have declared an interest in black sea bass. The Commission's Summer Flounder, Scup, and Black Sea Bass Management Board and the MAFMC Demersal Species Committee guide development of the FMP. Technical issues are addressed through the Summer Flounder, Scup, and Black Sea Bass Technical Committee and the Black Sea Bass Monitoring Committee. The Black Sea Bass Plan Review Team conducts annual reviews and monitors compliance and the Scup and Black Sea Bass Advisory Panel provide industry input and advice.

The objectives of the FMP are to reduce fishing mortality to assure overfishing does not occur, reduce fishing mortality on immature black sea bass to increase spawning stock biomass, improve yield from the fishery, promote compatible regulations among states and between federal and state jurisdictions, promote uniform and effective enforcement, and to minimize regulations necessary to achieve the stated objectives. The initial black sea bass FMP was designated to reduce fishing mortality by a coastwide commercial quota allocated by state, and a recreational harvest limit constrained through the use of minimum size, possession limit, and seasonal closures.

Amendment 12 to the Summer Flounder, Scup, and Black Sea Bass FMP was approved by the Commission in October 1998 and established revised overfishing definitions, identification and description of essential fish habitat, and defined the framework adjustment process.

Addendum IV, approved on January 29, 2001, provides that upon the recommendation of the relevant monitoring committee and joint consideration with the Council, the Board will decide the state regulations rather than forward a recommendation to NMFS. Addendum IV also made the states responsible for implementing the Board's decisions on regulations.

Starting in 1998, the fishery was subject to lengthy closures and had some significant quota overages in the commercial sector. Fishery closures occurring as a result of exceeded quotas resulted in increased discards of legal sized black sea bass in mixed fisheries for the remainder of the closed period. A significant financial hardship for the fishing industry resulted from a decrease in market demand caused by a fluctuating supply. To address these issues, the Management Board enacted a series of Emergency Rules in 2001 that established initial possession limits, triggers, and adjusted possession limits. These measures helped reduce the length of fishery closures, but the rapidly changing regulations confused fishermen and added significant administrative burden to the states. To simplify the process for all parties, the Board approved Addendum VI to provide a mechanism for initial possession limits, triggers, and adjusted possession limits to be set during the annual specification setting process without the need for further Emergency Rules.

Amendment 13, approved by ASMFC in May 2002, implemented a federal, coastwide annual commercial quota that is managed by ASMFC using a state-by-state allocation system. The Amendment was implemented in 2003 and 2004. State-specific commercial shares are listed in Table 1.

Amendment 13 also removed the necessity for fishermen who have both a Northeast Region (NER) Black Sea Bass permit and a Southeast Region (SER) Snapper Grouper (S/G) permit to relinquish their permits for a six-month period prior to fishing south of Cape Hatteras during a northern closure.

Addendum XII, approved in 2004, continued the use of a state-by-state allocation system, managed by the ASMFC on an annual coastwide commercial quota.

Addendum XIII approved in 2004, modified the FMP so that Total Allowable Landings (TALs) for the summer flounder, scup, and/or black sea bass can be specified for up to three years.

Addendum XIX continued the state-by-state black sea bass commercial management measures, without a sunset clause. This addendum also broadened the descriptions of stock status determination criteria contained within the Summer Flounder, Scup, and Black Sea Bass FMP to allow for greater flexibility in those definitions, while maintaining objective and measurable status determination criteria for identifying when stocks or stock complexes covered by the FMP are overfished. It establishes acceptable categories of peer-review for stock status determination criteria. When these specific peer-review metrics are met and new or updated information is available, the new or revised stock status determination criteria may be incorporated by the Commission directly into the annual management measures for each species, rather than requiring a modification to the FMP.

Addendum XX, approved in November 2009, set policies to reconcile commercial quota overages to address minor inadvertent quota overages. It streamlined the quota transfers process and established clear policies and administrative protocols to guide the allocation of

transfers from states with underages to states with overages. It also allowed for commercial quota transfers to reconcile quota overages after year's end.

Addendum XXV continued the use of ad-hoc regional recreational management measure options to alleviate the differences between state by state measures among the states along the coast. It was approved in February 2014 and was in place for 2014 and 2015. The addendum allowed northern states (MA-NJ) to adjust management measures annually to best meet the needs of their state while constraining harvest to the overall coastwide recreational harvest limit (RHL). In years of overages, the northern states- which harvest the largest percentage- adjust their management measures to account for harvest reductions in subsequent years. The southern states have also had their management measures adjusted in recent year.

II. Status of the Stock

The assessment model for black sea bass changed in 2008 from a simple index-based model to a complex statistical catch at length model incorporating a broad range of fishery and survey data. The fishery catch is modeled as a single fleet with indices of stock abundance from Northeast Fisheries Science Center (NEFSC) winter, spring, and autumn surveys. A model averaging approach was adopted using the average of results from ten candidate models.

Black sea bass (i.e. black sea bass north of Cape Hatteras, North Carolina) was designated as overfished in 2000, and was under a stock rebuilding strategy from 2000-2009. In 2009, that the stock was declared rebuilt after the 2008 stock assessment indicated that the stock was not overfished and overfishing was not occurring in 2007.

The last stock assessment update for black sea bass was completed in July 2012. The biological reference points were updated as part of this update, as the result of several changes made to the information incorporated into the model. The fishing mortality threshold for black sea bass is $F_{MSY} = F_{40\%}$ (as F_{MSY} proxy) = 0.44, and SSB_{MSY} is 24.00 million lb (10,880 mt). The minimum stock size threshold, one-half SSB_{MSY} is estimated to be 12.00 million lb (5,440 mt). The 2012 update indicated that the black sea bass stock was not overfished and overfishing was not occurring in 2011, relative to the biological reference points. Fishing mortality (F_{MULT}) in 2011 was estimated at $F=0.21$, below the fishing mortality threshold of $F=0.44$. Total stock biomass in 2011 was estimated at 28.0 million lb (12,700 mt), above B_{MSY} . Spawning stock biomass (SSB) in 2011 was estimated at 24.57 million lb (11,145 mt), and was at 102% of SSB_{MSY} .

In the absence of a peer-review stock assessment in recent years, the Mid-Atlantic Council's Science and Statistical Committee has not found the Biological Reference Points from any recent assessment suitable for management and have utilized methods such as Constant Catch and an analysis based upon the Data Limited Toolkit to set catch limits. The next benchmark stock assessment is currently in development and is scheduled for peer review in late 2016.

III. Status of the Fishery

The commercial fishery is allocated 49% of the total allowable landings (TAL) for black sea bass. The principle gears used in the fishery are pots, otter trawls and handline. After peaking at 21.8 million pounds in 1952, commercial landings markedly decreased in the '60s and have since ranged from 1.17 to 3.6 million pounds since 1981. In 1998 a commercial quota system was incorporated into management and state-by-state shares were introduced in 2003. From 2005-2014 commercial landings have remained stable, with a range from 2.87 million lbs in 2005 to 1.17 million lb in 2009 (Table 2 and 3). In 2014, commercial landings exceeded the coastwide commercial quota by approximately 8,896 lbs. In 2015 commercial landings were approximately 2.35 million lb, exceeding the coastwide quota of 2.17 million lbs by approximately 6% (Tables 2 and 3). Once final landings are available the reduction to the 2017 quota will be applied. Commercial discards are generally less than 441,000 pounds per year.

The recreational fishery is allocated 51% of the TAL for black sea bass. After peaking in 1985 at 12.35 million pounds, recreational harvest averaged 3.75 million pounds annually from 1988 to 1997. Recreational harvest limits were put in place in 1998 and harvest ranged from 1.1 to 3.88 million pounds from 1998 to 2014 (Table 4). From 2012-2014, the recreational harvest limit has been exceeded annually- by 142%, 9%, and 59%, respectively. In 2015 the recreational harvest was 3.88 million pounds (inclusive of south of Cape Hatteras), exceeding the harvest limit by 67%. Recreational discards are significantly higher than commercial, ranging from 3 to 10 million fish per year(1.2 million to 12.4 million lb, respectively) .

IV. Status of Research and Monitoring

Commercial landings information is collected by the Vessel Trip Reporting system and dealer reports. States are also required to collect and report landings data. Sea sampling data from the NEFSC sea sampling program are used to estimate discards. The NEFSC weigh-out program provides commercial age and length information. Recreational landings and discards were estimated through the Marine Recreational Fisheries Statistics Survey (MRFSS) until 2008, with the Marine Recreational Information Program (MRIP) replacing it for all data collected from 2008 to present.

Fishery-independent surveys are conducted in Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Maryland, Virginia, and North Carolina. The Virginia Game Fish Tagging Program has targeted black sea bass since 1997. Data from the tagging program will be used to develop an analytical, age-based model. Recruitment and stock abundance data are provided by the NEFSC spring, autumn, and winter trawl surveys.

V. Status of Assessment Advice

The next benchmark stock assessment is scheduled for 2016.

VI. Status of Management Measures and Developing Issues

In December 2015, the Board and Council initiated the development of an Amendment to the Black Sea Bass FMP. There has been no work completed on this to date.

VII. Black Sea Bass Compliance Criteria

2015 Commercial Fishery Requirements

Minimum size of possession: 11"

Minimum mesh: larger nets are required to possess a minimum of 75 meshes of 4.5" diamond mesh in the codend or the entire net must have a minimum mesh size of 4.5" throughout; smaller nets must have 4.5" mesh or larger throughout

Mesh Threshold: 500 lbs for January-March and 100 lbs for April-December

Maximum roller rig trawl roller diameter: 18"

Pot and trap escape vents: 2 ½" for circular, 2" for square, and 1-3/8 x 5-3/4" for rectangular. Must be 2 vents in the parlor portion of the trap

Pot and trap degradable fastener provisions: a) untreated hemp, jute, or cotton string 3/16" (4.8 mm) or smaller; b) magnesium alloy timed float releases or fasteners; c) ungalvanized, uncoated iron wire of 0.094" (2.4mm) or smaller. The opening covered by a panel affixed with degradable fasteners would be required to be at least 3" x 6".

Commercial quota: 2.21million pounds

Pot and trap definition: A black sea bass pot or trap is defined as any pot or trap used by a fisherman to catch and retain black sea bass.

2015 Recreational Fishery Requirements

See Table 6.

Recreational harvest limit: 2.33 million pounds

Other Measures

Reporting: States are required to submit an annual compliance report to the Chair of the Black Sea Bass Plan Review Team by June 1st. The report must detail the state's management program for the current year and establish proof of compliance with all mandatory management measures. It should include landings information from the previous year, and the results of any monitoring or research programs.

This summary of compliance criteria is intended to serve as a quick reference guide. It in no way alters or supersedes compliance criteria as contained in the Black Sea Bass FMP and any Amendments thereto. Also please note that the management measures may change annually.

VII. Compliance

States and jurisdictions required to comply with the provisions of the Black Sea Bass FMP are: Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Potomac River Fisheries Commission, Virginia, and North Carolina. All states implemented regulations in compliance with the requirements approved by the Board.

All states appear in compliance with the FMP provisions for fishing year 2015.

Black Sea Bass FMP Compliance Schedule

Commercial	
11" Size Limit	1/1/02
4.5" diamond minimum mesh throughout codend and threshold provisions	1/1/02
Pot and trap escape vents and degradable fasteners	1/1/97
Roller diameter restriction	1/1/97
States must report to NMFS all landings from state waters	1/1/98

Recreational

Size Limit	1/1/97
Harvest Limit	1/1/98
Ability to implement possession limits and seasonal closures	1/1/98

General

Annual compliance report

Annually, 7/1

Table 1. State by state allocation for annual quota.

State	% Allocation
Maine	0.50%
New Hampshire	0.50%
Massachusetts	13%
Rhode Island	11%
Connecticut	1%
New York	7%
New Jersey	20%
Delaware	5%
Maryland	11%
Virginia	20%
North Carolina	11%

Table 2. Black Sea Bass Commercial Landings by State (2005-2015) in pounds.

Source: State Compliance Reports (October 2016) & ACCSP. 2014-2015. Commercial Landings Summaries (Dealer Reports)- Confidential; generated by K.Rootes-Murdy; using ACCSP Data Warehouse, Arlington, VA.

State	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015**
ME												
MA	382,389	510,162	596,480	442,136	316,722	148,470	260,181	287,666	248,463	329,223	277,276	347,964
RI	435,733	293,976	273,161	356,542	226,925	128,053	241,892	185,709	187,806	237,951	245,268	238,522
CT	24,867	17,522	10,445	10,123	15,554	17,854	21,422	20,485	17,677	22,735	27,036	24,699
NY	240,517	244,074	295,078	265,940	201,222	123,287	200,463	177,997	153,347	180,947	188,436	150,479
NJ	697,085	543,733	494,352	480,112	424,667	204,213	305,294	293,609	310,427	494,075	486,073	471,008
DE	83,728	72,931	87,381	63,431	60,700	50,259	76,913	82,436	82,351	104,937	102,279	111,508
MD	283,605	336,662	350,385	170,909	159,453	125,643	203,088	182,711	140,861	219,321	235,689	349,271
VA	393,269	443,644	305,871	189,875	211,500	164,524	263,563	274,446	391,384	493,153	410,162	421,150
NC*	881,261	690,043	777,659	472,931	484,507	614,734	400,879	272,189	61,187	88,242	210,989	241,538
Coastwide	3,422,790	3,152,747	3,190,812	2,451,999	2,101,250	1,577,037	1,973,695	1,777,248	1,593,503	2,170,584	2,183,208	2,356,139

* Landings are from both north and south of Hatteras from 2004-2011

**2015 Landings are still preliminary

Table 3. 2014 Landings and 2015 Black Sea Bass Commercial State by State Quotas (pounds)

State	% Allocation	Final 2014 Landings	2015 ASMFC Initial Quota
Maine	0.005	0	11,065
New Hampshire	0.005	0	11,065
Massachusetts	0.13	277,276	287,680
Rhode Island	0.11	245,268	243,422
Connecticut	0.01	27,036	22,129
New York	0.07	188,436	154,905
New Jersey	0.2	486,073	442,585
Delaware	0.05	102,279	110,646
Maryland	0.11	235,689	243,422
Virginia	0.2	410,162	442,585
North Carolina	0.11	210,989	243,422
Coastwide Total	100%	2,183,208	2,212,923
2014 Coastwide Quota		2,174,312	
Overage		8,896	

Table 5. Black Sea Bass Recreational Landings by State (2005-2015) in pounds.

Source: "Personal Communication with National Marine Fisheries Division October 2016"

State	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
NH								4,587	19,227		
MA	365,186	149,993	153,869	365,108	626,082	999,914	318,379	1,049,251	660,797	1,087,847	718,101
RI	164,960	67,076	59,566	82,072	50,290	238,039	85,912	226,130	144,722	370,531	444,337
CT	119	4,684	41,941	99,848	1,025	23,029	13,758	261,163	262,392	586,113	495,675
NY	230,832	455,213	563,199	528,613	844,746	965,767	399,030	542,688	734,729	847,181	1,531,493
NJ	80,214	140,931	136,564	26,378	36,190	28,357	46,609	993,093	515,176	631,457	428,319
DE	904,999	690,651	1,086,652	827,511	763,593	779,105	181,695	49,967	44,365	30,962	26,893
MD	93,475	136,064	49,002	32,603	40,681	41,386	51,714	42,173	39,170	87,086	78,052
VA	49,312	105,134	64,954	51,974	112,339	28,987	26,753	2,599	33,660	24,433	63,694
NC*	229,893	151,075	196,134	90,977	145,208	138,961	95,004	7,082	17,970	132,351	100,146
Coastwide	2,118,990	1,900,821	2,351,881	2,105,084	2,620,154	3,243,545	1,218,854	3,178,733	2,338,461	3,797,961	3,886,710

* Landings are from both north and south of Hatteras

Table 6. 2015 recreational management measures for black sea bass by state.

State	Minimum Size (inches)	Possession Limit	Open Season
Maine	13	10 fish	May 19-September 21; October 18-December 31
New Hampshire	13	10 fish	January 1-December 31
Massachusetts	14	8 fish	May 23-August 27
Rhode Island	14	1 fish	July 2- August 31
		7 fish	September 1-December 31
Connecticut (Private & Shore)	14	3 fish	June 1-August 31
		5 fish	September 1-December 31
Connecticut (Authorized party/charter monitoring program vessels)	14	8 fish	June 21-December 31
New York	14	8 fish	July 15-October 31
		10 fish	November 1- December 31
New Jersey	12.5	2 fish	July 1-July 31
		15 fish	May 27-June 30; October 22-December 31
Delaware	12.5	15 fish	May 15-September 21; October 22-December 31
Maryland	12.5	15 fish	May 15-September 21; October 22-December 31
Virginia	12.5	15 fish	May 15-September 21; October 22-December 31
North Carolina, North of Cape Hatteras (N of 35° 15'N)	12.5	15 fish	May 15-September 21; October 22-December 31

Table 6. 2016 recreational management measures for black sea bass by state

State	Minimum Size (inches)	Possession Limit	Open Season
Maine	13	10 fish	May 19-September 21; October 18- December 31
New Hampshire	13	10 fish	January 1-December 31
Massachusetts	15	5 fish	May 21-August 31
Rhode Island	15	3 fish	June 24- August 31
		7 fish	September 1-December 31
Connecticut (Private & Shore)	15	5 fish	May 1-December 31
CT (Authorized party/charter monitoring program vessels)		8 fish	
New York	15	3 fish	June 27-August 31
		8 fish	September 1-October 31
		10 fish	November 1-December 31
New Jersey	12.5	10 fish	May 23-June 19
		2 fish	July 1-August 31
	13	15 fish	October 22-December 31
Delaware	12.5	15 fish	May 15-September 21; October 22-December 31
Maryland	12.5	15 fish	May 15-September 21; October 22-December 31
Virginia	12.5	15 fish	May 15-September 21; October 22-December 31
North Carolina, North of Cape Hatteras (N of 35° 15'N)	12.5	15 fish	May 15-September 21; October 22-December 31