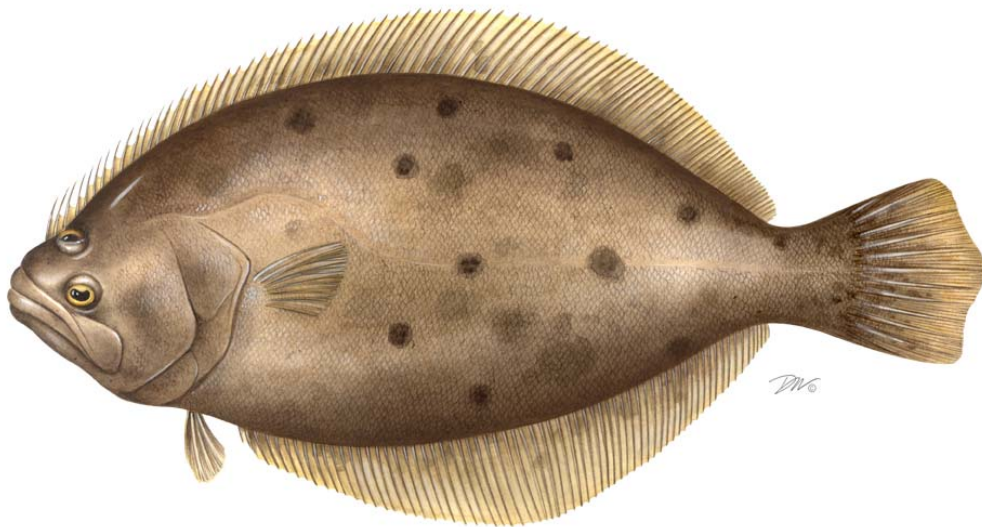


2015 REVIEW OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
FISHERY MANAGEMENT PLAN FOR THE 2014 SUMMER FLOUNDER
FISHERY
SUMMER FLOUNDER
(Paralichthys dentatus)



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2014 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.

Amendment 2 (approved in August 1992) provided a strategy for reducing fishing mortality to F_{max} , balanced against reasonable impacts on the fishermen. 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 with an exemption program. Recreational fishery measures include size limits, possession limits, and seasonal closures.

The management system established under Amendment 2 has been modified by the following amendments. 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 mesh between the wings and the codend 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 filet 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 addition 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 seeks to stabilize fishing rules as close to those that existed in 2005, in part, to minimize the drastic reductions facing three states. The addendum allows 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 choose to maintain their 2005 recreational fishing rules in 2006.

Addendum XIX, approved in August 2007, broadens 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.

The Board approved Addendum XXV in February of 2014. The addendum seeks 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 initiated through Addendum XXVI and will be voted on at the ASMFC Winter Meeting in February 2015, with the approved measures to take effect in 2015.

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.

II. Status of the Stock

The most recent peer review of the summer flounder assessment was the June 2015 Stock Assessment Update.

Relative to the new (updated) reference points the stock is not overfished and but overfishing is occurring. 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 .359 in 2014, 16% above the SAW 57 F threshold (F Threshold = $F_{MSY} = F_{35\%} = 0.309$).

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. In 2014, SSB was estimated to be 88.91 million lbs, 65% of the 2013 SAW 57 SSB_{MSY} proxy = $SSB_{35\%} = 137.6$ million lbs.

Average recruitment from 1982 to 2014 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 2014 year class is estimated to be average at 41 million fish, and improvement from the previous four years of below average year classes (36,20, 23, and 27 million fish respectively).

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. Over the last three years landings have exceeded the commercial coastwide quota. 2014 commercial landings declined to 10.9 million pounds, exceeding the commercial quota by 0.4 million lbs. 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; in 2014 coastwide harvest exceeded the recreational harvest limit by 5% at 7.39 million lbs. Recreational losses have recently accounted for 15 to 20% of the total catch.

IV. Status of Assessment Advice

The 2015 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 has not been achieved. These results appear to be largely driven by poor recruitment. The update shows a consistent recent retrospective pattern in recruitment, as 5 of the last 7 year classes have been initially overestimated by a range of 22% to 49%. The update shows that recruitment of age 0 fish was below average for each of the four year classes from 2010 to 2013. A historical retrospective analysis, comparing model estimates from the 1990-2015 assessments, also indicates a recent trend of underestimation of F and overestimation of SSB since the 2011 assessment update.

Landings that correspond to fishing at or near the threshold F rate ($F_{MSY}=F_{35\%}=0.309$) may result in overfishing if the previous retrospective pattern of underestimation of F occurs in the future.

Biological Reference Points (updated by the 2015 Stock Assessment Update)

- F Threshold= $F_{MSY}=F_{35\%} = 0.309$
- Current (2014) $F=0.359$ overfishing is occurring
- Spawning Stock Biomass (SSB) threshold = 68.8 million lbs
- SSB target = 137.6 million lbs
- Current SSB (2014) = 88.9 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 anglers on open boats on Great South Bay to collect data on age and size composition from which mortality rates are calculated. 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 2014 measures are indicated.

Minimum size: 14"

Minimum mesh and threshold: 5.5 diamond, 6" square

Regulation of mesh beyond the codend: 5.5" throughout the mesh

2013 Commercial quota: 12,11 million pounds, 11.49 million lbs after adjustment for the research set a-sides.

In 1998 the Summer Flounder, Scup, and Black Sea Bass Management Board recommended that 15% of each state allocation must be set aside to mitigate discards after closure of the directed summer flounder commercial fishery. To be eligible to land this 15%, the state must adopt appropriate trip limits sufficiently restrictive to allow bycatch landings for the entire year without exceeding the state quota. Additionally, either the state or the fishermen must participate in collection of additional discard data.

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 2014 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.

2014 recreational harvest limit: 7.01 million lbs. after adjustment for the research set a-sides.

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

1997 - 2014 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" 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

RECREATIONAL

Regional Management Measures under conservation equivalency 2/2014
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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 (2004-2014) in pounds.

Source: National Marine Fisheries service Commercial Landings Data & State Compliance Reports (2014)

State	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
MA	1,192,602	1,274,429	920,549	659,784	644,404	731,174	851,889	1,132,192	891,495	859,150	694,777
RI	3,084,560	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
CT	406,038	448,594	316,533	205,115	220,510	256,768	308,341	401,377	298,849	280,652	253,442
NY	1,798,830	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
NJ	1,587,972	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
DE	7,565	5,427	4,376	2,261	1,213	2,952	1,858	836	677	913	1,687
MD	262,492	337,652	247,743	228,809	208,219	213,564	263,302	259,392	139,824	165,134	218,350
VA	3,906,048	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
NC	4,844,136	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
Total	17,927,681	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	10,839,073

Table 2. Recreational Landings by State (2004-2014) in numbers of fish.

Source: "Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division July 17, 2015"

State	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
ME	0	0	0	0	0	0	0	0	0	0	0
NH	0	0	717	0	562	0	0	0	84	0	0
MA	224,729	267,081	238,970	138,071	232,285	50,382	45,156	58,372	75,803	31,228	112,840
RI	248,988	164,909	264,142	175,778	203,745	71,739	118,455	161,125	103,102	127,713	184,668
CT	216,154	156,724	137,521	112,227	145,661	44,944	35,028	47,071	62,501	269,650	119,502
NY	1,024,670	1,163,329	752,388	865,957	608,925	298,634	334,491	376,198	509,123	518,016	509,131
NJ	1,616,811	1,300,223	1,556,151	1,067,404	761,843	824,887	552,401	736,848	1,130,407	1,244,432	1,175,383
DE	111,362	72,696	88,149	108,264	35,227	87,232	53,512	66,820	45,474	58,279	93,029
MD	42,261	117,021	37,471	103,849	57,895	64,647	25,215	15,347	22,617	53,180	79,513
VA	674,552	684,272	762,597	397,041	260,221	289,075	260,050	317,674	259,973	186,916	139,431
NC	156,967	101,212	112,176	138,989	43,510	74,641	77,157	60,422	63,135	44,941	45,708
Total	4,316,494	4,027,467	3,950,282	3,107,580	2,349,874	1,806,181	1,501,465	1,839,877	2,272,219	2,534,355	2,459,205

Table 3. 2014 recreational management measures for summer flounder by state.

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts	16	5 fish	May 22-September 30
Rhode Island	18	8 fish	May 1-December 31
Connecticut*	18	5 fish	May 17-September 21
*At 42 designated shore sites	16		
New York	18	5 fish	May 17-September 21
New Jersey*	18	5 fish	May 23-September 27
*NJ Pilot shore program 1 site	16	2 fish	May 23-September 27
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 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