AUGUST 2014 MEETING AGENDA

August 11-14, 2014
W Washington DC,
515 15th St., NW, Washington, DC 20004
Telephone 202-661-2400

Monday, August 11th

2:00 p.m.	**Council Convenes**
2:00 p.m. - 2:15 p.m.	**Swearing in of New / Reappointed Council Members and Election of Council Officers**
2:15 p.m. - 5:00 p.m.	**Deep Sea Coral Amendment** – Review alternatives and Fishery Management Action Team recommendations – Approve Public Hearing Document
5:00 p.m. - 6:00 p.m.	**Listening Session - Fishery Data Modernization Plan** *Dan Morris*

Tuesday, August 12th

9:00 a.m.	**Council Convenes**
9:00 a.m. - 11:00 a.m.	**Black Sea Bass Wave 1/May 1 Opening Framework - Meeting 2** – Review and recommend alternatives for submission
11:00 a.m. - 12:00 p.m.	**SMZ Proposed Rule** – Review proposed regulations
12:00 p.m. - 1:00 p.m.	**Lunch**
1:00 p.m. – 3:00 p.m.	**Research Set-Aside** – Review program operations and discuss future direction of RSA program
3:00 p.m.	**Council Meeting with the Atlantic States Marine Fisheries Commission's Bluefish Board**

3:00 p.m. - 5:00 p.m.

Bluefish Specifications

- Review SSC, Bluefish Monitoring Committee, and Advisory Panel recommendations regarding 2015 harvest levels and associated management measures
- Adopt recommendations for 2015 harvest levels and associated management measures
- ASMFC approval of the 2014 Fishery Management Plan Review and the Terms of Reference for the Bluefish stock assessment

Wednesday, August 13th

9:00 a.m.

Demersal Committee Meeting as a Committee of the Whole with the Atlantic States Marine Fisheries Commission's Summer Flounder, Scup, Black Sea Bass Board

9:00 a.m. – 11:00 a.m.

Black Sea Bass Specifications

- Review SSC, Monitoring Committee, and Advisory Panel recommendations regarding 2015 harvest levels and associated management measures
- Recommend any changes to 2015 management measures

11:00 a.m. - 12:00 p.m.

Scup Specifications

- Review SSC, Monitoring Committee, and Advisory Panel recommendations regarding 2015 harvest levels and associated management measures
- Recommend any changes to 2015 management measures

12:00 p.m. - 1:00 p.m.

Lunch

1:00 p.m. - 3:00 p.m.

Summer Flounder Specifications

- Review SSC, Bluefish Monitoring Committee, and Advisory Panel recommendations regarding 2015 harvest levels and associated management measures
- Recommend any changes to 2015 management measures

3:00 p.m. - 5:00 p.m.

Comprehensive Summer Flounder Amendment

- Approve Scoping Document

Thursday, August 14th

9:00 a.m.

Council Convenes

9:00 a.m. - 10:00 a.m.

Omnibus Amendment to Simplify Vessel Baselines
Melissa Hooper - GARFO

- Review and approve document for Public Hearings

10:00 a.m. - 1:00 p.m.

Business Session

Organization Reports

- NMFS Greater Atlantic Regional Office
- NMFS Northeast Fisheries Science Center
- NOAA Office of General Counsel
- NOAA Office of Law Enforcement
- U.S. Coast Guard
- Atlantic States Marine Fisheries Commission

Liaison Reports

- New England Council
- South Atlantic Council

Executive Director's Report

Chris Moore

Science Report

Rich Seagraves

Committee Reports

Continuing and New Business

June 2014 motions

Surfclam and Ocean Quahog Specifications
Motion to suspend the size limit for surfclams in 2015.
Anderson for the Committee
Motion carries unanimously

Demersal Committee as a Committee of the Whole
Move to request that the service publish a control date for summer flounder for the commercial fleet.
Nolan/Kaelin (17/4/0)
Motion carries

Framework to Black Sea Bass Fishery in Wave 1
Move that the Council initiate a Framework on opening certain black sea bass seasons as discussed at June 2014 Council meeting.
DiLernia/Anderson (20/0)
Motion carries

River Herring and Shad Committee as a Committee of the Whole
Move to specify a River Herring/Shad cap for the mackerel fishery at 236 mt.
Kaelin/Tooley

Move to substitute that for 2015 the River Herring/Shad cap be set at 89 mt, should mackerel landings surpass 10,000 mt the cap would increase to 155 mt (allowing full harvest of proposed 2015 mackerel quota) if the initial cap is not surpassed.
McMurray/King (13/9/0)
Motion Passes

Substitute motion becomes main motion:
Move that for 2015 the River Herring/Shad cap be set at 89 mt, should mackerel landings surpass 10,000 mt the cap would increase to 155 mt (allowing full harvest of proposed 2015 mackerel quota) if the initial cap is not surpassed.
(13/9/0)
Motion passes

I move to amend to remove "if the initial cap is not surpassed."
Tooley/Kaelin (5/15/1)
Motion fails

Move to accept closure provisions as described in briefing book and recommended by monitoring committee.
Nolan/Kaelin (18/0/0)
Motion passes

Mackerel, Squid Butterfish Committee as a Committee of the Whole

	Year 1 (2015)	Year 2 (2016)	Year 3 (2017)		
ABC	33,278	31,412	30,922		
ACT Buffer	3,328	3,141	3,092		16/1/0
ACT Buffer %	10.0%	10.0%	10.0%		
ACT	29,950	28,271	27,830		
Landings or "Domestic Annual Harvest (DAH)"	22,530	21,042	20,652	Move To establish the specifications per the table described by Laurie Nolan for 2015-2017 Nolan/Pate	
Assumed discards in butterfish fishing (11.4%)	2,899	2,707	2,657		
Assumed other discards (highest from 3 cap years)	637	637	637		
Butterfish Cap (longfin discards)	3,884	3,884	3,884		
Close with 1411 mt left	21,119	19,631	19,241		
	25,429	23,750	23,309		

Move to establish the butterfish specifications (in mt) per the table above described by Laurie Nolan for 2015-2017.
Nolan/Pate (16/1/0)
Motion passes

Move to amend by adding that the butterfish annual catch target be increased over a period of 3 years by adding 1/3 of the additional quota available each year over the 3 year specifications period.
McMurray/Linhard (1/19/0)
Motion fails

Move to substitute to MC Butterfish Recommendations:
-OFL = 41,092, ABC = ACL = 30,922 mt, ACT = 27,830 mt, DAH = 18,161 mt, butterfish discard cap = 4,000 mt; TALFF = 0.
-Assume butterfish discards in butterfish fishery = 5,032 and miscellaneous discards = 637 mt.
-Allow up to 3% of ACT to be specified as RSA.
-When landings are projected to reach 16,750 mt, a 5,000 pound trip limit would be implemented.
-When landings are projected to reach 18,161 mt, a 600 pound trip limit would be implemented.
Zeman/Linhard (9/10)
Motion fails

Move to initiate a Framework to return unused discards to the directed fishery on November 1 in same fashion as butterfish cap.
Kaelin/
Withdrawn

MACKEREL:
ABC = 40,165 mt, Canadian Catch = 15,126 mt, US ABC = ACL = 25,039 mt,
Recreational Allocation = 1,552 mt, ACT Buffer Recreational = 10% (1,397 mt ACT),
Commercial Allocation = 23,487 mt, ACT Buffer Commercial = 10% (21,138 mt ACT),
Commercial discards = 1.26%, DAH = 20,872 mt = DAP; JVP = 0, TALFF = 0,
95% projected closure threshold with a 20,000 pound post-closure trip limit.
Move to recommend monitoring committee's mackerel recommendations.
Kaelin/Nolan (19/0/0)
Motion passes

LONGFIN:
1. ABC = 23,400; IOY = DAH = DAP = 22,445 mt to account for discards (historical average).
2. DAH will be allocated as follows: Trimester 1 - 43% (9,651 mt) Trimester 2 - 17% (3,816 mt), and Trimester 3 - 40% (8,978 mt).
3. For Trimesters 1 and 2, the directed fishery will be closed when 90% of each Trimester allocation is taken except 95% in last 2 weeks of these Trimesters; vessels will be restricted to a 2,500 pound trip limit for the remainder of the period. Vessels which possess incidental catch permits may land up to 2,500 pounds per trip at all times. Illex vessels would continue to have a 15,000 pound incidental longfin squid trip limit when Illex fishing during Trimester 2 closures (see regulations for details).
4. When 95% of the total annual quota has been taken (i.e., 95% of 22,445 mt), a 2,500 pound trip limit will be implemented for the rest of the fishing year.
6. The roll-overs of overages and underages between Trimesters would be maintained as current.
Move to recommend monitoring committee's longfin recommendations as on the screen.
Nolan/Hemilright (18/0/0)
Motion passes

ILLEX
1. ABC = 24,000; IOY = DAH = DAP = 22,915 mt to account for discards (historical average).
2. The directed Illex fishery closes at 95% of DAH; a 10,000 pound trip limit is implemented upon closure. Vessels with Illex incidental catch permits may land up to 10,000 pounds per trip at all times.
Move to recommend monitoring committee's Illex recommendations for 2015-2017 as appears on the screen.

Nolan/Anderson (18/0/0)
Motion passes

I move that in order to align our policy with the Atlantic Herring Plan, the Council modify its recommendation in the slippage framework such that Mechanical, dogfish, and safety issues that led to a slippage would require moving 15 nautical miles before fishing again. If any non-exempted slippages occur the vessel would have to terminate the trip. Notification of slippage events via Vessel Monitoring System would be required to make enforcement feasible.
Anderson/McMurray (13/5/0)
Motion passes

I move that the MSB specifications include a Research Set Aside (RSA) of up to 3% for all MSB species, subject to Council decisions during the review of the RSA program at the August 2014 Council meeting.
Anderson/Kaelin (18/0/0)
Motion passes

Omnibus ABC Framework

Make it consistent with the Council's risk policy for the SSC to specify constant multi-year ABCs if the average of the probabilities of overfishing equal the appropriate goal and in no one year is the probability of overfishing greater than 50%. (Alternative 2)

The biological status determination criteria for each of the relevant species managed under the fishery management plans would be automatically based upon the best scientific information consistent with National Standards 1 and 2. (Alternative 3)

Move that with respect to the ABC framework to approve alternatives 2 and 3 as discussed.
Anderson/Linhard (19/0/0)
Motion passes

Executor Director Report

Move to approve the Spiny Dogfish letter to John Bullard dated June 11, 2014
Moved unanimously.

New Business

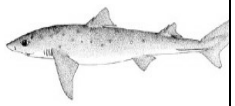
I move to request that the New England Council analyze an inshore scallop transit corridor option for inclusion in Framework 26.
O'Reilly/Kaelin (20/0/0)
Motion passes

The above agenda items may not be taken in the order in which they appear and are subject to change as necessary. Other items may be added, but the Council cannot take action on such items even if the item requires emergency action without additional public notice. Non-emergency matters not contained in this agenda may come before the Council and / or its Committees for discussion, but these matters may not be the subject of formal Council or Committee action during this meeting. Council and Committee actions will be restricted to the issues specifically listed in this agenda. Any issues requiring emergency action under section 305(c) of the Magnuson-Stevens Act that arise after publication of the Federal Register Notice for this meeting may be acted upon provided that the public has been notified of the Council's intent to take final action to address the emergency. The meeting may be closed to discuss employment or other internal administrative matters.

MID-ATLANTIC FISHERY COUNCIL - SPECIES STOCK STATUS

(AS OF JULY 30, 2014)

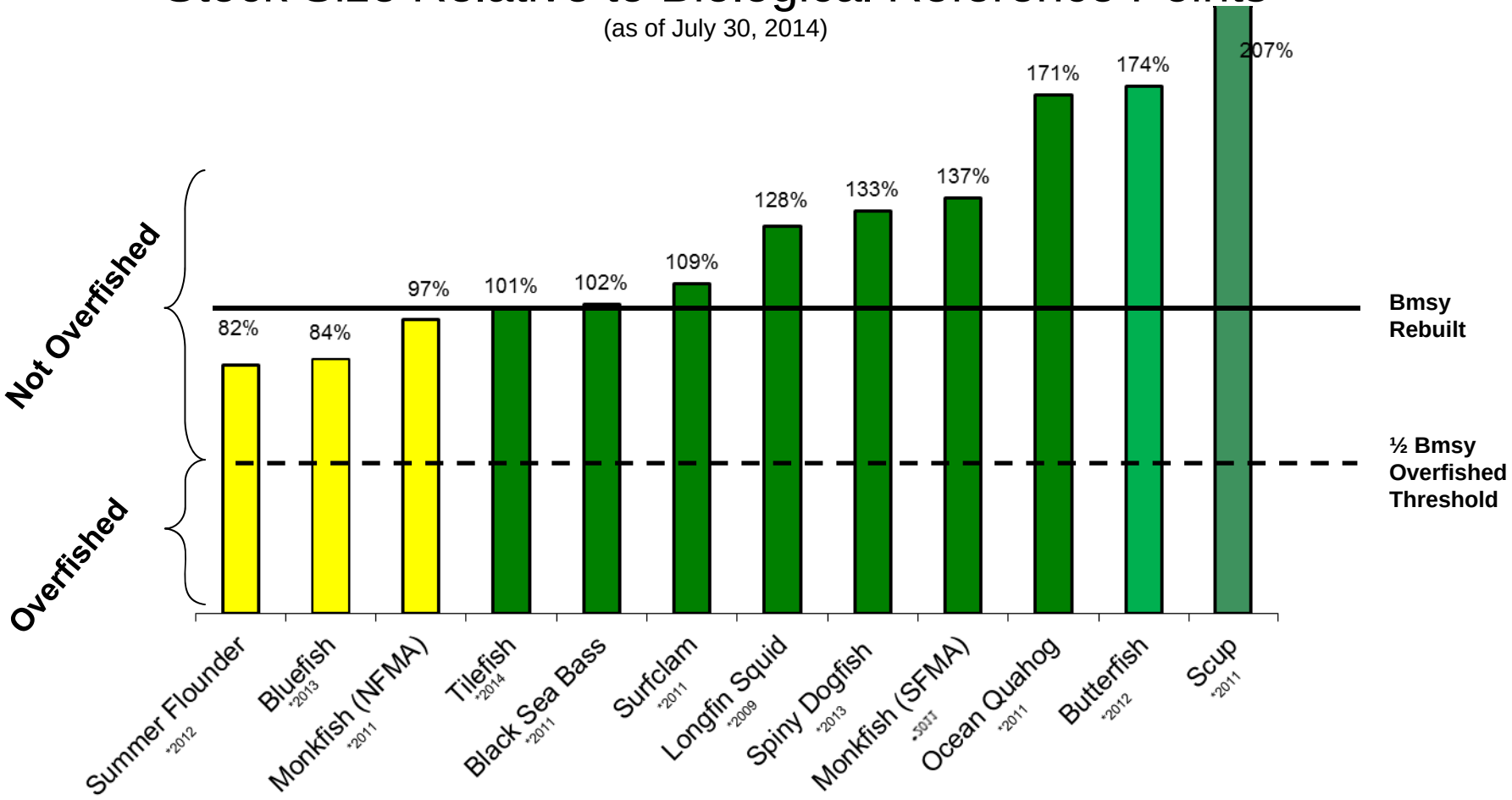
SPECIES		STATUS DETERMINATION CRITERIA		OVERFISHING	OVERFISHED	REBUILDING PROGRAM / STOCK STATUS
		Overfishing $F_{threshold}$	Overfished ½ B_{MSY}			
Summer Flounder		$F35\%_{MSP}$=0.31	66 million lbs	No	No	Most recent benchmark assessment was 2013.
Scup		$F40\%_{MSP}$=0.18	101.5 million lbs	No	No	Most recent assessment update was 2012. Most recent benchmark assessment was 2009.
Black Sea Bass		$F40\%_{MSP}$=0.44	12 million lbs	No	No	Most recent assessment update was 2012. Most recent benchmark assessment was 2011.
Bluefish		F_{MSY}=0.19	162.1 million lbs	No	No	Most recent assessment update was 2013. Most recent benchmark assessment was 2005.
***Illex* Squid (short finned)**		Unknown	Unknown	Unknown	Unknown	Most recent benchmark assessment was 2006; not able to determine current exploitation rates or stock biomass.
Longfin Squid		Unknown	46.7 million lbs	Unknown	No	Most recent benchmark assessment was 2010; not able to determine current exploitation rates.
Atlantic Mackerel		Unknown	Unknown	Unknown	Unknown	Most recent benchmark assessment was 2010; not able to determine current exploitation rates or stock biomass.
Butterfish		F_{Proxy}=2/3M =0.81	50.3 million lbs	No	No	Most recent benchmark assessment was 2014.

SPECIES		STATUS DETERMINATION CRITERIA		OVERFISHING	OVERFISHED	REBUILDING PROGRAM / STOCK STATUS
		Overfishing $F_{threshold}$	Overfished ½ B_{MSY}			
Surfclam		F=M=0.15	1,071 million lbs	No	No	Most recent benchmark assessment was 2013.
Ocean Quahog		$F_{45\%MSP}$= 0.022	3,064 million lbs	No	No	Most recent assessment update was 2013. Most recent benchmark assessment was 2009.
Tilefish		$F_{25\%MSP}$=0.370	5.68 million lbs	No	No	Most recent benchmark assessment was 2014.
Spiny Dogfish (Joint management with NEFMC)		F_{MSY}=0.2439	175.6 million lbs Female SSB	No	No	Most recent assessment update was 2013. Most recent benchmark assessment was 2010.
Monkfish (Joint management with NEFMC)		NFMA & SFMA F_{MAX}=0.2	NFMA - 1.25 kg/tow SFMA - 0.93 kg/tow (autumn trawl survey)	No (north and south management areas)	No (north and South management areas)	Most recent assessment update was 2013. Most recent benchmark assessment was 2010.

SOURCES: Office of Sustainable Fisheries - Status Report of U.S. Fisheries; SAW/SARC and TRAC Assessment Reports.

Stock Size Relative to Biological Reference Points

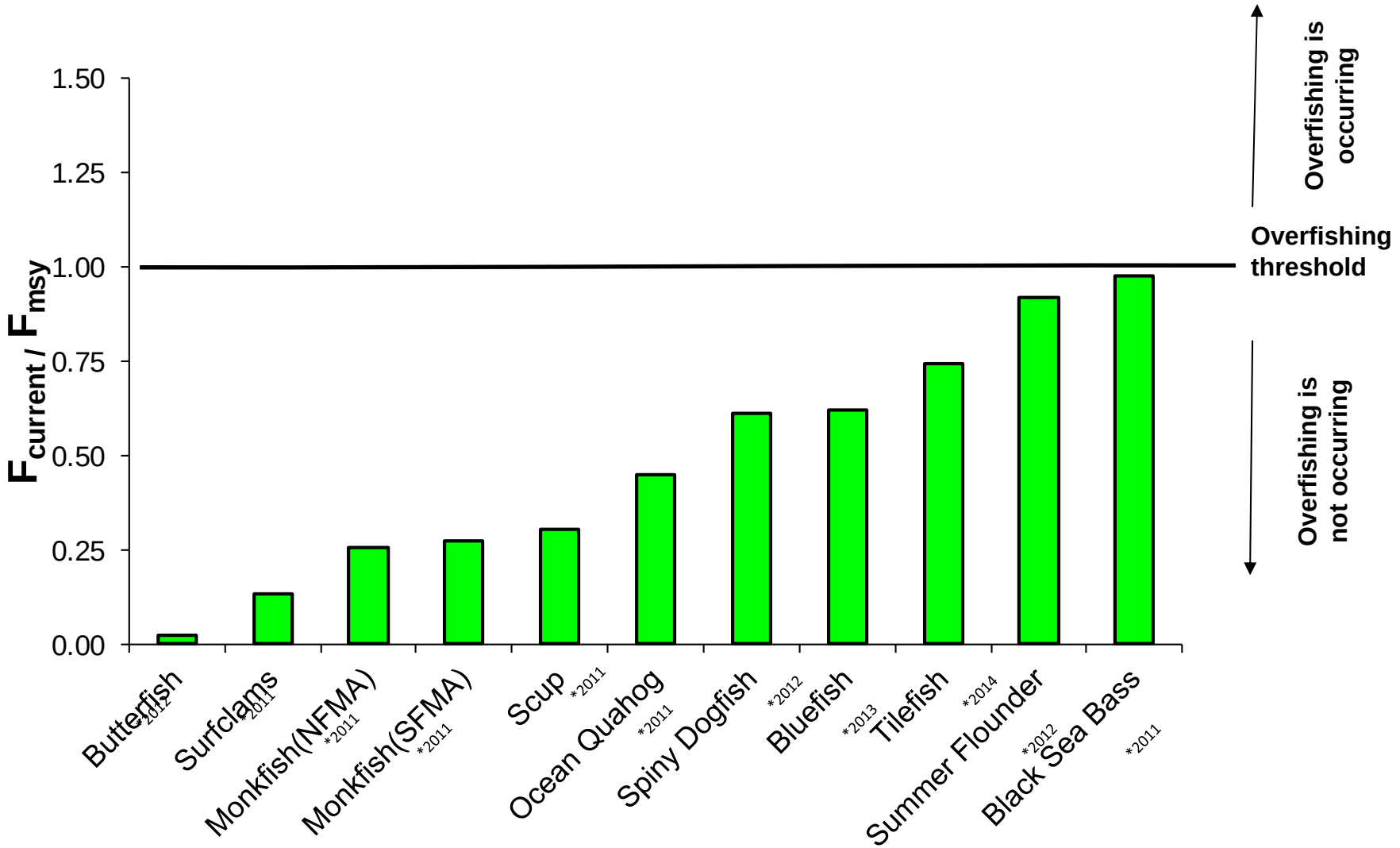
(as of July 30, 2014)



* Year of the data used to determine stock size.

NOTE: Unknown Bmsy - *Illex* squid, and mackerel.
NOTE: Of the 14 stocks managed by the Council, 10 are above B(msy), 2 are slightly under B(msy), and 2 are unknown.

Fishing Mortality Ratios for MAFMC Managed Species



* Year of the data used to determine fishing mortality.

NOTE: Unknown - *Illex* squid, Longfin squid, and mackerel.

NOAA NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
UNITED STATES DEPARTMENT OF COMMERCE

U.S. Commerce Department announces 2014 regional fishery council appointments

June 26, 2014

The U.S. Commerce Department today announced the appointment of 22 new and returning members to the eight regional fishery management councils that partner with NOAA's Fisheries Service to manage ocean fish stocks. The new and reappointed council members begin their three-year terms on August 11.

The councils were established by the Magnuson-Stevens Fishery Conservation and Management Act to prepare fishery management plans for marine fish stocks in their regions. NOAA's Fisheries Service works closely with the councils as plans are developed, and then reviews, approves, and implements the fishery management plans. Council members represent diverse groups, including commercial and recreational fishing industries, environmental organizations and academia, and they carry out the act's requirements to end overfishing, rebuild fish stocks, and manage them sustainably.

"All of us at NOAA Fisheries are eager to start working with our new council members, and to continue the work we've been doing with returning members," said Eileen Sobeck, assistant NOAA administrator for fisheries. "The partnerships we have with the councils are more important than ever in order to continue the positive momentum we've been making with federally managed species in recent years."

Each year, approximately one-third of the total 72 appointed members to the eight regional councils are appointed by the Secretary of Commerce. The Secretary selects members from nominations submitted by the governors of fishing states, territories and tribal governments.

Council members are appointed to both obligatory (state-specific) and at-large (regional) seats. Council members serve a three-year term and can be reappointed to serve three consecutive terms. Asterisks preceding a member's name indicate a reappointment.

New England Council
The New England Council includes members from Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island. The appointees for 2014 will fill four at-large seats.

At-large seats:
*Thomas D. Dempsey (Massachusetts)
Elizabeth "Libby" M. P. Etrie (Massachusetts)
*Peter T. Kendall (New Hampshire)
*Mary Beth Nickell-Tooley (Maine)

Mid-Atlantic Council
The Mid-Atlantic Council includes members from the states of Delaware, Maryland, New Jersey, New York, North Carolina, Pennsylvania, and Virginia. The appointees for 2014 will fill obligatory seats for Maryland, North Carolina, New York, and Pennsylvania and one at-large seat.

Obligatory seats:
*G.(George) W. Elliott (Pennsylvania)
*Francis "Dewey" Hemilright, Jr. (North Carolina)
*Howard J. King, III (Maryland)
*John G. McMurray (New York)

At-large seat:
*Laurie A. Nolan (New York)

South Atlantic Council
The South Atlantic Council includes members from Florida, Georgia, North Carolina, and South Carolina. The appointees for 2014 will fill two at-large seats.

At-large seats:
William “Chester” Brewer, Jr. (Florida)
Mark E. Brown (South Carolina)

Caribbean Council
The Caribbean Council includes members from Puerto Rico and the U.S. Virgin Islands. The appointee for 2014 will fill an obligatory seat for Puerto Rico.

Obligatory seat:
Marcos R. Hanke (Puerto Rico)

Gulf Council
The Gulf Council includes members from Alabama, Florida, Louisiana, Mississippi, and Texas. The appointees for 2014 will fill three at-large seats.

At-large seats:
*Pamela J. Dana (Florida)
Gregory W. Stunz (Texas)
David A. Walker (Alabama)

Pacific Council
The Pacific Council includes members from California, Idaho, Oregon, and Washington. The appointees for 2014 will fill an obligatory seat for Washington and one at-large seat.

Obligatory seat:
*Richard “Rich” H. Lincoln (Washington)

At-large seat:
*Jeffrey “Jeff” N. Feldner (Oregon)

North Pacific Council
The North Pacific Council includes members from Alaska and Washington. The appointees for 2014 will fill an obligatory seat for Alaska and an obligatory seat for Washington.

Obligatory seats:
*John J. Henderschedt (Washington)
Simon Kinneen (Alaska)

Western Pacific Council
The Western Pacific Council includes members from American Samoa, Guam, Hawaii, and the Commonwealth of the Northern Mariana Islands. The appointees for 2014 will fill an obligatory seat for Commonwealth of the Northern Mariana Islands and two at-large seats.

Obligatory seat:
John E. Gourley (Commonwealth of Northern Mariana Islands)

At-large seats:
*Edwin “Ed” A. Ebisui, Jr. (Hawaii)
*Frederick M. Rice (Hawaii)

NOAA’s mission is to understand and predict changes in the Earth's environment, from the depths of the ocean to the surface of the sun, and to conserve and manage our coastal and marine resources. Join us on Facebook, Twitter, Instagram and our other social media channels.

The 2012 Report to Congress on Apportionment of Membership on the Regional Fishery Management Councils: http://www.nmfs.noaa.gov/sfa/management/councils/report_congress/reports.htm

Got feedback?

2.4 Officers and Terms of Office

2.4.1 General

A Chair and a Vice Chair shall be elected annually at the first Council meeting following the seating of new Council members (on or after August 11 of each year) by the voting members of the Council present and voting; each such officer shall serve for a period of one year and until a successor is elected. Officers may succeed themselves. The Council may elect other officers as it deems necessary.

2.4.2 Nominations

The Chair shall appoint a Nominating Committee, who shall make its nominations (at least two for each office) at the beginning of the election process. Following the Committee's nomination, any voting member may nominate additional candidates from the floor. When nominations are closed the election shall be held.

2.4.3 Elections

The election of Chair will be held first, followed by the election for Vice Chair. If only one candidate accepts the nomination for an office, the Chairman of the Nominating Committee shall cast all votes for that candidate. If there are two or more candidates, the election shall be by a secret ballot with the votes tabulated by two or more Tellers appointed by the Council Chair. The Tellers shall use the following rules to determine the winning candidate:

1. To win, a candidate must receive a majority of the votes cast.
2. If no candidate receives a majority of the votes, the Tellers shall declare no election. If there are more than two candidates, the candidate receiving the lowest number of vote shall be dropped from consideration and a vote will be taken for the remaining candidates. This process will continue until a candidate receives a majority of the vote cast.
3. Those preferring not to vote for any candidate shall check "ABSTAIN" on the ballot.
4. The number of ballots cast for an individual shall not be announced. Any Council member who questions the result may review the ballots. The vote of any Council member shall not be identified nor made public in any respect.

2.4.4 Special Elections

In the event that the Chair cannot fulfill the Chair's obligations for the balance of the Chair's term, a special election will be held at the next scheduled Council meeting to fill the position of Chair. In the event that the Vice Chair cannot fulfill the Vice Chair's obligations for the balance of the Vice Chair's term, a special election will be held at the next scheduled Council meeting to fill the position of Vice Chair. The procedures for nominations and elections set forth above will be followed for special elections.

AMENDMENT 16
TO THE ATLANTIC MACKEREL, SQUID, AND BUTTERFISH (MSB) FISHERY MANAGEMENT PLAN (FMP)

Measures to Protect Deep Sea Corals from Impacts of Fishing Gear

Public Information Document

DRAFT for Council Review

AUGUST 2014

Mid Atlantic Fishery Management Council
in cooperation with
the National Marine Fisheries Service (NOAA Fisheries)

A Publication of the Mid-Atlantic Fishery Management Council pursuant to National Oceanic and Atmospheric Administration Award No. NA10NMF4410009

1.0 EXECUTIVE SUMMARY

[To be completed prior to public hearings]

2.0 LIST OF ACRONYMS AND ABBREVIATIONS

ACUMEN	Atlantic Canyons Undersea Mapping Expedition
ASMFC	Atlantic States Marine Fisheries Commission (Commission)
BOEM	Bureau of Ocean and Energy Management
CEA	Cumulative Effects Assessment
CFR	Code of Federal Regulations
DEIS	Draft Environmental Impact Statement
DMNH	Delaware Museum of Natural History
DOC	Department of Commerce
DSCRTP	Deep Sea Coral Research and Technology Program
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EFP	Exempted Fishing Permit
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
FMAT	Fishery Management Action Team
FMP	Fishery Management Plan
FR	Federal Register
GARFO	Greater Atlantic Regional Fisheries Office (formerly Northeast Regional Office/NERO)
IRFA	Initial Regulatory Flexibility Analysis
LOA	Letter of Acknowledgement
MAFMC	Mid-Atlantic Fishery Management Council
MMPA	Marine Mammal Protection Act
MOU	Memorandum of Understanding
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSB	Mackerel, Squid, Butterfish
NAO	National Oceanic and Administration Administrative Order
NCCOS	National Centers for Coastal Ocean Science
NEFMC	New England Fishery Management Council
NEFOP	Northeast Fisheries Observer Program
NEFSC	Northeast Fisheries Science Center
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOAA OER	NOAA Office of Exploration and Research
NOS	National Ocean Service
ROV	Remotely Operated Vehicle
SAFMC	South Atlantic Fishery Management Council
US	United States
USD	U.S. Dollars
VMS	Vessel Monitoring System
VTR	Vessel Trip Report
WHOI	Woods Hole Oceanographic Institution

3.0 CONTENTS, TABLES, AND FIGURES

3.1 TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 2
2.0 LIST OF ACRONYMS AND ABBREVIATIONS 2
3.0 CONTENTS, TABLES, AND FIGURES 3
3.1 TABLE OF CONTENTS 3
3.2 LIST OF TABLES 4
3.3 LIST OF FIGURES 5
4.0 INTRODUCTION AND BACKGROUND 6
4.1 PURPOSE AND NEED FOR ACTION 6
4.2 REGULATORY AUTHORITY 6
4.3 FMP HISTORY AND MANAGEMENT OBJECTIVES 6
4.4 MANAGEMENT UNIT AND SCOPE OF ALTERNATIVES 6
5.0 MANAGEMENT ALTERNATIVES 8
5.1 BROAD CORAL ZONE ALTERNATIVES 9
Alternative 1A: No Action/*Status Quo* 9
Alternative 1B: Landward boundary approximating 200 meter depth contour 9
Alternative 1C: Landward boundary approximating 300 meter depth contour 9
Alternative 1D: Landward boundary approximating 400 meter depth contour 9
Alternative 1E: Landward boundary approximating 500 meter depth contour 9
5.2 MANAGEMENT MEASURES WITHIN BROAD CORAL ZONES 11
Alternative 2A: No Action 11
Alternative 2B: Prohibit all bottom-tending gear 11
Alternative 2C: Prohibit all mobile bottom-tending gear 11
Alternative 2D: Require VMS for vessels fishing in broad coral zones 11
5.3 DISCRETE CORAL ZONE ALTERNATIVES 12
Alternative 3A: No Action/*Status Quo* 12
Alternative 3B: Designation of Discrete Coral Zones 12
5.4 MANAGEMENT MEASURES WITHIN DISCRETE CORAL ZONES 14
Alternative 4A: No Action 14
Alternative 4B: Prohibit all bottom-tending gear 14
Alternative 4C: Prohibit mobile bottom-tending gear 14
5.5 FRAMEWORK PROVISIONS 16
Alternative 5A: No Action 16
Alternative 5B: Option to modify coral zone boundaries via framework action 16
Alternative 5C: Option to modify management measures within zones via framework action 16
Alternative 5D: Option to add additional discrete coral zones via framework action 16
Alternative 5E: Option to implement special access program via framework action 16
5.6 MONITORING ALTERNATIVES 16
Alternative 6A: No Action 16
Alternative 6B: Vessel Monitoring Systems (VMS) requirement for *Illex* squid moratorium vessels 16
5.7 CONSIDERED BUT REJECTED FROM FURTHER ANALYSIS 17
1. Require Council review and approval for fishing within broad zones 17
2. Require observers on vessels fishing in broad coral zones 18
3. Require gear monitoring electronics on board to fish within broad or discrete zones (equipment monitoring gear distance from seafloor) 18
4. Exempt *Illex* and longfin squid fisheries from broad zone restrictions AND 19
5. Exempt *Illex* and longfin squid fisheries from discrete zone restrictions 19

6. Depth-contour based boundaries for discrete coral zones 19
6.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT 20
6.1 PHYSICAL ENVIRONMENT 20
6.2 BIOLOGICAL ENVIRONMENT 20
6.2.1 Description of the Managed Resource 20
6.2.2 Deep Sea Corals 21
6.2 ENDANGERED AND PROTECTED RESOURCES 22
6.3 HUMAN COMMUNITIES AND ECONOMIC ENVIRONMENT 22
7.0 IMPACTS OF THE ALTERNATIVES 23
7.1 Deep Sea Coral Distribution and Habitat Relative to Proposed Coral Zones 23
7.1.1 Deep Sea Coral Research and Technology Program Records 23
7.1.2 Recent Research Survey Data 25
7.1.3 Northeast Fisheries Observer Program Records 29
7.1.4 Deep Sea Coral Habitat Suitability Model 31
7.2 FISHERY EFFORT AND ECONOMIC IMPACTS 46
7.2.1 Northeast Fisheries Observer Program Data 46
7.2.2 VTR Revenue Mapping Model 53
APPENDIX A: Criteria for revisions to original discrete zone boundaries 60

3.2 LIST OF TABLES

Table 1: Proposed discrete zones. 12
Table 2: Advisor-proposed boundaries for Norfolk Canyon, Baltimore Canyon, and the Mey-Lindenkohl Slope (sub-alternative 3B-1). 14
Table 3: Deep sea coral presence records within proposed MAFMC broad coral zones, in number (a) and percent (b). Data from DSCRTP database as of June 2013. 23
Table 4: Composition of deep sea corals presence records by type within proposed broad and discrete zones. Data from DSCRTP database as of June 2013. 24
Table 5: Deep sea coral presence records within the Mid-Atlantic region but NOT within any of the proposed zones. Data from DSCRTP database as of June 2013. 24
Table 6: Deep sea coral presence records by proposed discrete zone. Note that these records reflect varying spatial concentrations of survey effort, and many areas have not been surveyed for corals. This data also does not contain any new records from recent research surveys (2012-2013). 25
Table 7: Preliminary image survey of NE canyon fauna from TowCam surveys, 2012-2013. Images were captured at 10 second intervals through each dive. Each bottom image was visually screened for hard and soft corals, sponges, and fish fauna. Presence/absence information was logged for each image. 28
Table 8: NEFOP records of deep sea interactions in the Northeast region, by coral type and gear type, 1994-2014. NK= not known. 29
Table 9: NEFOP records of deep sea corals within the Mid-Atlantic Council Region, 1994-2014. NK= not known. 30
Table 10: Percent of each proposed discrete zone area within each predicted habitat suitability likelihood class (very low, low, medium, high, and very high), and total discrete zone area. 32
Table 11: Summary of biological analysis across proposed discrete zones for coral observations, habitat suitability, and areas of high slope. Note: recent fieldwork observations are not included in the DSCRTP historical database. 45
Table 12: All NEFOP observed bottom trawl hauls and trips, by gear type, within the Mid-Atlantic Council region from 2000-2013. 46
Table 13: NEFOP observed bottom trawl hauls, trips, and average haul start depth, by gear type and target species, intersecting the **200 meter broad zone** alternative, 2000-2013. Records removed for species observed on less than 5 hauls. 47
Table 14: NEFOP observed bottom trawl hauls, trips, and average haul start depth, by gear type and target species, intersecting the **300 meter broad zone** alternative, 2000-2013. Records removed for species observed on less than 5 hauls. 47
Table 15: NEFOP observed bottom trawl hauls, trips, and average haul start depth, by gear type and target species, intersecting the **400 meter broad zone** alternative, 2000-2013. Records removed for species observed on less than 5 hauls. 48
Table 16: NEFOP observed bottom trawl hauls, trips, and average haul start depth, by gear type and target species, intersecting the **500 meter broad zone** alternative, 2000-2013. 48

Table 17: NEFOP Observer records of gillnet gear a) in the MAFMC region and b) intersecting proposed coral zones, 2000-2013. 50
Table 18: NEFOP Observer data records of hauls using bottom longline gear from 2000-2013 a) in the MAFMC region, and b) within proposed coral zones. 52
Table 19: VTR model-estimated cumulative revenue (USD) by proposed discrete zone for major species-gear combinations, 2007-2012, Maine through North Carolina. BOT = bottom otter trawl; BLL = bottom longline; DRG = dredge. 56
Table 20: VTR model-estimated cumulative revenue (USD) by proposed broad zone for major species-gear combinations, 2007-2012, Maine through North Carolina. BOT = bottom otter trawl; BLL = bottom longline; DRG = dredge. 56

3.3 LIST OF FIGURES

Figure 1: Mid-Atlantic and New England Council regions. 7
Figure 2: Broad coral zone alternatives. 10
Figure 3: Discrete coral zone alternatives. 13
Figure 4: Advisor proposed boundaries (sub-alternative 3B-1). 15
Figure 5: Observations of *Lophelia pertusa* from BOEM cruises in Baltimore and Norfolk Canyons, 2012 and 2013. Source: Brooke and Ross (2013). 26
Figure 6: NEFOP records of deep sea corals in the Mid-Atlantic, 1994-2014. 30
Figure 7: Block Canyon areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries. 33
Figure 8: Ryan and McMaster Canyons areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries. 34
Figure 9: Emery and Uchupi Canyons areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries. ..35
Figure 10: Jones and Babylon Canyons areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries. 36
Figure 11: Hudson Canyon areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries. 37
Figure 12: Mey-Lindenkohl Slope areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries. 38
Figure 13: Spencer Canyon areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries. 39
Figure 14: Baltimore Canyon and South Vries Canyons (two separate proposed areas) areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries. 40
Figure 15: Warr-Phoenix Canyon Complex areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries. 41
Figure 16: Accomac and Leonard Canyons areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries. 42
Figure 17: Washington Canyon areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries. 43
Figure 18: Norfolk Canyon areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries. 44
Figure 19: NEFOP observed bottom trawl hauls in the mid-Atlantic region by gear type, 2000-2013. 49
Figure 20: NEFOP observer hauls for gillnet gear in the mid-Atlantic, 2000-2013, and area of intersection with proposed MAFMC broad coral zones. 51
Figure 21: Observed bottom longline hauls in the MAFMC region, 2000-2013. 52
Figure 22: Areas of high cumulative estimated revenue (USD) for red crab caught using pots, 2007-2012, Maine through Virginia. 57
Figure 23: Areas of high cumulative estimated revenue (USD) for scallops caught using dredge gear, 2007-2012, Maine through Virginia. 57
Figure 24: Areas of high cumulative estimated revenue (USD) for *Illex* and longfin squid caught using bottom otter trawls, 2007-2012, Maine through Virginia. 58
Figure 25: Areas of high cumulative estimated revenue (USD) for summer flounder, scup, and black sea bass caught using bottom otter trawl gear, 2007-2012, Maine through Virginia. 58
Figure 26: Areas of high cumulative estimated revenue (USD) for silver hake (whiting) caught using bottom otter trawl gear, 2007-2012, Maine through Virginia. 59
Figure 27: Areas of high cumulative estimated revenue (USD) for golden tilefish caught using bottom longline gear, 2007-2012, Maine through Virginia. 59

4.0 INTRODUCTION AND BACKGROUND

4.1 PURPOSE AND NEED FOR ACTION

The purpose of this amendment is to minimize the impacts of fishing gear on deep sea corals in the mid-Atlantic. Deep sea corals are fragile and slow-growing, and as such are highly vulnerable to disturbance by fishing gear. Bottom-tending gear poses a particular threat to deep sea coral ecosystems, with the potential to cause negative impacts ranging from scarring and damage to crushing or complete removal. The reauthorized Magnuson-Stevens Act (MSA) contains provisions giving the Regional Fishery Management Councils authority to implement management measures to mitigate fishery impacts to deep sea corals. This amendment is necessary to develop management measures under these provisions that would limit the impact of fishing on deep sea corals.

4.2 REGULATORY AUTHORITY

The range of alternatives in this document is based on application of discretionary provisions contained in the 2007 reauthorization of the Magnuson-Stevens Act (MSA) related to deep sea corals.[1] These provisions give the Regional Fishery Management Councils authority to designate zones where, and periods when, fishing may be restricted in order to protect deep sea corals from physical damage caused by fishing gear, or to prevent loss or damage to such gear. Such deep sea coral zones may include areas beyond known coral locations, if necessary, to ensure effectiveness. Management measures applied to deep sea coral zones may include restrictions on the location and timing of fishing activity, restrictions limiting fishing to specified vessel types, gear restrictions, and/or zones closed to fishing.

4.3 FMP HISTORY AND MANAGEMENT OBJECTIVES

Management of the Atlantic mackerel, *Longfin squid* and *Illex* squid, and butterfish fisheries began through the implementation of three separate FMPs (one each for mackerel, squid, and butterfish) in 1978. The plans were merged in 1983. Over the years a wide variety of management issues have been addressed including rebuilding, habitat conservation, bycatch minimization, and limited entry. The original plans, amendments and frameworks that affected management of these fisheries can be found at http://www.mafmc.org/fisheries/fmp/msb.

The management goals and objectives, as described in the FMP as currently amended, are listed below.

1. Enhance the probability of successful (i.e., the historical average) recruitment to the fisheries.
2. Promote the growth of the U.S. commercial fishery, including the fishery for export.
3. Provide the greatest degree of freedom and flexibility to all harvesters of these resources consistent with the attainment of the other objectives of this FMP.
4. Provide marine recreational fishing opportunities, recognizing the contribution of recreational fishing to the national economy.
5. Increase understanding of the conditions of the stocks and fisheries.
6. Minimize harvesting conflicts among U.S. commercial, U.S. recreational, and foreign fishermen.

4.4 MANAGEMENT UNIT AND SCOPE OF ALTERNATIVES

The management unit for the managed species as described in the FMP is currently all northwest Atlantic mackerel (*Scomber scombrus*), *Longfin squid pealeii*, *Illex illecebrosus*, and butterfish (*Peprilus triacanthus*) under U.S. jurisdiction, with a core fishery management area from North Carolina to

[1] http://www.nmfs.noaa.gov/msa2007/docs/act_draft.pdf#page=82.

Maine. However, the alternatives listed in this document for the protection of deep sea corals are not limited in scope to the Atlantic mackerel, squid, and butterfish fisheries.

Management measures developed under the regulatory authority described in Section 4.2 and implemented via this amendment could be applied to any federally regulated fishing activity within the range of the Atlantic mackerel, squid, and butterfish fishery as described in the FMP (even to activity or gears that are not used in these fisheries). However, these management measures would not apply to any species managed solely by the Atlantic States Marine Fisheries Commission (such as American lobster) unless the Commission took complementary action.

The Mid-Atlantic Fishery Management Council, the New England Fishery Management Council, and the South Atlantic Fishery Management Council have signed a Memorandum of Understanding (MOU) identifying areas of consensus and common strategy related to conservation of corals and mitigation of the negative impacts of fishery interactions with corals.[2] As per the terms of the MOU, the Mid-Atlantic Fishery Management Council has agreed to develop alternatives applicable only to areas within the Mid-Atlantic Council region boundary as defined in the current regulations (Figure 1).[3] The New England Fishery Management Council has agreed to develop management measures applicable within the boundaries of their council region, and the South Atlantic Council will continue to manage deep sea corals via its Coral, Coral Reef and Live/Hardbottom Fishery Management Plan.

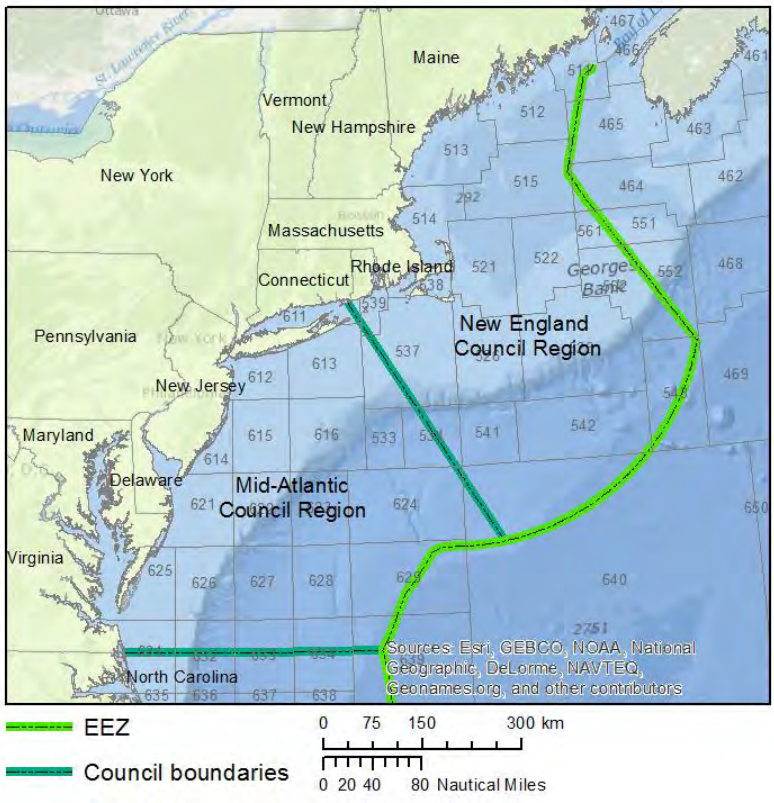


Figure 1: Mid-Atlantic and New England Council regions.

To promote continuity and consistency in deep sea coral measures between regions, the alternatives contained in this document were developed with consideration of consistency in approach to deep sea coral protections to that being considered by the New England Fishery Management Council (NEFMC). The NEFMC began developing deep sea coral alternatives as part of their Essential Fish Habitat Omnibus Amendment 2, which has since been split into a separate Omnibus Deep Sea Corals Amendment.[4]

[2] The full Memorandum of Understanding is available on the Council's website, at http://www.mafmc.org/actions/msb/am16.

[3] Council boundaries are defined in the Code of Federal Regulations (CFR), at 50 C.F.R. §§ 600.105(a) and (b), available at http://www.gpo.gov/fdsys/granule/CFR-2001-title50-vol3/CFR-2001-title50-vol3-sec600-105/content-detail.html.

[4] For more information, see http://nefmc.org/habitat/index.html.

5.0 MANAGEMENT ALTERNATIVES

The alternative sets presented below provide a range of options for protections of deep sea corals from the impacts of fishing gear. Several options are proposed for designating "deep sea coral zones" under the discretionary provisions in the Magnuson-Stevens Act described in Section 4.2. These options are grouped into alternatives sets using a framework that combines options for "broad" coral zones with options for "discrete" coral zones, as described below.

Broad deep sea coral zones are intended to encompass larger areas where management measures could be applied to "freeze the footprint" of fishing, with the primary intention being to prevent expansion of effort into areas where little or no fishing occurs as a precautionary approach. Options for management measures in such broad zones could include some combination of gear restrictions and/or additional requirements for reporting, monitoring, or authorization. The concept of these broad coral zones is in line with the "freeze the footprint" approach outlined in NOAA's Strategic Plan for Deep Sea Corals[5]:

> "The expansion of fisheries using mobile bottom tending gear beyond current areas has the potential to damage additional deep-sea coral and sponge habitats. Potentially, many undocumented and relatively pristine deep-sea coral and sponge ecosystems may exist in unmapped areas untouched, or relatively untouched, by mobile bottom-tending gear. This objective takes a precautionary approach to "freeze the footprint" of fishing that uses mobile bottom-tending gear in order to protect areas likely to support deep-sea coral or sponge ecosystems until research surveys demonstrate that proposed fishing will not cause serious or irreversible damage to such ecosystems in those areas. Special emphasis is placed on mobile bottom-tending gear (e.g., bottom trawling), as this gear is the most damaging to these habitats. This objective applies to areas where use of such gear is allowed or might be allowed in the future. If subsequent surveys identify portions of these areas that do not contain deep-sea corals or sponges, NOAA may recommend that suitable areas be opened for fishing using such gear."

Discrete deep sea coral zones would be designated in smaller areas of known coral presence or highly likely (based on habitat suitability analysis) coral presence. These areas primarily include canyons or slope areas along the shelf/slope break.

These two types of deep sea coral zones could be implemented simultaneously. Different management measures could be applied in each type of zone, allowing the flexibility to protect areas of known deep sea coral presence, while taking a precautionary approach in other areas.

Consistent with this framework, six sets of alternatives are presented below: 1) options for the designation of broad deep sea coral zones, 2) options for management measures to be applied within broad zones, 3) options for designation of discrete deep sea coral zones, 4) options for management measures to be applied within discrete zones, 5) options for framework provisions for deep sea coral zones, and 6) options for Vessel Monitoring System (VMS) requirements.

[5]National Oceanic and Atmospheric Administration, Coral Reef Conservation Program. 2010. NOAA Strategic Plan for Deep-Sea Coral and Sponge Ecosystems: Research, Management, and International Cooperation. Silver Spring, MD: NOAA Coral Reef Conservation Program. NOAA Technical Memorandum CRCP 11. 67 pp.

5.1 BROAD CORAL ZONE ALTERNATIVES

Alternative 1A: No Action/*Status Quo*

Under this alternative, no action would be taken to designate a broad deep sea coral zone. This option is equivalent to the *status quo*. Within the Mid-Atlantic Fishery Management Council region, there are currently no measures in place designed specifically for the protection of deep sea corals.

Alternative 1B: Landward boundary approximating 200 meter depth contour

Under this alternative, a broad coral zone would be designated with the landward boundary approximating the 200 meter depth contour and extending out to the northern and southern boundaries of the MAFMC management region, and to the edge of the EEZ (Figure 2).

Alternative 1C: Landward boundary approximating 300 meter depth contour

Under this alternative, a broad coral zone would be designated with the landward boundary approximating the 300 meter depth contour and extending out to the northern and southern boundaries of the MAFMC management region, and to the edge of the EEZ (Figure 2).

Alternative 1D: Landward boundary approximating 400 meter depth contour

Under this alternative, a broad coral zone would be designated with the landward boundary approximating the 400 meter depth contour and extending out to the northern and southern boundaries of the MAFMC management region, and to the edge of the EEZ (Figure 2).

Alternative 1E: Landward boundary approximating 500 meter depth contour

Under this alternative, a broad coral zone would be designated with the landward boundary approximating the 500 meter depth contour and extending out to the northern and southern boundaries of the MAFMC management region, and to the edge of the EEZ (Figure 2).

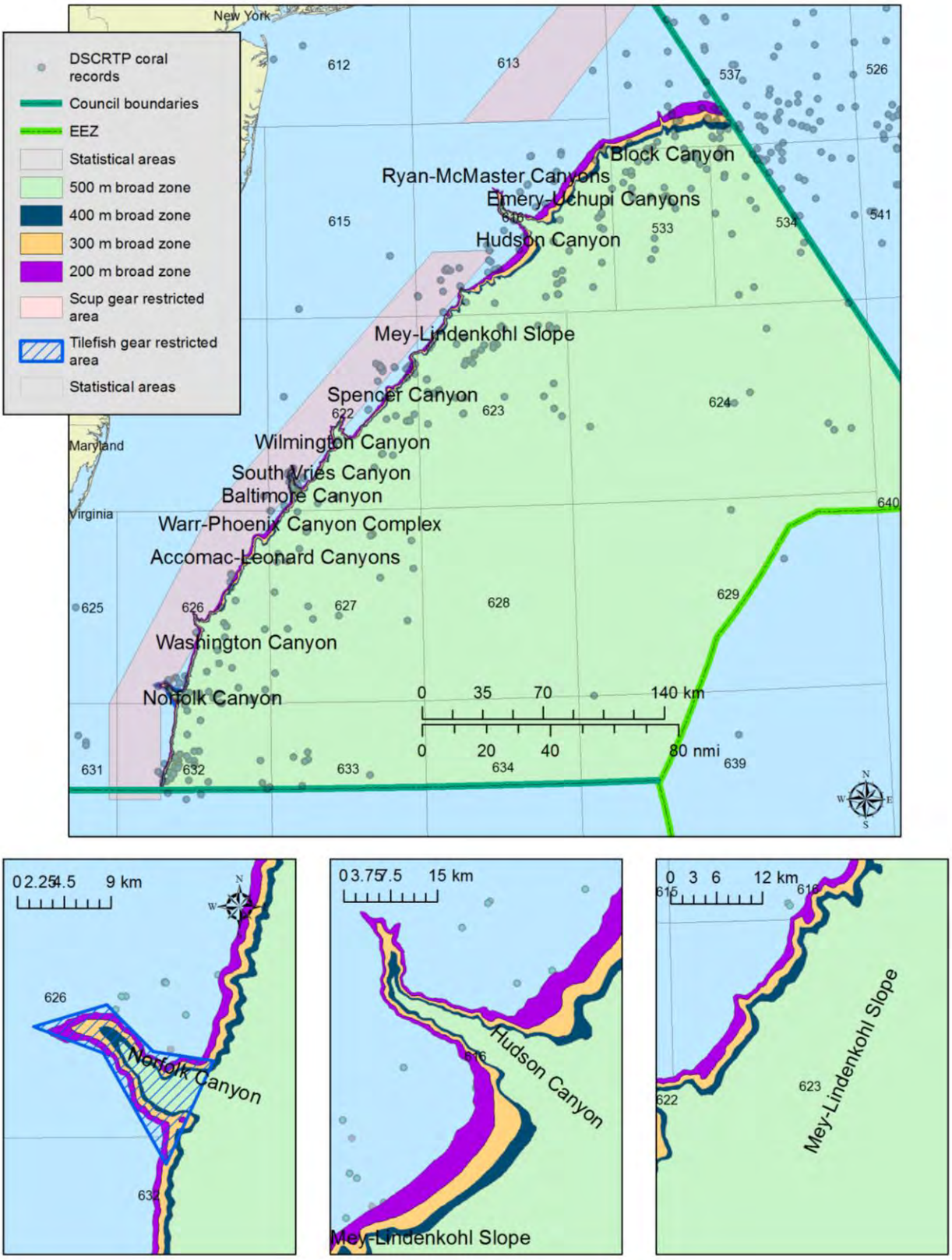


Figure 2: Broad coral zone alternatives.

5.2 MANAGEMENT MEASURES WITHIN BROAD CORAL ZONES

Alternative 2A: No Action

Under this alternative, no action would be taken to implement management measures in any potential broad deep sea coral zones.

Alternative 2B: Prohibit all bottom-tending gear

Under this alternative, vessels would be prohibited from using any bottom-tending gear within designated broad coral zones. "Bottom-tending gear" includes any mobile bottom-tending gear (as defined in Alternative 2C below), as well as any stationary or passive gear types that contact the bottom, including bottom longlines, pots and traps[6], and sink or anchored gill nets.

Sub-alternative 2B-1: *Exempt red crab fishery from broad zone restrictions*

If selected in conjunction with Alternative 2B, sub-alternative 2B-1 would exempt the red crab fishery from restrictions on all bottom-tending gear. The red crab fishery currently consists of only a few vessels that harvest crabs using traps, focusing effort along the center of a narrow range of depth (from approximately 550 to 750 meters). Thus, any prohibition on all bottom-tending gear within proposed broad zones, absent an exemption, would impact all fishing activity for red crab within the Mid-Atlantic Council region.

Sub-alternative 2B-2: *Exempt golden tilefish fishery from broad zone restrictions*

If selected in conjunction with Alternative 2B, sub-alternative 2B-2 would exempt the golden tilefish fishery from restrictions on all bottom-tending gear. Golden tilefish are primarily harvested using bottom longlines. Selecting sub-alternative 2B-2 would allow the golden tilefish bottom longline fishery to continue operation within a designated broad zone, but prevent current or future use of other stationary or passive bottom-tending gear (other than red crab trap gear if sub-alternative 2B-1 above is selected).

Alternative 2C: Prohibit all mobile bottom-tending gear

Under this alternative, vessels would be prohibited from using any mobile bottom-tending gear within designated broad coral zones. Mobile bottom-tending gear (as defined at 50 C.F.R. §648.200 with respect to the Northeast multispecies and tilefish fisheries) means gear in contact with the ocean bottom, and towed from a vessel, which is moved through the water during fishing in order to capture fish, and includes otter trawls, beam trawls, hydraulic dredges, non-hydraulic dredges, and seines (with the exception of a purse seine).

Alternative 2D: Require VMS for vessels fishing in broad coral zones

Under this alternative, vessels would be required to use an approved Vessel Monitoring System (VMS) as a condition for operating within any broad coral zones.

[6]As indicated in section 4.XX, alternatives contained in this document would not apply to non-federally managed fisheries, including species managed solely by the Atlantic States Marine Fisheries Commission, such as American lobster.

5.3 DISCRETE CORAL ZONE ALTERNATIVES

Alternative 3A: No Action/*Status Quo*

Under this alternative, no action would be taken to designate discrete deep sea coral zones. This option is equivalent to the *status quo*.

Alternative 3B: Designation of Discrete Coral Zones

Under this alternative, specific submarine canyons and slope areas would be designated as discrete coral zones based on observed coral presence or highly likely coral presence indicated by modeled suitable habitat (Table 1; Figure 3).

Note: The boundaries of the proposed discrete zones have been modified from their previous versions by the Fishery Management Action Team (FMAT) based on the best available information about coral presence and suitable habitat. Specifically, the areas were re-drawn using a habitat suitability model for deep sea corals that was not available when the original boundaries were drawn. Additional criteria, including areas of very high slope, were also used during the re-evaluation of the boundaries. Some areas that were previously proposed as separate discrete areas have been combined. The basis for the revised boundaries is outlined in **Appendix A**.

Additionally, the list of proposed discrete zones below was formerly listed under three categories (sub-alternatives). These categories included areas recommended on the basis of a) high observed coral presence, b) highly likely coral presence (suitable habitat), and c) possible coral presence. The FMAT has analyzed the proposed areas based on the results of the habitat suitability model and other biological data. The FMAT may re-evaluate the list below and re-categorize the proposed areas into two or more categories, based on the biological analysis described in Section 6. The FMAT recommends seeking public input during the public hearing process on the organization of the proposed discrete zones into categories, including the number of categories and basis for classification and/or prioritization.

Table 1: Proposed discrete zones.

	Canyon or Complex	Area (km^2)
1	Block Canyon	231.6
2	Ryan and McMaster Canyons	390.3
3	Emery and Uchupi Canyons	369.2
4	Jones and Babylon Canyons	166.1
5	Hudson Canyon	770.8
6	Mey-Lindenkohl Slope (encompassing several canyons, including Mey, Hendrickon, Toms, South Toms, Berkley, Carteret, and Lindenkohl Canyons, and the slope area between them)	2818.2
7	Spencer Canyon	163.3
8	Wilmington Canyon	268.1
9	North Heyes and South Wilmington Canyons	183.4
10	South Vries Canyon	142.6
11	Baltimore Canyon	231.0
12	Warr and Phoenix Canyon Complex	511.6
13	Accomac and Leonard Canyons	538.2
14	Washington Canyon	554.1
15	Norfolk Canyon	543.7

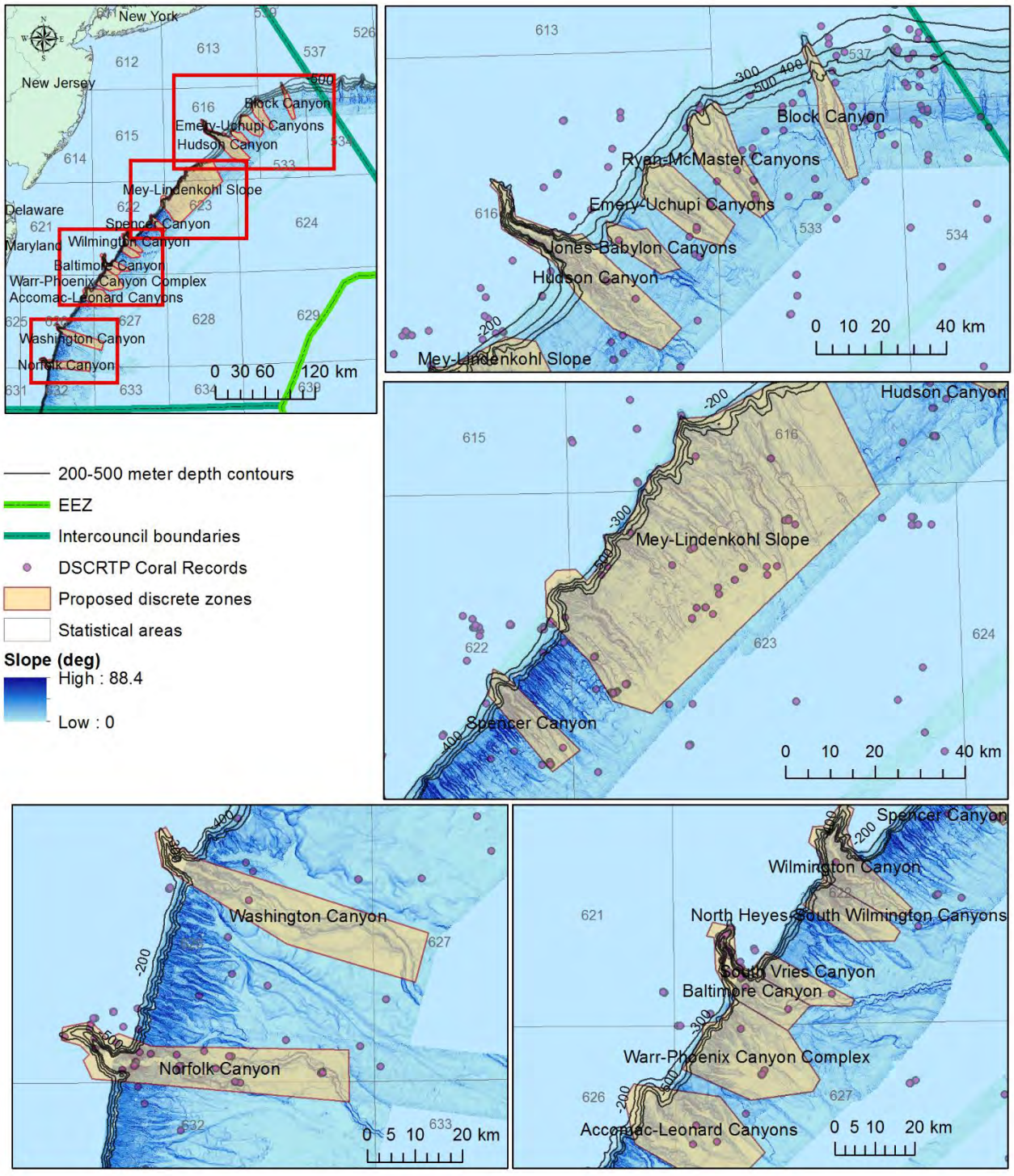


Figure 3: Discrete coral zone alternatives.

Sub-alternative 3B-1: *Advisor-proposed boundaries for specific canyons*

Under this sub-alternative, modified discrete zone boundaries would be implemented for Norfolk Canyon, Baltimore Canyon, and the Mey-Lindenkohl Slope, as proposed by a member of the Council's Mackerel, Squid, and Butterfish Advisory Panel following the April 2013 Deep Sea Corals Alternatives workshop (Table 2; Figure 4).

Table 2: Advisor-proposed boundaries for Norfolk Canyon, Baltimore Canyon, and the Mey-Lindenkohl Slope (sub-alternative 3B-1).

	Canyon or Complex	Area (km^2)
1	Mey-Lindenkohl Slope *(Advisor proposed; Straight line landward boundary)*	2445.3
2	Mey-Lindenkohl Slope *(Advisor proposed; Depth-based; landward boundary approximating 250 fathom contour)*	2458.8
3	Baltimore Canyon *(Advisor proposed)*	220.7
4	Norfolk Canyon *(Advisor proposed)*	598.4

5.4 MANAGEMENT MEASURES WITHIN DISCRETE CORAL ZONES

Alternative 4A: No Action

Under this alternative, no action would be taken to implement management measures in any potential discrete deep sea coral zones.

Alternative 4B: Prohibit all bottom-tending gear

Under this alternative, vessels would be prohibited from using any bottom-tending gear within designated discrete coral zones. "Bottom-tending gear" includes any mobile bottom-tending gear (as defined in Alternative 4C below), as well as any stationary or passive gear types that contact the bottom, including bottom longlines, pots and traps[7], and sink or anchored gill nets.

Alternative 4C: Prohibit mobile bottom-tending gear

Under this alternative, vessels would be prohibited from using any mobile bottom-tending gear within designated discrete coral zones. Mobile bottom-tending gear (as defined at 50 C.F.R. §648.200 with respect to the Northeast multispecies and tilefish fisheries) means gear in contact with the ocean bottom, and towed from a vessel, which is moved through the water during fishing in order to capture fish, and includes otter trawls, beam trawls, hydraulic dredges, non-hydraulic dredges, and seines (with the exception of a purse seine).

[7]As indicated in section 4.XX, alternatives contained in this document would not apply to non-federally managed fisheries, including species managed solely by the Atlantic States Marine Fisheries Commission, such as American lobster.

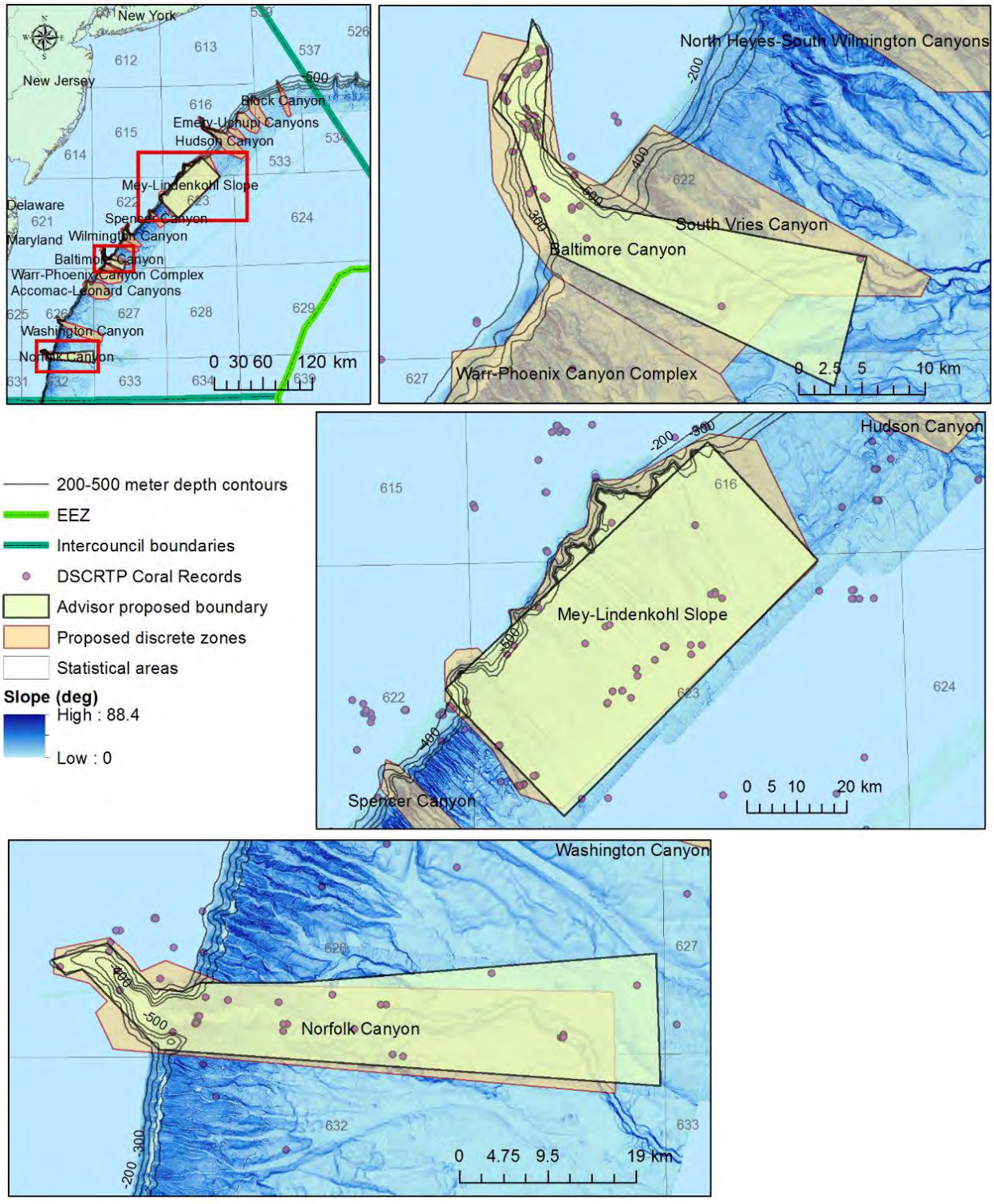


Figure 4: Advisor proposed boundaries (sub-alternative 3B-1).

5.5 FRAMEWORK PROVISIONS

Framework actions facilitate expedient modifications to certain management measures. Framework actions can only modify existing measures and/or those that have been previously considered in a fishery management plan (FMP) amendments. While amendments may take several years to complete and address a variety of issues, frameworks generally can be completed in 5-8 months and address one or a few issues in a fishery. The Mackerel, Squid, and Butterfish FMP contains a list of actions that are able to be taken via framework action. The following alternatives would modify that list to allow framework actions related to the proposed deep sea coral protections in this amendment.

Recently completed research cruises have observed deep sea corals in several canyons within the Mid-Atlantic Council management area. Additional research is planned or ongoing and many data products will not be available within the planned timeline for this amendment. Including options for framework provisions in this amendment may allow the Council to modify deep sea coral zones or management measures in response to new information or issues arising after implementation of the amendment.

Alternative 5A: No Action

Under this alternative, no changes would be made to the framework provisions of the Mackerel, Squid, and Butterfish FMP. Any future modifications to the deep sea coral zones or associated management measures would likely have to be accomplished via an FMP amendment.

Alternative 5B: Option to modify coral zone boundaries via framework action

This alternative would give the Council the option to modify the boundaries of deep sea coral zones through a framework action.

Alternative 5C: Option to modify management measures within zones via framework action

This alternative would give the Council the option to modify fishing restrictions, exemptions, and other management measures within deep sea coral zones through a framework action.

Alternative 5D: Option to add additional discrete coral zones via framework action

This alternative would allow the Council to add discrete coral zones through a framework action.

Alternative 5E: Option to implement special access program via framework action

This alternative would give the Council the option to design and implement a special access program for deep sea coral zones through a framework action.

5.6 MONITORING ALTERNATIVES

Alternative 6A: No Action

Under this alternative, no changes would be made to the VMS requirements for *Illex* squid moratorium vessels.

Alternative 6B: Vessel Monitoring Systems (VMS) requirement for *Illex* squid moratorium vessels

This option would require use of VMS for all *Illex* squid moratorium vessels (regardless of whether fishing activity is occurring within or outside of any potential deep sea coral zones).

5.7 CONSIDERED BUT REJECTED FROM FURTHER ANALYSIS

The following section contains FMAT recommendations for alternatives to be moved to "considered but rejected."

1. Require Council review and approval for fishing within broad zones

- ***Sub-alternative:*** Implement special access program (for existing fisheries)
- ***Sub-alternative:*** Implement exploratory fishing access program (for potential new fisheries)
- ***Sub-alternative:*** Implement research/experimental access program (for scientific research)

The FMAT recommends moving this alternative set to considered but rejected primarily due to existing exemption and access programs that would serve essentially the same purpose as these proposed alternatives. Specifically, Exempted Fishing Permits (EFPs) issued through the Greater Atlantic Regional Fisheries Office (GARFO) would cover many of the intended activities described under the sub-alternatives above. An EFP is a permit that authorizes a fishing vessel to conduct fishing activities that would be otherwise prohibited under the regulations at 50 CFR part 648 or part 697. Generally, EFPs are issued for activities in support of fisheries-related research, including seafood product development and/or market research, compensation fishing, and the collection of fish for public display. **Exploratory fishing** as described in the sub-alternative above would be covered by the existing EFP program.

For a **special access** program within any potential broad zones, if the Council wishes to permit special access for any fishing activities, it is possible that such a system could be designed. However, the Council would need to give specific direction as to how such a system would operate, including who would be eligible, the types of fishing and species to be harvested. Because this alternative would need further development to be included in the amendment, the FMAT recommends moving this sub-alternative to "considered but rejected" at this time. However, a Council special access program could be implemented at a later date via a framework action if this amendment considers making a special access program frameworkable (provided that Alternative 5E, option to implement a special access program via framework action, is selected by the Council).

For the purposes of **scientific research**, a statutory exemption is provided within the Magnuson-Stevens Act, meaning scientific research activities are exempt from any and all MSA regulations. A Letter of Acknowledgement (LOA) can be obtained from the Regional Office that acknowledges certain activities as scientific research conducted from a scientific research vessel. An LOA is not required for scientific research, but serves as a convenience to the researcher and to law enforcement entities. To be considered a scientific research vessel, a vessel must be conducting scientific research activity under the direction of a foreign government agency, a U.S. government agency, a U.S. state or territorial agency, university or other accredited educational institution, international treaty organization, or scientific institution.

More information about EFPs, LOAs, and other exempted activity summarized above is available at:
http://www.nero.noaa.gov/permits/forms/EFPLOAEEAAPossessionLOAGuidance.pdf.

2. Require observers on vessels fishing in broad coral zones

The FMAT recommends moving this alternative to "considered but rejected" due to ongoing efforts to resolve issues related to observer coverage funding and industry cost-sharing. Specifically, an Omnibus Observer Coverage Funding Amendment is currently being developed jointly between the Mid-Atlantic and New England Councils, and is directly related to proposed requirements like the one under this alternative. The Omnibus amendment was initiated following NMFS's partial disapproval of both Amendment 5 to the Atlantic Herring FMP and Amendment 14 to the Mackerel, Squid, and Butterfish FMP, which contained recommendations for 100 percent observer coverage for certain vessels and provisions for cost-sharing with industry participants. There is no current legal mechanism that allows NMFS and the fishing industry to share observer costs, and budget uncertainties have prevented NMFS from being able to commit to funding for increased observer coverage for particular fisheries. Without a clear and viable funding source for this requirement, this alternative is not practical at this time. Once the Omnibus Observer Coverage Funding Amendment is completed, the Council could address observer coverage requirements within broad coral zones through a future framework action if this amendment considers making management measures within broad zones frameworkable (provided that Alternative 5C, option to modify management measures within coral zones, is selected by the Council).

3. Require gear monitoring electronics on board to fish within broad or discrete zones (equipment monitoring gear distance from seafloor)

This alternative was proposed at the August 2013 Council meeting, and would require vessels operating in broad or discrete zones to have gear monitoring electronics on board that are able to read the distance from the seafloor at which the vessel's gear is operating. The FMAT recommends that this alternative be moved to "considered but rejected" at this time due to the need for more development, including clarification on how such a requirement would work and the specific purpose it would serve. Specifically, whether this alternative would serve as a tool for enforcement purposes, or simply as a tool for the vessel operator's knowledge to facilitate avoiding bottom contact. More information is needed on how these systems would operate in the context of the proposed measures in this amendment, and the potential benefits to requiring them on board, including any potential intersection with enforcement.

The FMAT recognizes that this proposed alternative is at least partially related to concerns regarding vessel movement in and around zones when fishing gear is not fully deployed. The FMAT also recognizes the need for more information and development of measures to address these issues. Specifically, there is a need to consider vessel needs for deployment and haulback of gear (which for squid trawl vessels often extends significantly behind the vessel). Squid trawlers target specific high productivity areas in and around the heads of the canyons, near the continental shelf-slope break. If any of the proposed coral zones are implemented, future fishing activity near these zones would likely occur very near the coral zone boundaries, posing a potential problem for vessels when positioning for gear deployment or haulback, or drifting into closed areas during these processes. Additionally, there is a need to consider potential allowances and associated restrictions for transit through any potential coral zones (for example, transit allowances for vessels with stowed gear, etc.). The FMAT recommends soliciting feedback and suggestions from the public and the Council's advisors on these issues during the public hearing process.

4. Exempt *Illex* and longfin squid fisheries from broad zone restrictions AND
5. Exempt *Illex* and longfin squid fisheries from discrete zone restrictions

The FMAT recommends that the alternatives exempting the *Illex* and longfin squid fisheries from both broad and discrete zone be moved to "considered but rejected." If the Council wishes to avoid negative economic impacts to the squid fisheries, the FMAT believes that there is a sufficient range of options within the document that would allow this to occur, including the "no action" option under each alternative set as well as the option to designate the deepest depth-based broad zone (500m). For analysis purposes under the National Environmental Policy Act (NEPA), when the above exemption alternatives are included in any set of alternatives taken in combination, the result is essentially a *status quo* situation in terms of impacts to the affected environment. Thus, these exemption alternatives would appear to be contrary to the "purpose and need" of the amendment if they would result in a lack of meaningful action in combination with other alternatives.

6. Depth-contour based boundaries for discrete coral zones

Under this alternative, the landward boundary designations of the discrete coral zones would follow one of the following depth contours: 200 m, 300 m, 400 m, or 500 m. The boundary would follow the contour until the point at which the depth contour boundary intersects with the original boundaries of the sides of the canyon, and follow the original boundaries on the seaward side. The FMAT recommends that these options be moved to "considered but rejected" for several reasons. The discrete zones are intended to encompass areas of coral presence and highly likely coral habitat, and therefore the revised discrete zone boundaries were drawn based on the best available scientific information about coral presence and suitable habitat. In the course of re-drawing the boundaries, the FMAT attempted to align any landward boundaries with one of the proposed depth contours. The FMAT found that the vast majority of proposed depth-contour based boundaries did not meet or approximate the criteria for drawing the boundaries based on coral presence and habitat suitability (see Appendix A). Given the differences across canyon and slope areas, there was additionally no consistent depth contour across proposed areas which would approximate areas of high coral habitat suitability. Finally, analysis of all proposed depth-contour based boundaries in combination with the model-based boundaries and additional advisor proposed boundaries would mean analyzing five to seven different sets of boundaries for each area. This would complicate any cumulative effects analysis given the need to analyze all alternatives in combination with each other alternative, and delay amendment development.

6.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT

6.1 PHYSICAL ENVIRONMENT

[To be completed]

6.2 BIOLOGICAL ENVIRONMENT

6.2.1 Description of the Managed Resource

Atlantic mackerel is a semi-pelagic/semi-demersal (may be found near the bottom or higher in the water column) schooling fish species primarily distributed between Labrador (Newfoundland, Canada) and North Carolina. Additional life history information is detailed in the Essential Fish Habitat (EFH) document for the species, located at: http://www.nefsc.noaa.gov/nefsc/habitat/efh/. The status of Atlantic mackerel is unknown with respect to being overfished or not, and unknown with respect to experiencing overfishing or not. Recent results from the Northeast Fisheries Science Center (NEFSC) Spring Trawl survey (the spring survey catches the most mackerel) are highly variable, and are graphed in the "NEFSC Biological Update" that is created as part of the annual quota setting process. These are available at: http://www.mafmc.org/ssc-meeting-documents/ (see May 2014 Meeting Materials).

Atlantic butterfish is a semi-pelagic/semi-demersal schooling fish species primarily distributed between Nova Scotia, Canada and Florida. Additional life history information is detailed in the EFH document for the species, located at: http://www.nefsc.noaa.gov/nefsc/habitat/efh/. The status of butterfish is not overfished (above target biomass) with no overfishing occurring according to a recently accepted assessment (NEFSC 2014, available at: http://nefsc.noaa.gov/publications/crd/crd1403/).

Longfin squid is a semi-pelagic/semi-demersal schooling cephalopod species primarily distributed between Georges Bank and Cape Hatteras, NC. Additional life history information is detailed in the EFH document for the species, located at: http://www.nefsc.noaa.gov/nefsc/habitat/efh/. Based on a new biomass reference point from a 2010 stock assessment, the longfin squid stock was not overfished in 2009, but overfishing status was not determined because no overfishing threshold was recommended (though the assessment did describe the stock as "lightly exploited'). The assessment documents are available at: http://www.nefsc.noaa.gov/saw/reports.html. Recent results from the NEFSC Trawl surveys are highly variable, and are graphed in the "NEFSC Biological Update" that is created as part of the annual quota setting process. These are available at: http://www.mafmc.org/ssc-meeting-documents/ (see May 2014 Meeting Materials).

Illex squid is a semi-pelagic/semi-demersal schooling cephalopod species distributed between Newfoundland and the Florida Straits. Additional life history information is detailed in the EFH document for the species, located at: http://www.nefsc.noaa.gov/nefsc/habitat/efh/. The status of *Illex* is unknown with respect to being overfished or not, and unknown with respect to experiencing overfishing or not. Recent results from the NEFSC Trawl surveys are highly variable, and are graphed in the "NEFSC Biological Update" that is created as part of the annual quota setting process. These are available at: http://www.mafmc.org/ssc-meeting-documents/ (see May 2014 Meeting Materials).

6.2.2 Deep Sea Corals

Deep sea corals, or cold water corals, are generally defined as corals occurring at ocean depths below 50 meters. Several types of deep sea corals are found in the northeastern United States. Types of deep sea corals observed to date in the mid-Atlantic range from small, solitary corals to larger colonies including complex structure-forming corals. Deep sea corals, in particular types that form complex structures, provide habitat for many species of fishes and invertebrates.

Records of deep sea coral observations are maintained in a database by NOAA's Deep Sea Coral Research and Technology Program (DSCRTP). These records include historical and current data from a variety of sources, including peer-reviewed literature, research surveys, museum records, and incidental catch records. The records contained in this database are mostly **presence-only**. **Many areas have not been adequately surveyed for the presence of deep sea corals.** There is very little absence or abundance information available for deep sea corals, although usable absence data may become available as data is processed from recent research cruises.

Recent Research Surveys

Several recent research efforts have resulted in new observations of deep sea corals in the mid-Atlantic. Some of this research is still ongoing, with plans for some work to continue into 2014 and 2015. Although some qualitative results are available, much of the processed/georeferenced data from recent cruises is not yet available. New information has been incorporated into the range of alternatives to the extent possible, and will be added to the analysis as it becomes available before the amendment is finalized. Findings from these surveys are described briefly in Section 7.1.2.

NEFSC Fishery Independent Surveys

The Northeast Fishery Science Center's fishery independent surveys have been assessed for deep sea coral bycatch. Neither the NEFSC's trawl survey nor their scallop survey "catch" deep-sea corals in any meaningful quantities, nor is any catch of corals recorded in any significant quantitative way. For example, prior to the year 2000, bycatch quantity in the Atlantic sea scallop surveys were estimated by cursory visual inspection or "eyeballing" only. Since that time, the survey has gathered more quantitative bycatch information. The bycatch data, referred to as "trash," is divided up into 3 categories: substrate, shell, and other invertebrates, but the log sheets still only record percent composition and total volume (bushels), and methods and accuracy of this quantification may vary. The NEFSC trawl surveys also have a "trash" component – trash being defined as any substrate or non-coded invertebrate species. The trash is loosely described and roughly quantified to the whole liter.

The general lack of deep-sea coral in both of these surveys may be due to the surveys fishing too shallow to encounter the more significant (i.e., larger) deep-sea coral species (e.g., nearly all the scallop surveys fish < 100 m and all are < 140 m) and the possibility that some of these larger corals (e.g., *Paragorgia, Primnoa*) may have been "fished out" in the shallower areas earlier in the 19th and 20th centuries. Nevertheless, the NEFSC is planning to improve their quantification of invertebrate bycatch in their groundfish and scallop surveys, including the identification and enumeration of any deep-sea corals encountered.

Northeast Fisheries Observer Program

Records of deep sea coral bycatch in the Northeast Fisheries Observer Program (NEFOP) data have historically been sparse and inconsistently recorded, although there has been an attempt to improve this in recent years. In the spring of 2013, NEFOP implemented database and protocol changes related to the

documentation of deep sea coral interactions. The NEFOP Program Manual and NEFOP database now include more specific categories of coral, including: soft coral, hard coral, sea pens, and sponges (as opposed to several inconsistent, more generic categories applied in prior years).

A deep sea coral training module was developed based on a completed identification guide (Packer and Drohan 2013, unpublished), and has been successfully incorporated into all current observer certification programs offered at the NEFOP Training Center (including the At-Sea Monitor certification, Industry Funded Scallop Observer certification, and the NE Observer Program certification). This program includes basic coral identification skills, sampling protocols, and how corals interface with the NEFOP Species Verification Program (SVP). In addition to initial general identification, observers are now instructed on proper photographic logging of any deep sea coral bycatch. These photos are to be uploaded for species identification or confirmation by NOAA coral experts. All observer-issued reference materials are now uploaded with the most current Coral ID guide and sampling protocols. Additionally, all NEFOP editing staff have also been trained on the NEFOP Coral Program.

When reviewing observer data for deep sea coral interactions, it is important to keep in mind that the percentage of commercial fishing trips actually covered by observers or the observer program varies depending on the fishery (gear type, fishing area, target species, etc.). Additionally, because the observer program observes thousands of trips every year in dozens of different fisheries, with each fishery having its own regulations for mesh size and configuration, a reported absence of deep-sea coral at a location may simply be a function of the catchability of the gear used. This is also a problem with the NEFSC surveys; it is important to remember that fishing gear is not designed to "catch" deep-sea corals. Some level of gear impacts may be occurring that do not result in corals or coral fragments being retained or entangled in the gear, able to be viewed by an observer. Deep sea coral records from the NEFSC Fishery Independent Surveys are described in Section 7.1.3

6.2 ENDANGERED AND PROTECTED RESOURCES

[To be completed]

6.3 HUMAN COMMUNITIES AND ECONOMIC ENVIRONMENT

[To be completed]

7.0 IMPACTS OF THE ALTERNATIVES

7.1 Deep Sea Coral Distribution and Habitat Relative to Proposed Coral Zones

7.1.1 Deep Sea Coral Research and Technology Program Records

Coral presence data from NOAA's Deep Sea Coral Research and Technology Program database were analyzed using ArcGIS software and Microsoft Excel to determine how records of known corals overlap with proposed management areas. The DSCRTP database[8] contains 870 records of deep sea corals within the MAFMC management region. Of these, 635 records are included within proposed broad coral zones (73%; Table 3). There is only one coral record in the database that is contained within a proposed discrete zone that is *not* also encompassed by a broad zone alternative (one observation of *Dasmosmilia lymani*, a stony coral, in Baltimore Canyon). Within the proposed discrete zones, the areas of highest coral observations are contained within Baltimore Canyon, Norfolk Canyon, and the Mey-Linedenkohl Slope (Table 6). These areas are all included in the areas recommended based on high documented coral presence and suitable habitat.

The coral records within the total area of the proposed zones are composed of sea pens (40%), soft corals/gorgonians (34%), and hard/stony corals (26%). Outside of the proposed zones, there are 232 total records, the majority of which are stony corals or sea pens (Table 5). The data below should be interpreted with caution. As described above, the data are presence-only, and many areas have not been explored for the presence of corals. Furthermore, identifying deep sea coral taxa down to genus and species levels is difficult and problematic, especially through the use of photographs or video alone; also, deep sea coral taxonomy is in a constant state of flux. Additionally, given the nature of this type of data collection, many of the records tend to be spatially clustered and may display a bias toward areas that are easier to sample or are heavily studied for reasons other than deep sea corals. This analysis does not include the results of recent survey work, as data from these cruises has not yet been added to the DSCRTP database (however, some information is available; see Section 7.1.2 for additional discussion of recent research findings).

Table 3: Deep sea coral presence records within proposed MAFMC broad coral zones, in number (a) and percent (b). Data from DSCRTP database as of June 2013.

a.		**Total records (all types)**	**Soft corals and gorgonians**	**Stony corals**	**Sea pens**
Broad zone (depth contour as landward boundary)	*[Shallower than 200 m]*	*235*	*24*	*118*	*93*
	200 meter broad zone	**635**	**214**	**167**	**255**
	[between 200 m and 300 m]	*40*	*1*	*17*	*23*
	300 meter broad zone	**595**	**213**	**150**	**232**
	[between 300 m and 400 m]	*51*	*10*	*26*	*15*
	400 meter broad zone	**544**	**203**	**124**	**217**
	[between 400 m and 500 m]	*25*	*15*	*4*	*6*
	500 meter broad zone	**519**	**188**	**120**	**211**
	TOTAL (MAFMC Region)	**870**	**238**	**285**	**348**

[8] As of June 10, 2013.

b.		% of total records (all types)	% Soft corals and gorgonians	% Stony corals	% Sea pens
Broad zone (depth contour as landward boundary)	*[Shallower than 200 m]*	*27%*	*10%*	*38%*	*27%*
	200 meter broad zone	**73%**	**90%**	**62%**	**73%**
	[between 200 m and 300 m]	*5%*	*0%*	*6%*	*7%*
	300 meter broad zone	**68%**	**89%**	**56%**	**67%**
	[between 300 m and 400 m]	*6%*	*4%*	*10%*	*4%*
	400 meter broad zone	**62%**	**85%**	**46%**	**62%**
	[between 400 m and 500 m]	*3%*	*6%*	*5%*	*2%*
	500 meter broad zone	**60%**	**79%**	**40%**	**61%**
	TOTAL (MAFMC Region)	**100%**	**100%**	**100%**	**100%**

Table 4: Composition of deep sea corals presence records by type within proposed broad and discrete zones. Data from DSCRTP database as of June 2013.

	Broad Zones		**Discrete Zones[a]**	
Coral Type	Number of Records within Broad Zones	% Composition of Broad Zone Records by Coral Type	Number of Records within Discrete Zones	% Composition of Discrete Zone Records by Coral Type
Soft corals and gorgonians	213	33.5%	82	35.6%
Stony corals	167	26.3%	64	27.8%
Sea pens	255	40.2%	84	36.5%
TOTAL	**635**	**100%**	**230**	**100%**

[a] All records within proposed discrete zones are also contained within the shallowest broad zone option (200 m), with the exception of two records in Norfolk Canyon (one sea pen and one stony coral).

Table 5: Deep sea coral presence records within the Mid-Atlantic region but NOT within any of the proposed zones. Data from DSCRTP database as of June 2013.

Coral Type	Number of Records OUTSIDE of proposed coral zones	% by Coral Type
Soft corals and gorgonians	23	10%
Stony corals	117	50%
Sea pens	92	40%
TOTAL	**232**	**100%**

Table 6: Deep sea coral historical presence records by proposed discrete zone. Note that these records reflect varying spatial concentrations of survey effort, and many areas have not been surveyed for corals. This data also does not contain any new records from recent research surveys (2012-2013).

	Coral Type (Order)				
Canyon or Complex	**Alcyonacea**	**Gorgonacea**	**Pennatulacea**	**Scleractinia**	**Total Records**
Block Canyon					**0**
Ryan-McMaster Canyons		5	7	4	**16**
Emery-Uchupi Canyons	1		3	2	**6**
Jones-Babylon Canyons				1	**1**
Hudson Canyon	1	1		3	**5**
Mey-Lindenkohl Slope	9	13	40	12	**74**
Spencer Canyon		1	9	2	**12**
Wilmington Canyon			2		**2**
North Heyes-South Wilmington Canyons					**0**
South Vries Canyon	1			1	**2**
Baltimore Canyon	7	21	1	25	**54**
Warr-Phoenix Canyon Complex			14		**14**
Accomac-Leonard Canyons	1		3	2	**6**
Washington Canyon				1	**1**
Norfolk Canyon	5	16	5	11	**37**
Grand Total	**25**	**57**	**84**	**64**	**230**

7.1.2 Recent Research Survey Data

As noted previously, deep sea corals have recently been observed within the boundaries of several proposed discrete coral zones, including Ryan Canyon, Block Canyon, the Mey-Lindenkohl Slope, Norfolk Canyon, and Baltimore Canyon. Although some qualitative results are available, much of the processed/georeferenced data from recent cruises is not yet available. New information has been incorporated into the range of alternatives to the extent possible, and will be added to the analysis as it becomes available before the amendment is finalized. Findings from each survey are briefly described below.

2012 BOEM Survey

In 2012, research cruises funded by the Bureau of Ocean Energy Management (BOEM) explored mid-Atlantic deepwater hard bottom habitat, focusing on canyon habitats and coral communities. This survey included many dives in Baltimore Canyon using a remotely operated vehicle (ROV), and a few dives in Norfolk Canyon. Deep sea corals were locally abundant in both Baltimore and Norfolk Canyons, and the surveys resulted in the first observations of the species *Lophelia pertusa* in the mid-Atlantic (Figure 5). *L. pertusa* is a structure-forming coral commonly found off the coast of the southeastern U.S., and occasionally observed in New England, but has not previously been observed in the mid-Atlantic. In September 2012, *L. pertusa* was observed in live colonies on steep walls in both Baltimore and Norfolk

Canyons, at depths between 381 and 434 m.[9] Several other coral types were observed in both Baltimore and Norfolk Canyons, including dense areas of *Paragorgia, Anthothela, Primnoa*, and *Acanthogorgia* communities (georeferenced data not yet available). Many sightings of lost fishing gear were also recorded in the two canyons, including traps, fishing lines, and nets. Baltimore and Norfolk Canyons are currently included in the range of possible deep sea coral discrete zones under Alternative 3B.

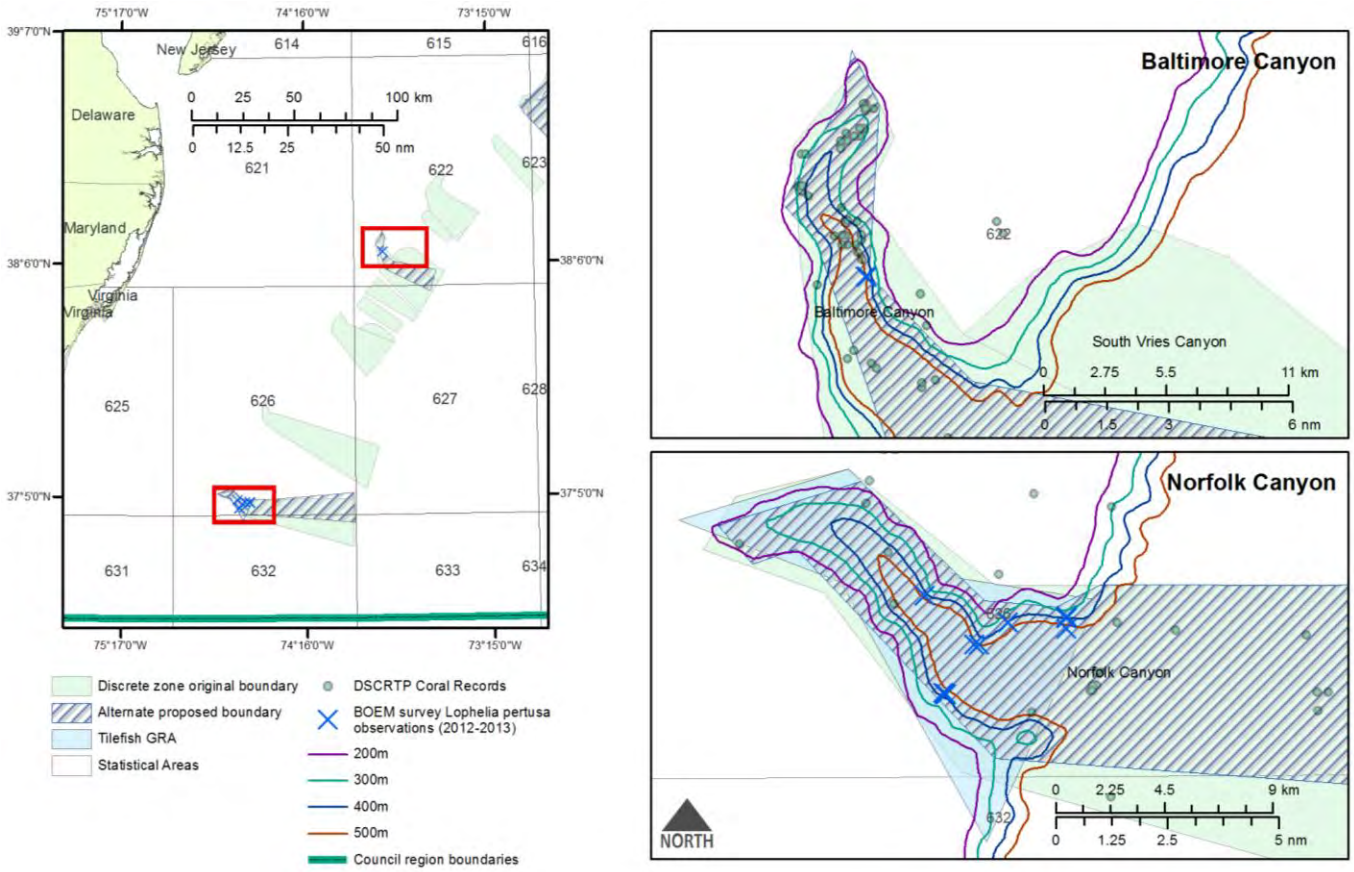


Figure 5: Observations of *Lophelia pertusa* from BOEM cruises in Baltimore and Norfolk Canyons, 2012 and 2013. Source: Brooke and Ross (2013).

2012 ACUMEN Survey

In the summer of 2012, the Atlantic Canyons Undersea Mapping Expeditions (ACUMEN) surveys concluded with a deep-sea coral survey funded by NOAA and the Deep-Sea Coral Research and Technology Program from aboard the NOAA ship *Henry Bigelow*.[10] Areas sampled in the mid-Atlantic included Middle Toms Canyon, the edge of Hendrickson Canyon, the slope area between Toms and Hendrickson Canyons, and Toms Canyon. Using a towed camera system, high-resolution images were taken to collect data on deep-sea coral diversity, abundance, and distribution, as well as ground-truth locations of predicted deep-sea coral habitat (based on habitat suitability model outputs), historical records, and multibeam bathymetry collected by NOAA ships *Okeanos Explorer* and *Ferdinand*

[9] Brooke, S., and Ross, S.W. In press. First observations of the cold-water coral *Lophelia pertusa* in mid-Atlantic canyons of the USA. Deep-Sea Res. II. http://dx.doi.org/10.1016/j.dsr2.2013.06.011.

[10] http://oceanexplorer.noaa.gov/okeanos/explorations/acumen12/bigelow/welcome.html.

Hassler. Deep-sea corals were observed in many locations within the Toms Canyon complex, which is currently included in the range of proposed deep sea coral zones (the Mey-Lindenkohl slope area) under Alternative 3B (recommended based on coral presence). Corals were observed during every tow with fewest coral observations at the head of Toms Canyon and the most coral observations made in Middle Toms Canyon (Table 7). The majority of corals were octocorals, with fewer observations of scleractinians (stony corals) and sea pens. Differences among individual canyons likely reflect differences in depth and substrate type in the area where tows were conducted. These factors are hypothesized to influence coral abundance and distribution.

2013 DSCRTP Survey

In the summer of 2013, scientists from NOAA, Woods Hole Oceanographic Institution (WHOI), and the Delaware Museum of Natural History (DMNH) conducted another deep-sea coral survey cruise aboard NOAA ship *Henry Bigelow*. This cruise, a logical follow-on to the successful ACUMEN initiative, utilized the same towed camera system and methodologies as the previous cruise. Only one Mid-Atlantic canyon, Ryan Canyon, was surveyed during this cruise. Five tows were made, covering shallow, mid, and deeper depths within the canyon. Based on data collected from approximately 9,000 bottom images, corals were virtually nonexistent along the shallowest (closest to the canyon head) tow tracks. Corals were significantly more abundant at the deepest tow (Table 7). Similar to results from the 2012 expedition, in the areas surveyed, the majority of corals observed were octocorals and differences in coral distribution within Ryan Canyon likely reflect differences in depth and substrate type. One camera tow survey, following the 500 m contour, was made in the intercanyon area between Ryan and McMaster canyons. Corals were observed in only one image.

2013 Okeanos Explorer Survey

In the summer of 2013, the NOAA vessel *Okeanos Explorer* explored mid-Atlantic submarine canyons using an ROV. In the mid-Atlantic, this included work in and around Block Canyon, where deep sea corals were observed in July of 2013.[11]

2014 Fieldwork in the Mid-Atlantic Region

A 12-day cruise aboard the *Henry Bigelow* will begin Tuesday, August 5, 2014 and will conduct towed camera surveys in several Mid-Atlantic canyons. Using the WHOI camera system TowCam, researchers will explore Carteret, Lindenkohl, Spencer, Wilmington, Accomac, and Washington canyons. Results from this cruise will likely influence the choice of canyons selected by NOAA OER for exploration during the 18-day Okeanos Explorer September 2014 seamount cruise. Seven to ten ROV dives will be dedicated to canyons during that cruise.

[11] http://oceanexplorer.noaa.gov/okeanos/explorations/ex1304/dailyupdates/dailyupdates.html

Table 7: Preliminary image survey of NE canyon fauna from TowCam surveys, 2012-2013. Images were captured at 10 second intervals through each dive. Each bottom image was visually screened for hard and soft corals, sponges, and fish fauna. Presence/absence information was logged for each image.

TowCam Dive #	Canyon Location	Date	Launch Lat N	Launch Lon W	Recovery Lat	Recovery Lon	No. of Images on bottom	No. images with corals	No. images with sponges	% images with corals	% images with sponges	Nominal Depth (m)
HB1204-01	Toms Canyon SE	7/7/2012	38 56.3823	72 25.7944	38 55.5772	72 25.6275	1734	828	2	47.75	0.12	1802
HB1204-02	Toms Canyon Lower West	7/8/2012	38 57.1788	72 27.2815	38 57.5213	72 27.5442	2067	557	121	26.95	5.85	1736 to 1694
HB1204-03	Toms Canyon Canyon Head	7/8/2012	39 06.2975	72 38.0914	39 05.8721	72 38.1695	1226	11	16	0.90	1.31	553 to 861
HB1204-04	Hendrickson Canyon Lower East Scarp	7/9/2012	38 57.6673	72 26.3203	38 57.5940	72 26.5532	1148	291	264	25.35	23.00	175 to 1705
HB1204-05	Middle Toms Canyon Mid	7/10/2012	38 56.9385	72 35.3163	38 56.8551	72 35.0058	1963	1016	522	51.76	26.59	1337 to 1591
HB1204-06	Toms Canyon Mid-East	7/10/2012	39 01.6231	72 33.2098	39 01.7749	72 33.1740	1781	154	83	8.65	4.66	1115 to 1216
HB1302-001	Ryan Canyon	6/10/2013	39 46.4979	71 41.9049	39 46.3115	71 41.9738	649	0	0	0.00	0.00	599
HB1302-002	Ryan Canyon	6/11/2013	39 43.8514	71 42.6188	39 43.9435	71 41.9149	420	2	0	0.48	0.00	771
HB1302-003	Ryan Canyon	6/12/2013	39 43.8357	71 42.1705	39 43.3885	71 41.3225	2262	48	497	2.12	21.97	992
HB1302-004	Ryan Canyon	6/12/2013	39 42.3582	71 38.6827	39 41.5694	71 38.3807	2079	62	496	2.98	23.86	1135
HB1302-005	Ryan Canyon	6/13/2013	39 34.7145	71 33.3316	39 35.317	71 32.6441	1358	584	9	43.00	0.66	1965
HB1302-006	Ryan-McMaster Inter-canyon area	6/13/2013	39 47.5719	71 42.7850	39 47.3285	71 40.5977	2230	1	52	0.04	2.33	498

7.1.3 Northeast Fisheries Observer Program Records

Records of deep-sea coral bycatch in the Northeast region observer program data were obtained for the years 1994 to 2014. The data contains limited records with limited taxonomic information: there were 65 confirmed coral entries in the database collected from 1994-2014. Most of these records were identified as stony corals, with the remaining records composed primarily of sea pens (Table 8). Historically, observers did not record numbers or density; instead, because fishermen tended to toss the pile over the side, for most of the records, the total weight (in pounds) for deep-sea coral in a given haul was simply estimated. Gear types in these recorded observations included otter trawls, scallop dredges, lobster pots and sink gill nets, at beginning haul depths ranging from 5.5 to 464 meters (3 to 254 fathoms). Estimated or actual weights for the deep-sea coral in a given haul ranged from 0.1 to 100 kg.

Within the Mid-Atlantic Council region, only 11 records of deep sea corals have been reported in the observer data since 1994 (Table 9). Of these, six of were recorded as interactions with gill nets in state waters in the Chesapeake Bay area. Of the remaining 5 records in federal waters, none occur within any of the currently proposed deep sea coral zones (Figure 6).

Table 8: NEFOP records of deep sea interactions in the Northeast region, by coral type and gear type, 1994-2014. NK= not known.

Coral Type and Gear Type	Number of observations	Total weight (kg)
CORAL, SOFT, NK	**2**	**0.7**
TRAWL,OTTER,BOTTOM,FISH	2	0.7
CORAL, STONY, NK	**46**	**562.9**
DREDGE, SCALLOP,SEA	3	10.6
GILL NET, DRIFT-SINK, FISH	1	0.1
GILL NET, FIXED OR ANCHORED,SINK, OTHER/NK SPECIES	26	315.2
TRAWL,OTTER,BOTTOM,FISH	16	237
SEA PEN, NK	**17**	**7.8**
GILL NET, DRIFT-SINK, FISH	6	1.8
GILL NET, FIXED OR ANCHORED,SINK, OTHER/NK SPECIES	5	1.7
POT/TRAP, LOBSTER OFFSH NK	2	0.6
TRAWL,OTTER,BOTTOM,FISH	4	3.7
Grand Total	**65**	**571.4**

Table 9: NEFOP records of deep sea corals within the Mid-Atlantic Council Region, 1994-2014. NK= not known.

Coral Records by Gear Type	Number of observations	Total weight (kg)
DREDGE, SCALLOP,SEA	**3**	**10.6**
CORAL, STONY, NK	3	10.6
GILL NET, FIXED OR ANCHORED,SINK, OTHER/NK SPECIES	**6**	**120**
CORAL, STONY, NK	6	120
TRAWL,OTTER,BOTTOM,FISH	**2**	**100.1**
CORAL, SOFT, NK	1	0.1
CORAL, STONY, NK	1	100
Grand Total	**11**	**230.7**

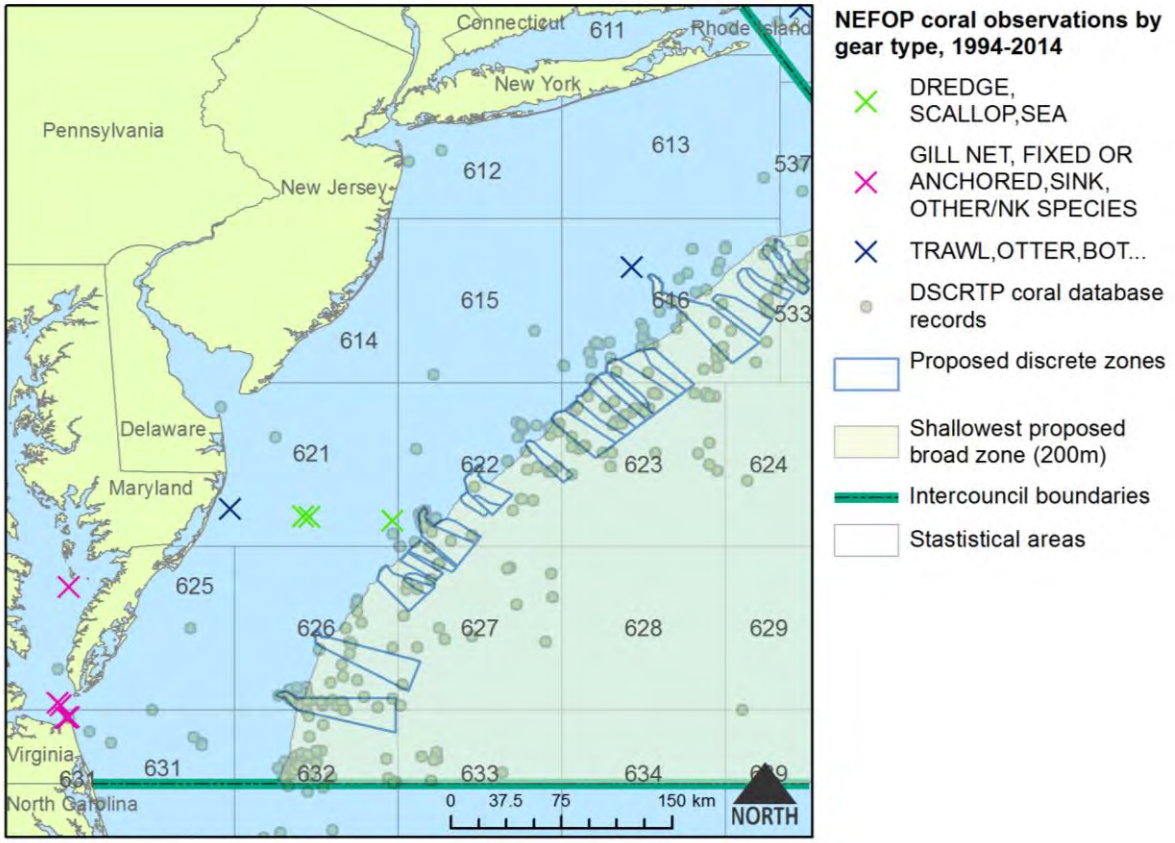


Figure 6: NEFOP records of deep sea corals in the Mid-Atlantic, 1994-2014.

7.1.4 Deep Sea Coral Habitat Suitability Model

The following summarizes the results of a habitat suitability model for deep sea corals in the Northeast region, developed in partnership between NOAA's National Centers for Coastal Ocean Science (NCCOS) and NOAA Northeast Fisheries Science Center (NEFSC).[12] This predictive habitat model was developed by relating two types of data: 1) known deep sea coral presence locations (from the Deep Sea Coral Research & Technology Program database), and 2) environmental and geological predictor variables. A variety of environmental inputs were incorporated, including variables for slope, depth, depth change, aspect ratio, rugosity, salinity, oxygen, substrate, temperature, turbidity, and others.

In the Northeast Region, several different taxonomic groups of deep sea corals were modeled. Some of these model outputs are better predictors of coral presence than others, due to different sample sizes of coral records of each type in the DSCRTP database. The model output for Gorgonian and Alcyonacean corals is expected to be the model with the best predictive ability for structure-forming deep sea corals, as it is based on a sizeable number of data points from known structure-forming species. Therefore, the model outputs for Gorgonian and Alcyonacean corals was used to evaluate each proposed discrete zone (Table 10-11, Figures 7-18). Model outputs are displayed in Figures 7 through 18 below, and reflect the predicted likelihood of deep sea coral habitat for a given area. In these maps, the values for predicted likelihood of coral habitat suitability are displayed by the following likelihood categories: very low, low, medium, high, and very high.

In July 2012, the NOAA ship Bigelow visited three "hotspots" predicted by the model, and surveyed the sites using WHOI's TowCam. Data collected during this cruise was used to refine model predictions. The model was qualitatively validated: all camera tow sites that were observed to be hotspots of coral abundance and diversity were also predicted hotspots of habitat suitability based on the regional model.

However, it should be noted that the exact location of deep coral hotspots on the seafloor often depends on fine-scale seabed features (e.g., ridges or ledges of exposed hard substrate) that are smoothed over in this regional-scale model. The current resolution of the model is grid cells of approximately 370 square km (although there are plans to improve model resolution to the 25 km scale within the next several years). These maps should be viewed as representing only the general locations of predicted suitable coral habitat (within approximately 350-750 meters, or approximately two model grid cells). Also, model predictions are of coral presence, and high likelihood of presence will not necessarily correlate with high abundance.

[12] Kinlan BP, Poti M, Drohan A, Packer DB, Nizinski M, Dorfman D, Caldow C. 2013. Digital data: Predictive models of deep-sea coral habitat suitability in the U.S. Northeast Atlantic and Mid-Atlantic regions. Downloadable digital data package. Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Centers for Coastal Ocean Science (NCCOS), Center for Coastal Monitoring and Assessment (CCMA), Biogeography Branch. Released August 2013. Available at: <http://coastalscience.noaa.gov/projects/detail?key=35>. Funding for this research was provided by the National Marine Fisheries Service - Northeast Fisheries Science Center, the NOAA Deep Sea Coral Research and Technology Program, and the National Ocean Service - National Centers for Coastal Ocean Science.

Table 10: Percent of each proposed discrete zone area within each predicted habitat suitability likelihood class (very low, low, medium, high, and very high), and total discrete zone area.

	Percent of canyon area within each likelihood class of predicted habitat suitability for Alcyonacean and Gorgonian Corals					
Canyon or Complex	**Very Low**	**Low**	**Medium**	**High**	**Very High**	**Total canyon Area (km^2)**
Block Canyon	9%	22%	61%	6%	2%	231.6
Ryan-McMaster Canyons	17%	19%	49%	11%	4%	390.3
Emery-Uchupi Canyons	18%	27%	42%	10%	2%	369.2
Jones-Babylon Canyons	12%	19%	46%	17%	5%	166.1
Hudson Canyon	12%	15%	30%	12%	30%	770.8
Mey-Lindenkohl Slope	18%	27%	41%	9%	6%	2818.2
Mey-Lindenkohl Slope *(Advisor proposed; Straight line)*	20%	28%	39%	8%	5%	2445.3
Mey-Lindenkohl Slope *(Advisor proposed; Depth-based)*	20%	27%	38%	9%	7%	2458.8
Spencer Canyon	18%	16%	49%	7%	10%	163.3
Wilmington Canyon	5%	7%	23%	15%	50%	268.1
North Heyes-South Wilmington Canyons	2%	10%	47%	27%	14%	183.4
South Vries Canyon	8%	11%	39%	30%	12%	142.6
Baltimore Canyon	8%	6%	31%	13%	42%	231.0
Baltimore Canyon *(Advisor proposed)*	13%	7%	23%	16%	41%	220.7
Warr-Phoenix Canyon Complex	5%	10%	51%	24%	10%	511.6
Accomac-Leonard Canyons	22%	20%	44%	12%	2%	538.2
Washington Canyon	45%	19%	22%	5%	10%	554.1
Norfolk Canyon	51%	8%	20%	8%	14%	543.7
Norfolk Canyon *(Advisor proposed)*	55%	8%	17%	7%	12%	598.4

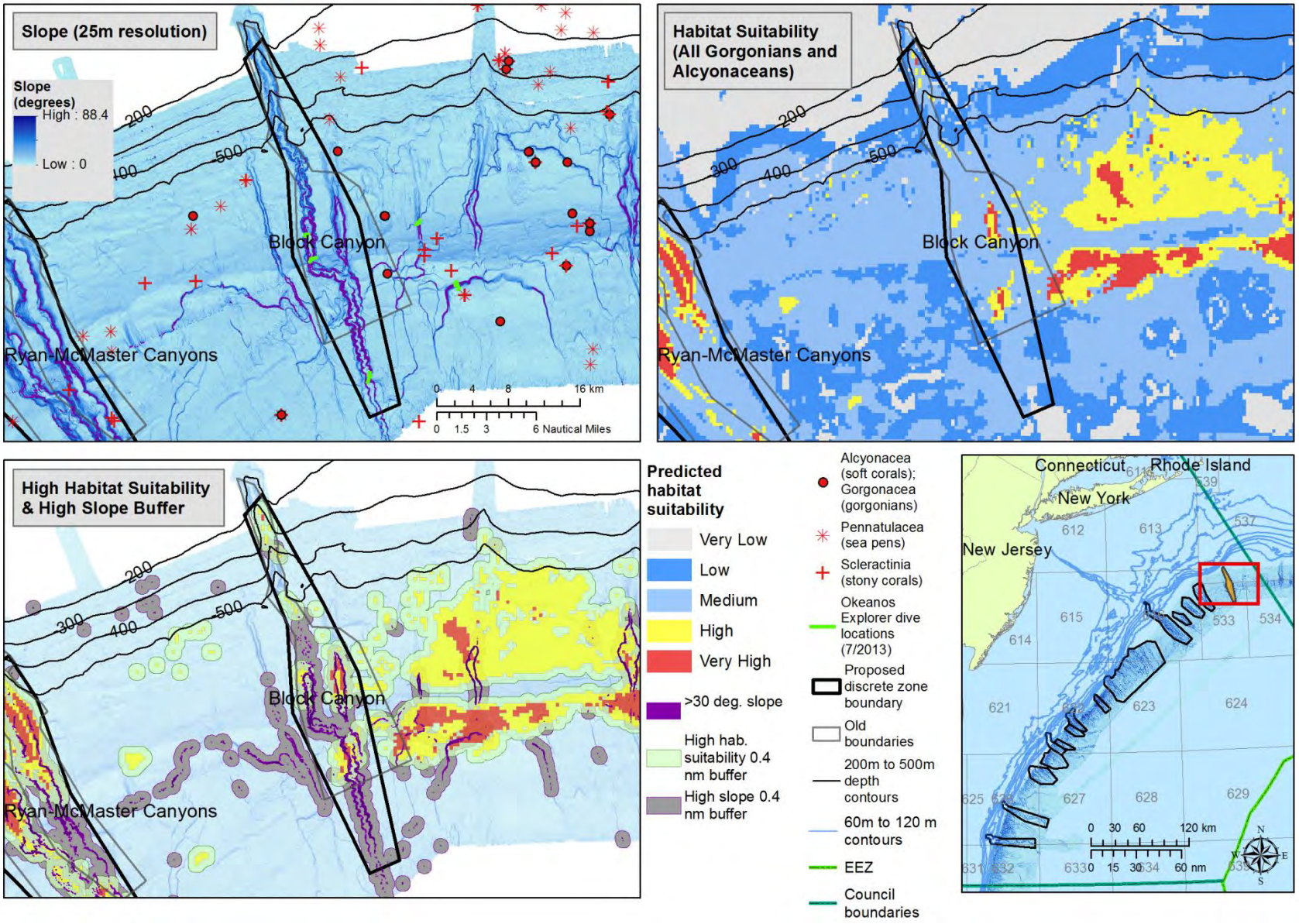


Figure 7: Block Canyon areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries.

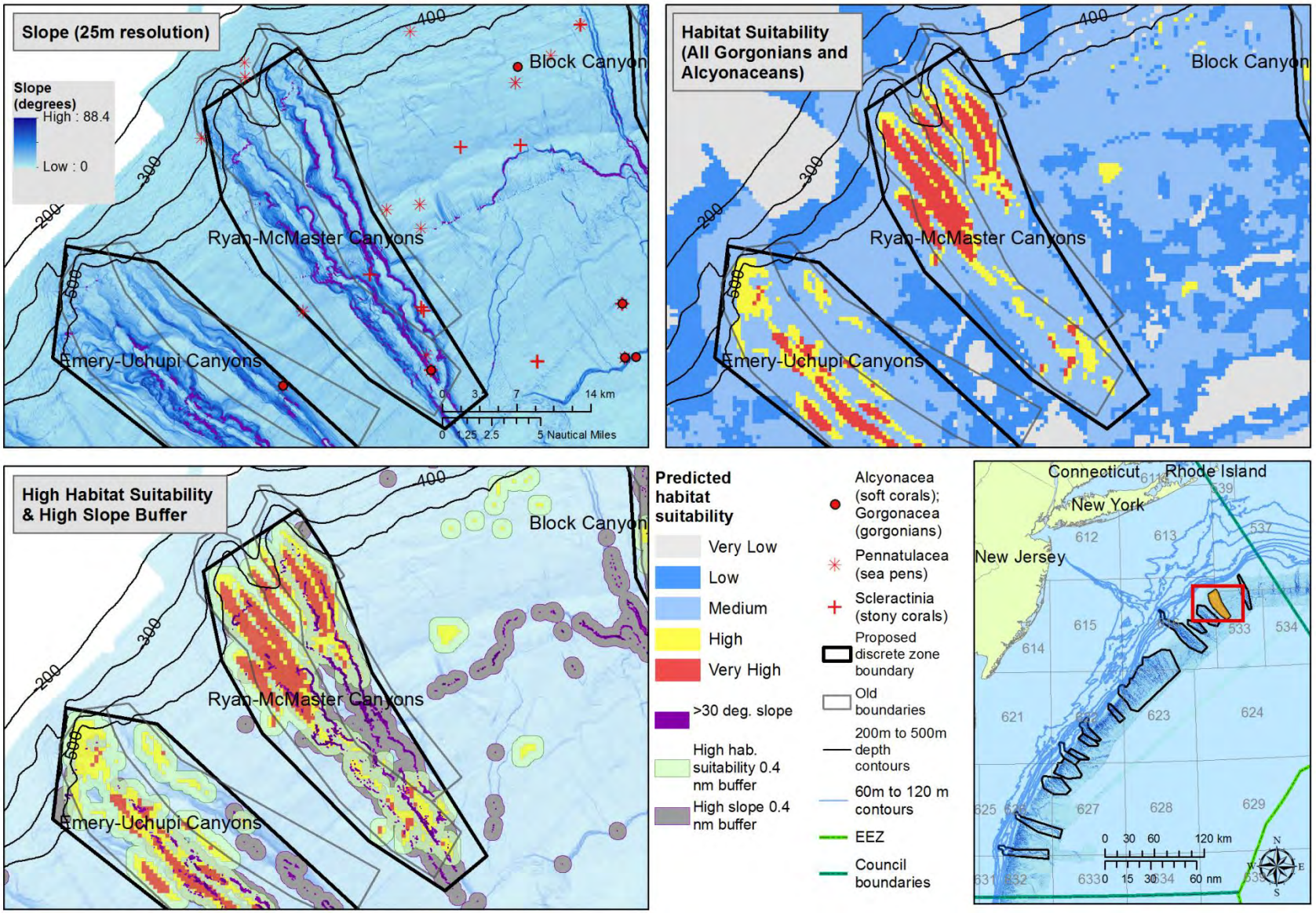


Figure 8: Ryan and McMaster Canyons areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries.

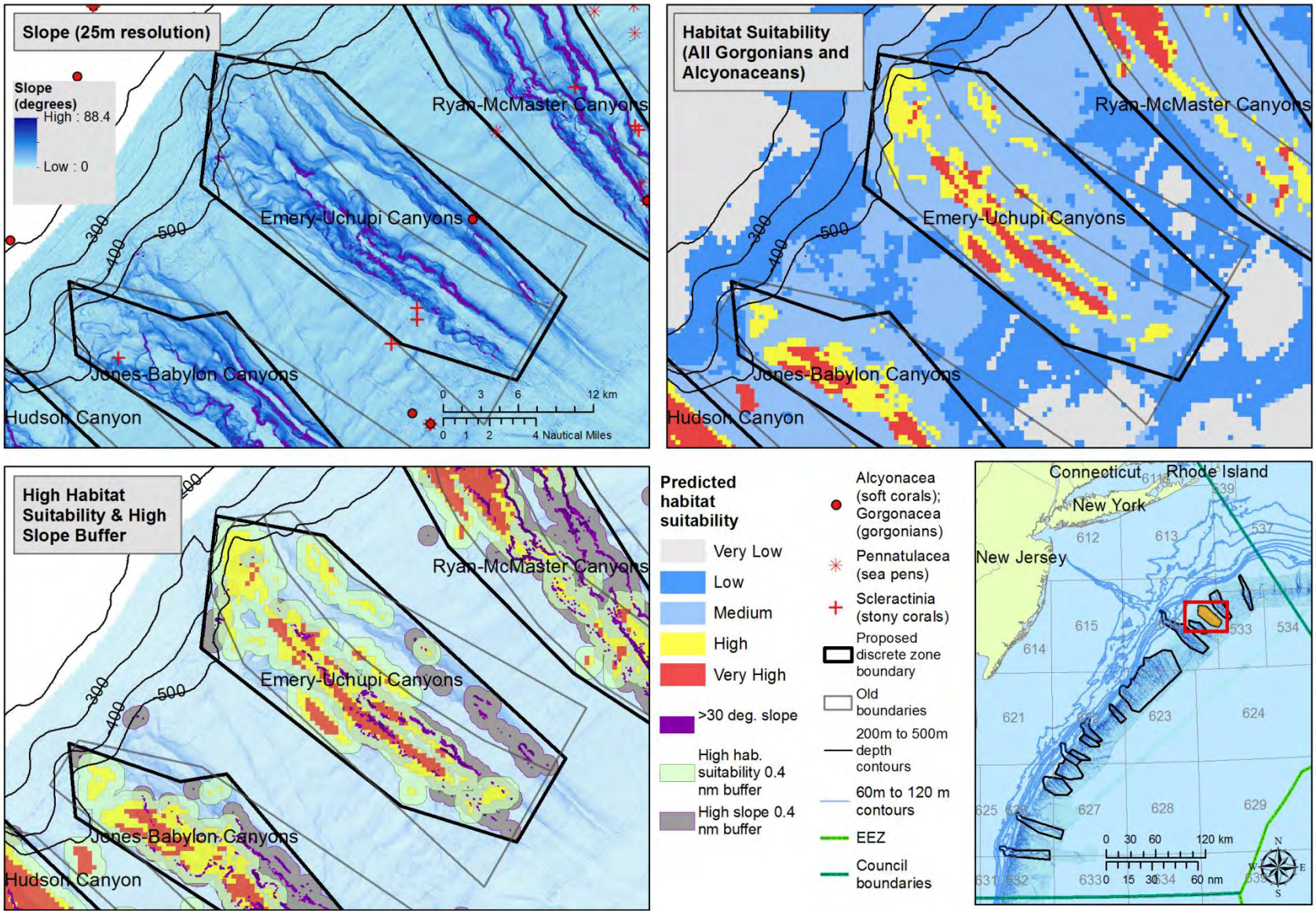


Figure 9: Emery and Uchupi Canyons areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries.

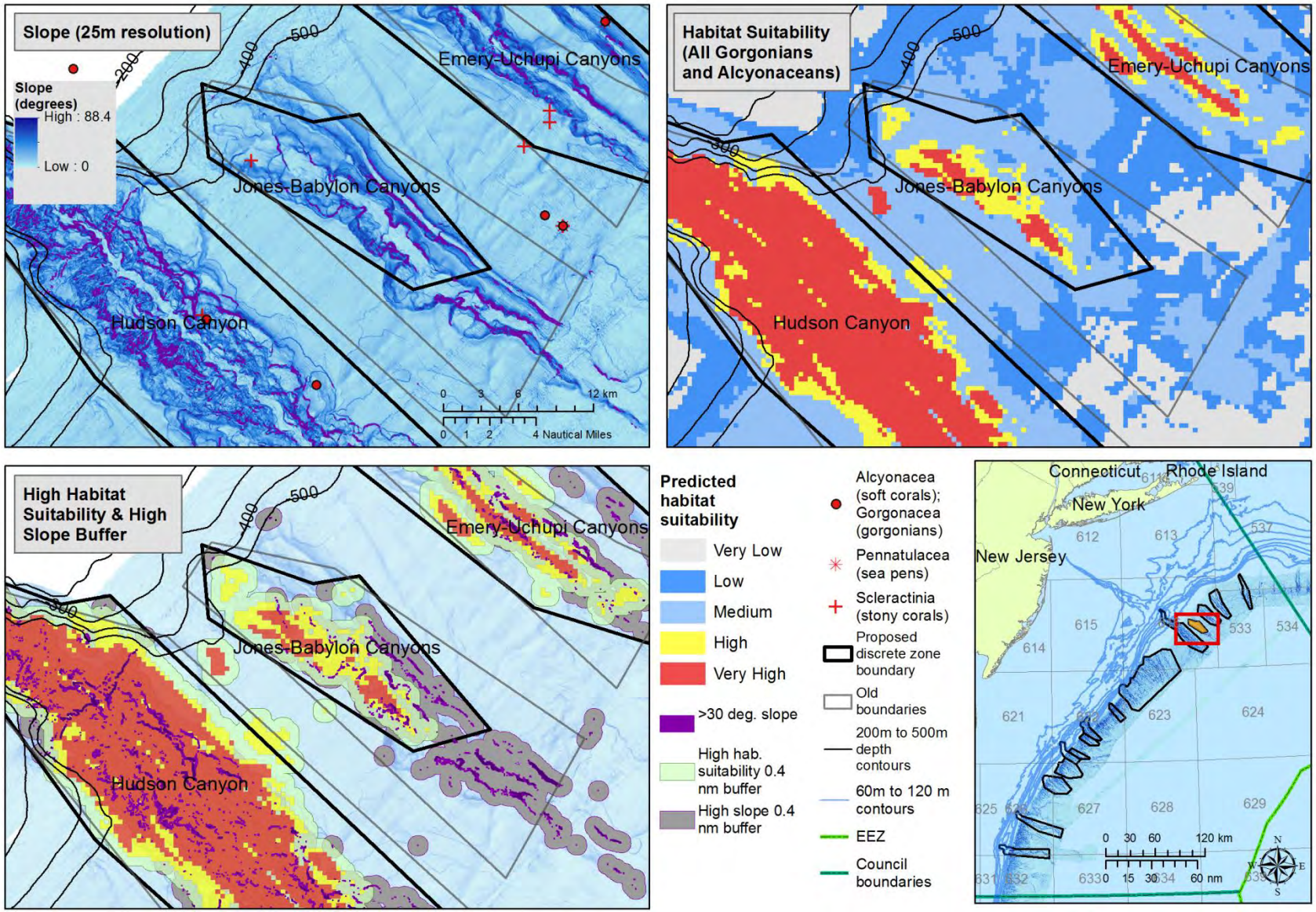


Figure 10: Jones and Babylon Canyons areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries.

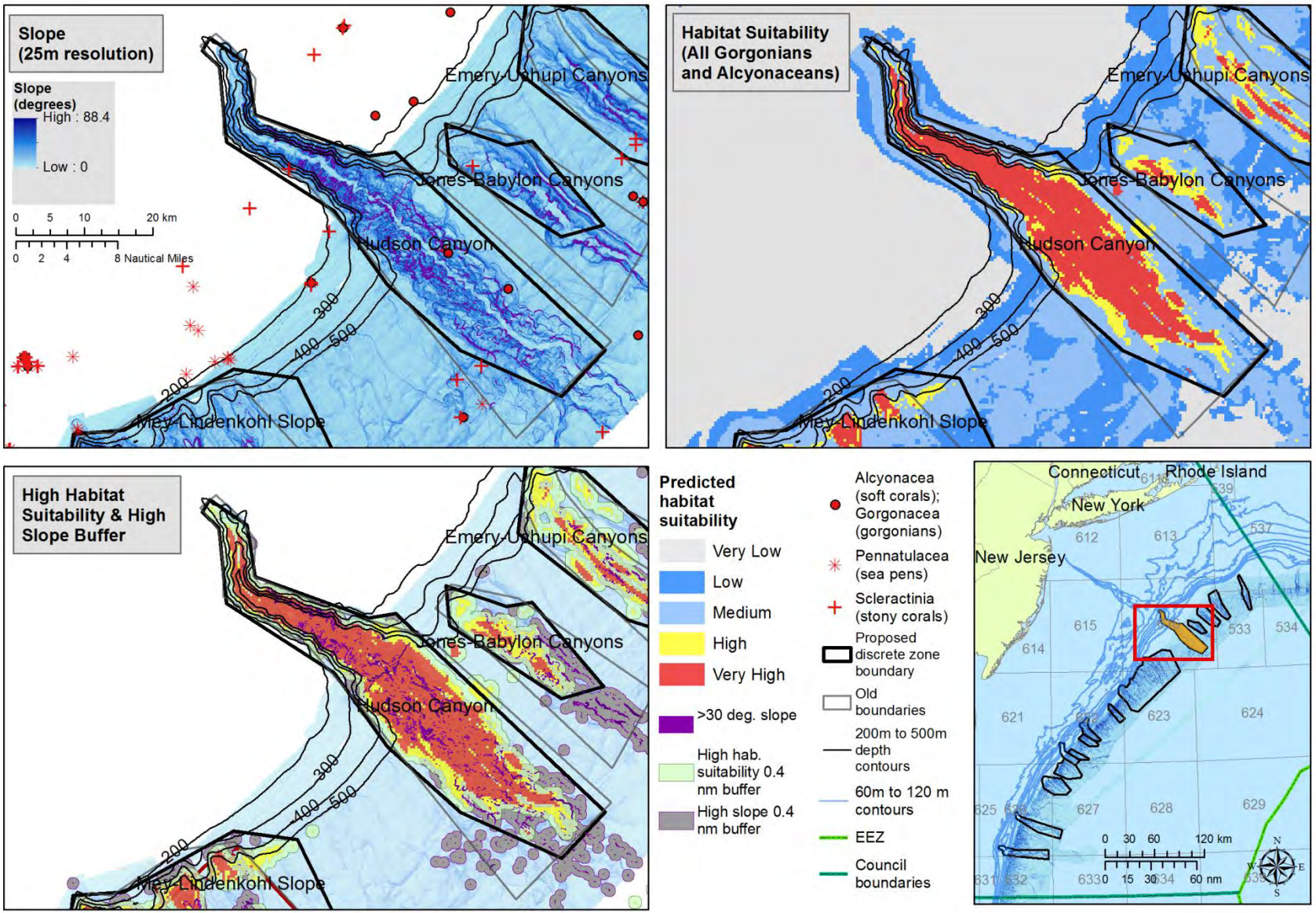


Figure 11: Hudson Canyon areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries.

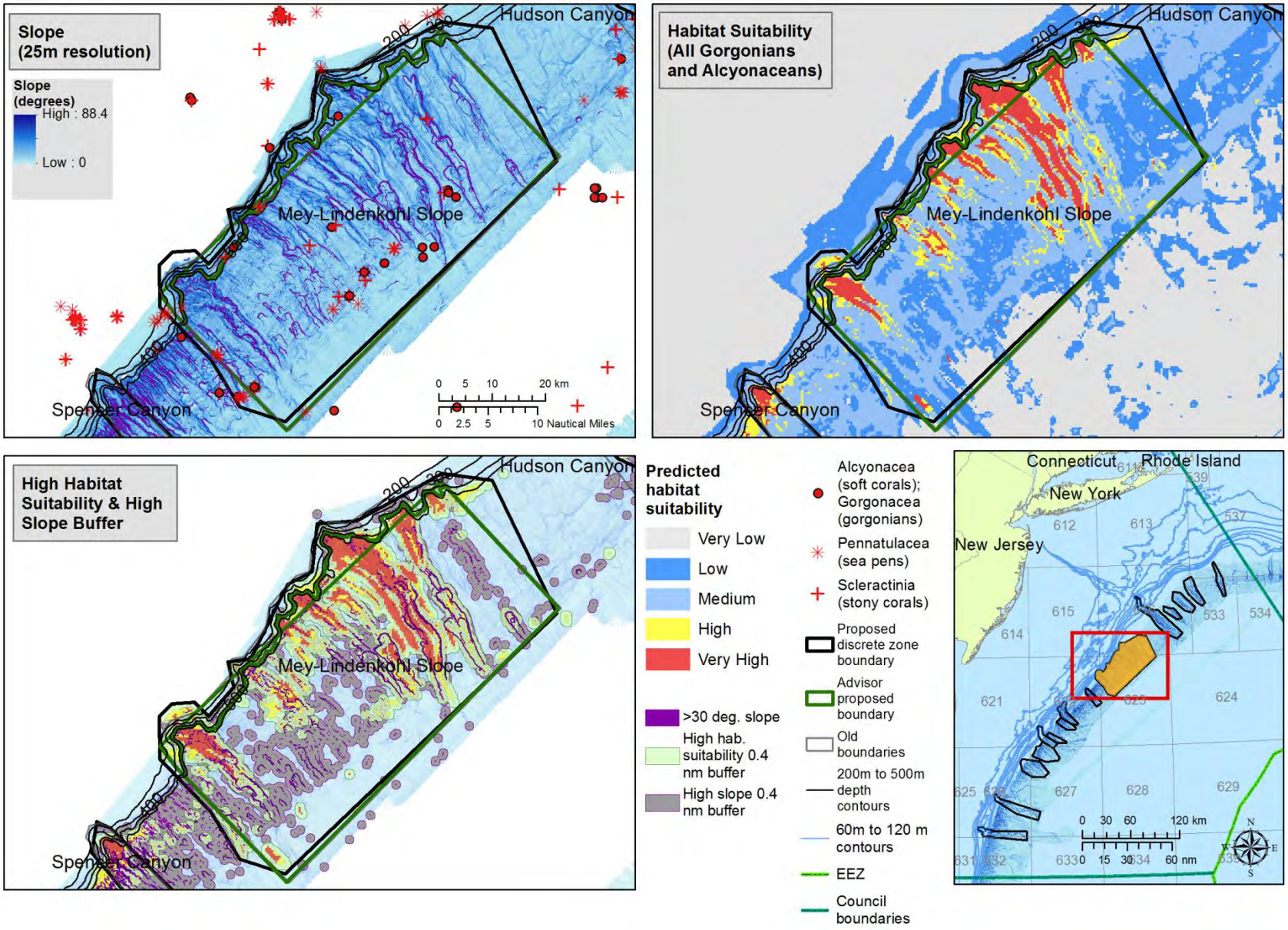


Figure 12: Mey-Lindenkohl Slope areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries.

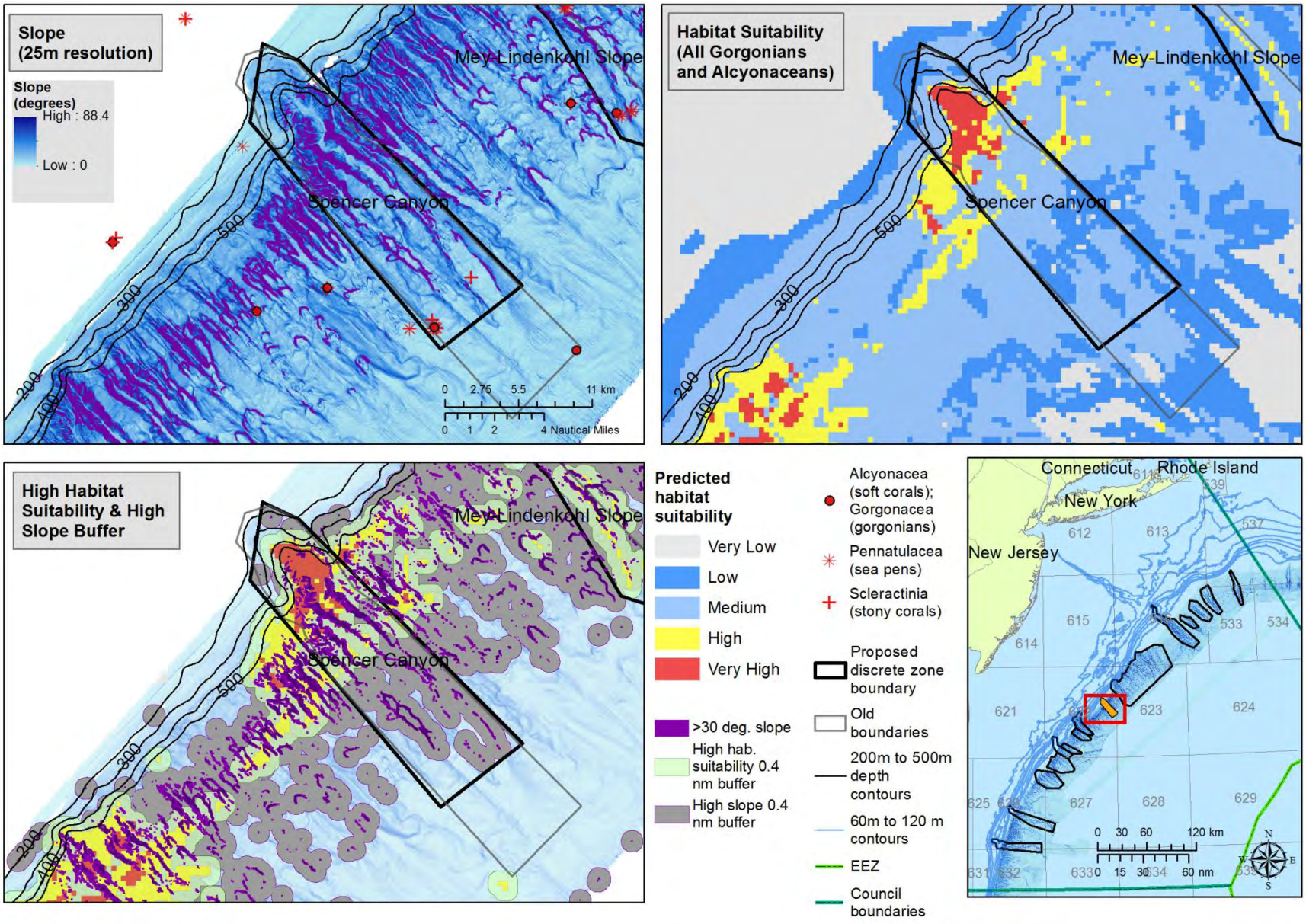


Figure 13: Spencer Canyon areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries.

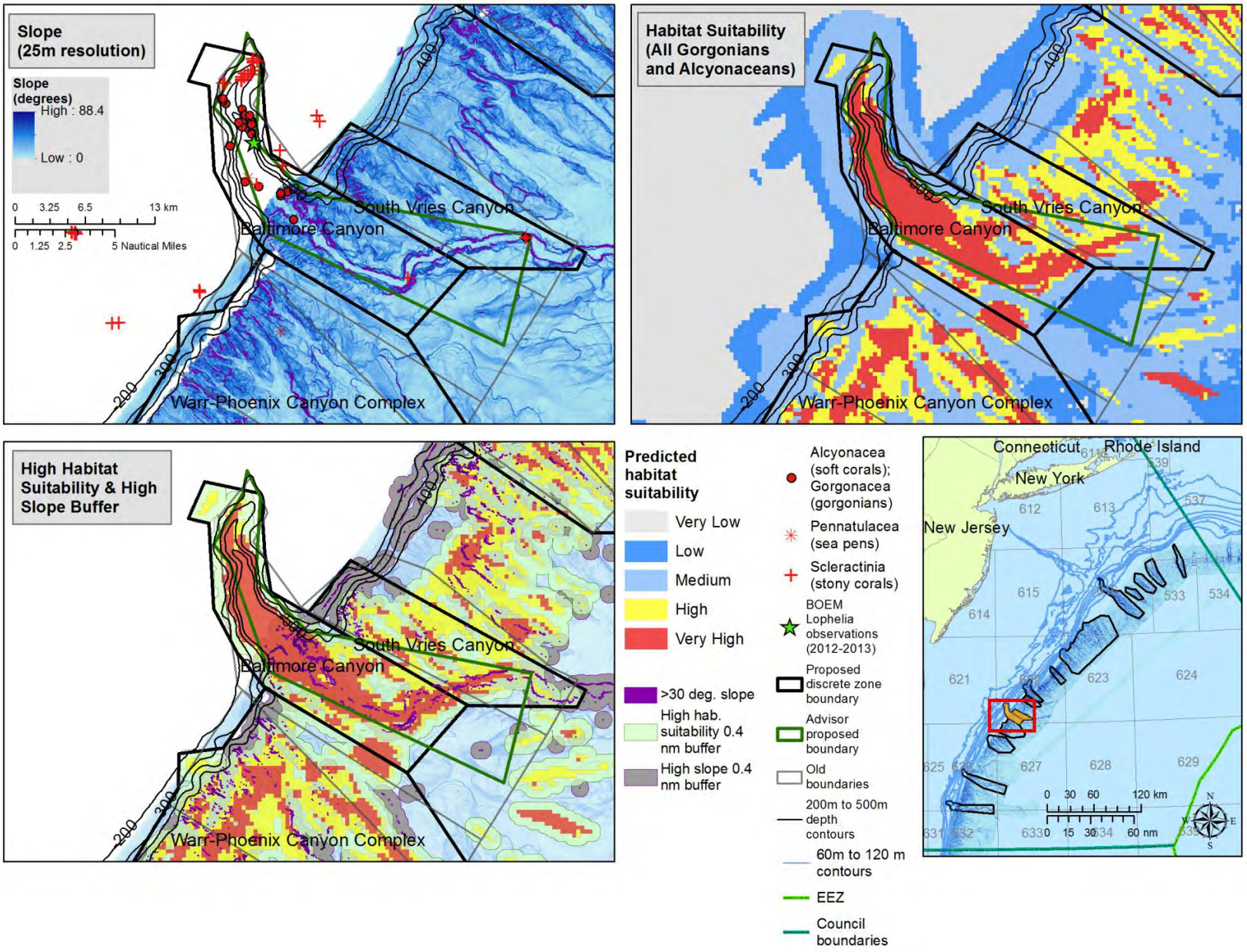


Figure 14: Baltimore Canyon and South Vries Canyons (two separate proposed areas) areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries.

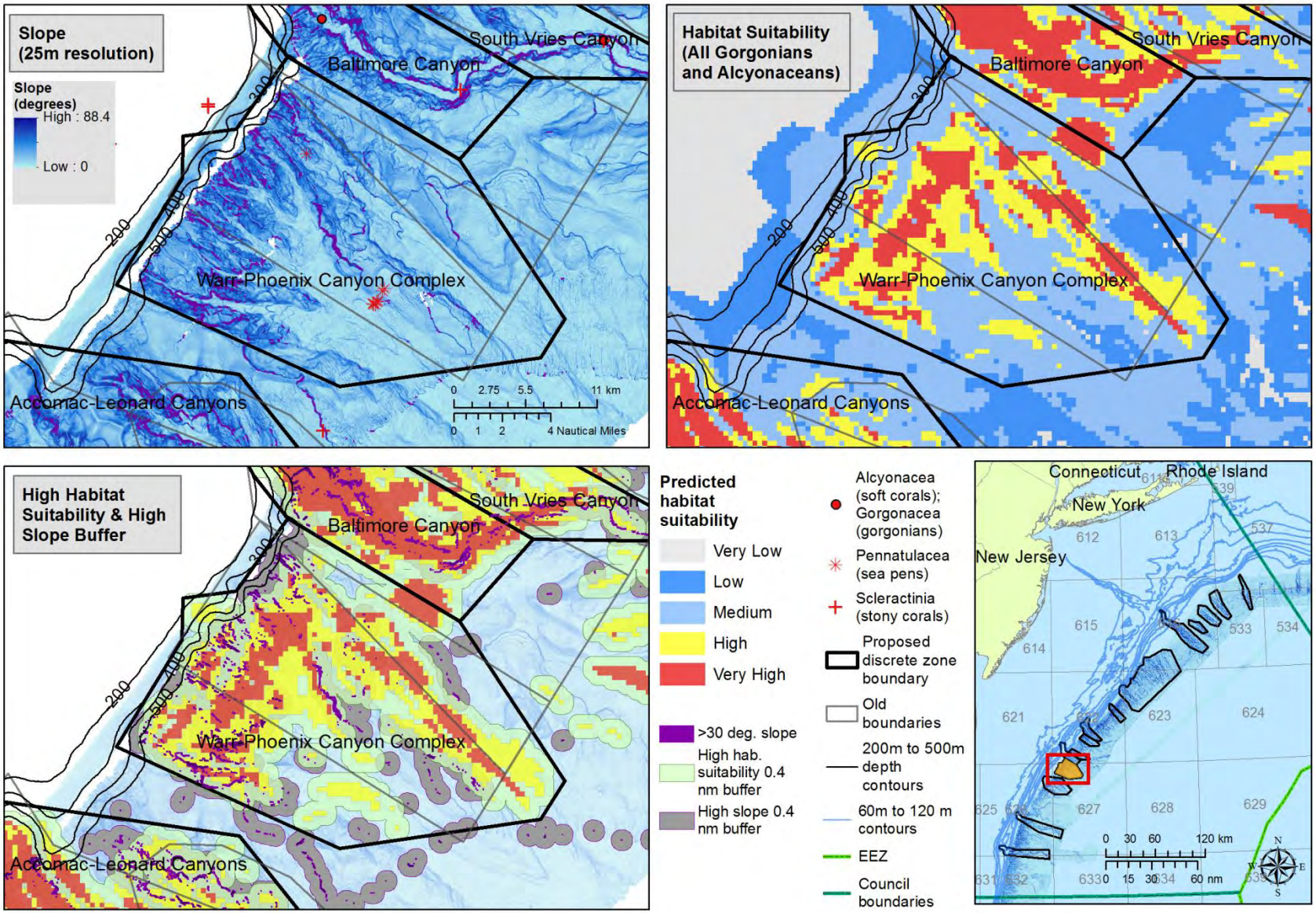


Figure 15: Warr-Phoenix Canyon Complex areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries.

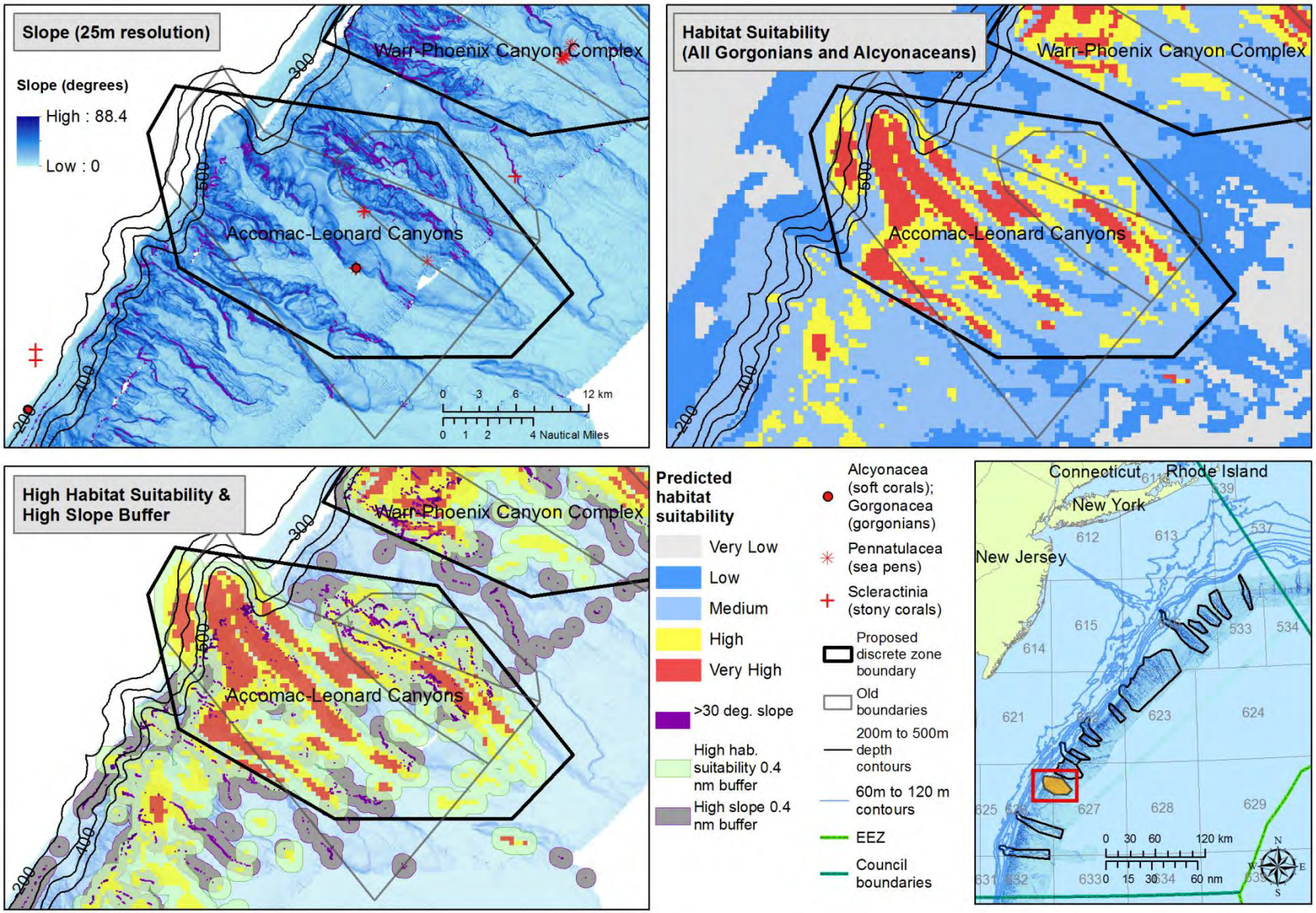


Figure 16: Accomac and Leonard Canyons areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries.

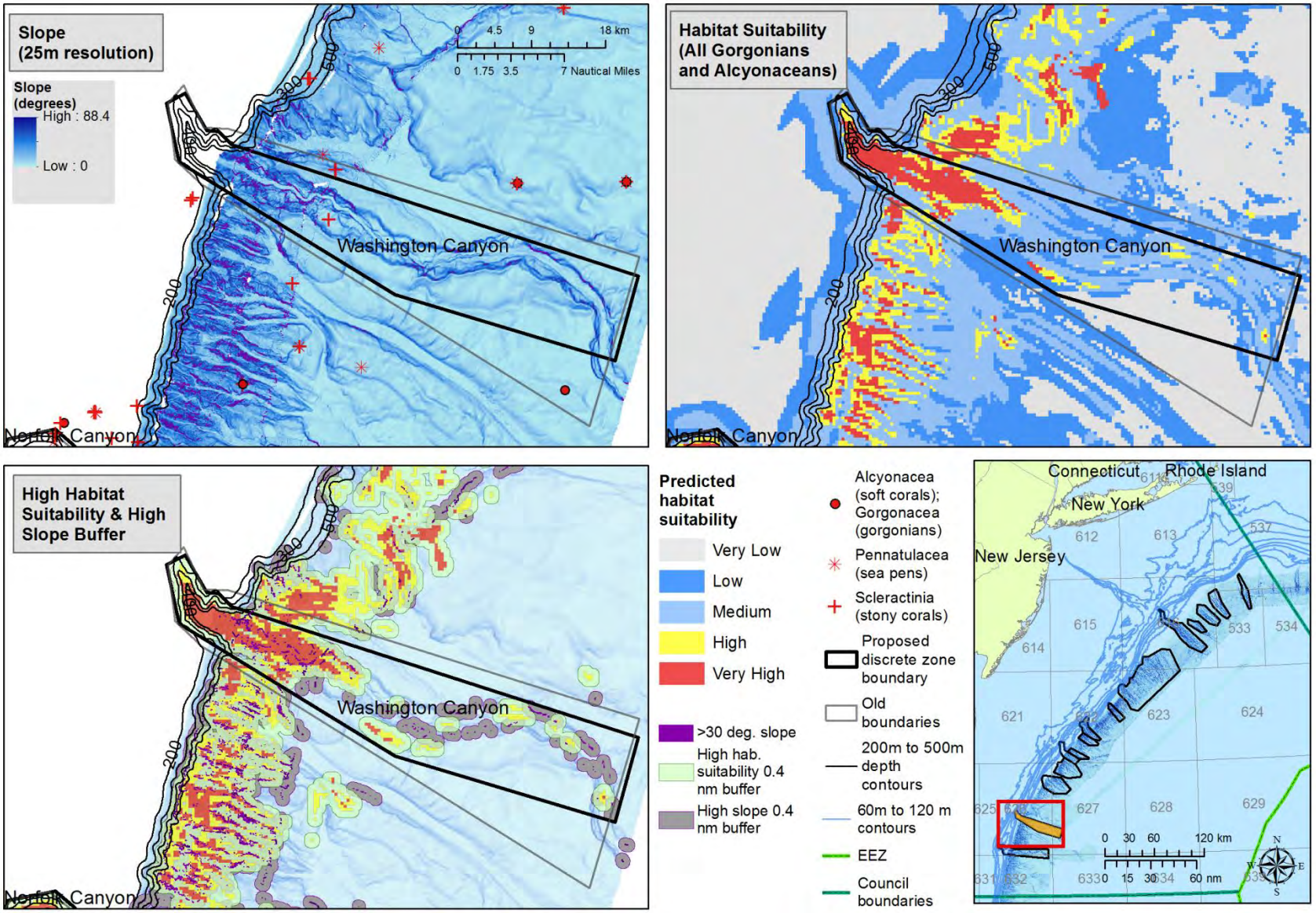


Figure 17: Washington Canyon areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries.

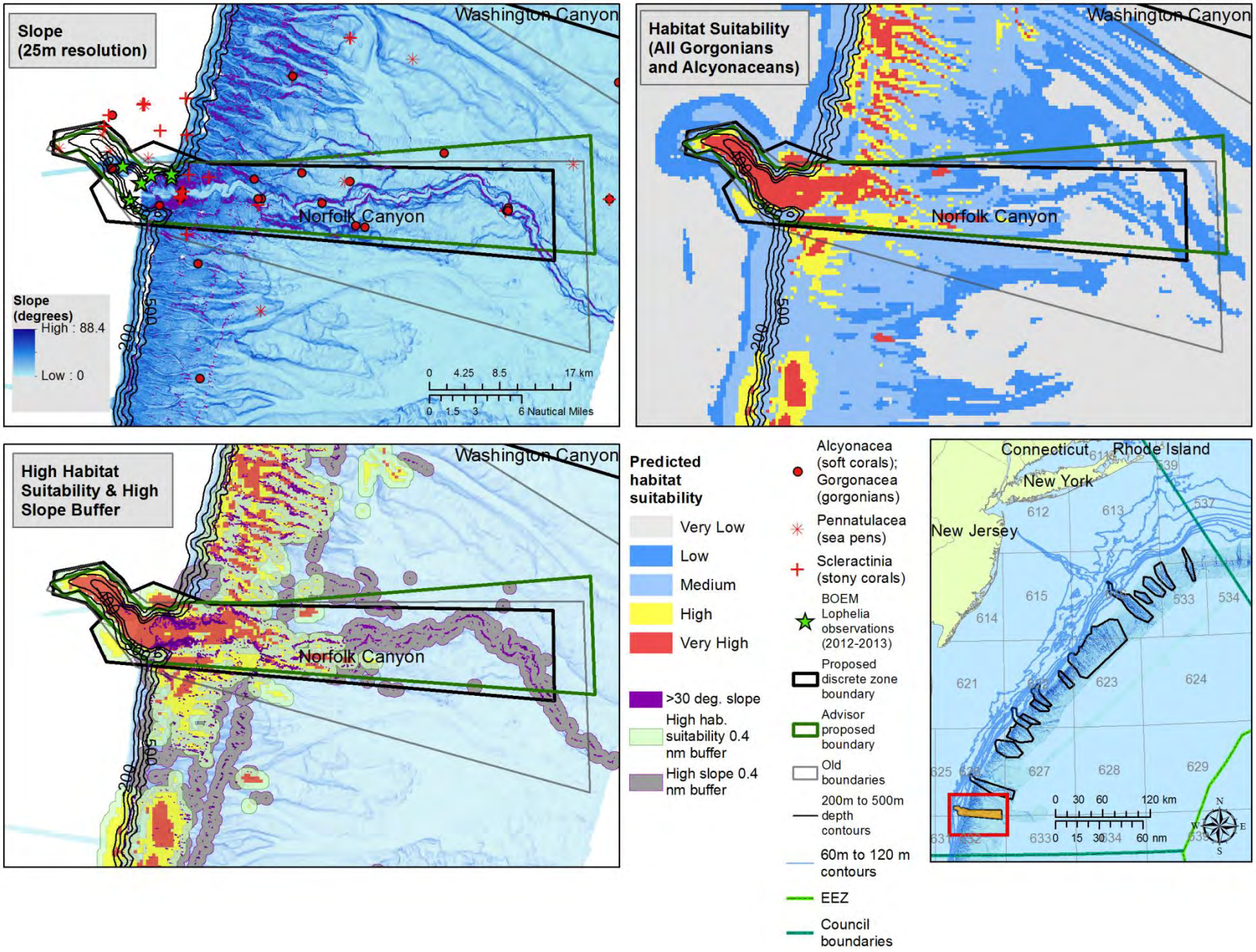


Figure 18: Norfolk Canyon areas of high slope, deep sea coral habitat suitability, and discrete zone boundaries.

Table 11: Summary of analysis across proposed discrete zones for coral observations, habitat suitability, and areas of high slope. Note: recent fieldwork observations are not included in the DSCRTP historical database.

		Coral Observations		Habitat Suitability		Slope	
Canyon or Complex	Total area (km^2)	Historical Coral Records (all)	Recent fieldwork with coral observations?	Total Area of High/Very High Habitat Suitability	Percent High/Very High Habitat Suitability	Total area of slope >30 degrees (km^2)	Percent area of slope >30 degrees
Block Canyon	231.6	0	✓	17.7	7.6%	16.5	7.1%
Ryan-McMaster Canyons	390.3	16	✓	59.3	15.2%	15.0	3.9%
Emery-Uchupi Canyons	369.2	6		44.1	11.9%	12.0	3.3%
Jones-Babylon Canyons	166.1	1		37.4	22.5%	9.0	5.4%
Hudson Canyon	770.8	5		329	42.7%	82.7	10.7%
Mey-Lindenkohl Slope	2818.2	74	✓	414.1	14.7%	178.9	6.3%
Spencer Canyon	163.3	12		28	17.1%	22.6	13.8%
Wilmington Canyon	268.1	2		172.8	64.5%	24.1	9.0%
North Heyes-South Wilmington Canyons	183.4	0		74	40.3%	12.0	6.6%
South Vries Canyon	142.6	2		59.9	42.0%	13.5	9.5%
Baltimore Canyon	231	54	✓	126.8	54.9%	19.5	8.5%
Warr-Phoenix Canyon Complex	511.6	14		174.1	34.0%	19.5	3.8%
Accomac-Leonard Canyons	538.2	6		70.6	13.1%	19.5	3.6%
Washington Canyon	554.1	1		81.6	14.7%	12.0	2.2%
Norfolk Canyon	543.7	37	✓	118.4	21.8%	45.1	8.3%

7.2 FISHERY EFFORT AND ECONOMIC IMPACTS

7.2.1 Northeast Fisheries Observer Program Data

Observer data from the Northeast Fisheries Observer Program (NEFOP) were obtained for bottom trawl, bottom longline, and sink/anchored gillnet gear types for years 2000 through 2013 for the MAFMC region. Records with incomplete geographic coordinates were unable to be plotted and were removed. Observer hauls were analyzed relative to proposed broad zones. Although observer overage varies by fishery and by year, aggregating the data over many years can reveal patterns in fishing effort with a higher degree of spatial accuracy than can be obtained using VTR data.

Observed Bottom Trawl Effort

Within the MAFMC management region, there were 25,073 total observed hauls (on 3,967 trips) using bottom trawl gear within this time period (Table 12; Figure 15). Tables 13-16 show the number of bottom trawl hauls intersecting each of the proposed broad coral zones, with associated number of trips and the average depth taken at the start of each haul. Depth information is meant to provide an approximation of the depth at which these fisheries are prosecuted, but may not provide a complete picture (especially for longer hauls), given that it is based on haul start location.

Hauls were analyzed by selecting those intersecting each broad zone, and many records are duplicated across Tables 13-16 if they intersect more than one broad zone alternative. In the vicinity of the proposed coral zones, bottom trawl effort is concentrated along the continental shelf and shelf break, and at the heads of canyons (Figure 19). For observed bottom trawl hauls over this time period, 14% intersect the 200 meter broad zone, 6% intersect the 300 meter broad zone, 0.03% intersect the 400 meter broad zone, and 0.01% intersect the 500 m broad zone.

Table 12: All NEFOP observed bottom trawl hauls and trips, by gear type, within the Mid-Atlantic Council region from 2000-2013.

Gear Type	Number of trips	Number of hauls	Average Haul Start Depth
TRAWL,OTTER,BOTTOM,FISH	3,959	24,985	86 m (47 ftm)
TRAWL,OTTER,BOTTOM,SCALLOP	2	20	51 m (28 ftm)
TRAWL,OTTER,BOTTOM,SHRIMP	6	68	340 m (186 ftm)
Total	**3,967**	**25,073**	**87 m (48 ftm)**

Table 13: NEFOP observed bottom trawl hauls, trips, and average haul start depth, by gear type and target species, intersecting the **200 meter broad zone** alternative, 2000-2013. Records removed for species observed on less than 5 hauls.

200 meter broad zone			
Gear Type; Target Species	**Number of trips**	**Number of hauls**	**Average Haul Start Depth**
TRAWL,OTTER,BOTTOM,FISH	**637**	**3,414**	**199 m (109 ftm)**
SQUID, ATL LONG-FIN	--	1,257	163 m (89 ftm)
SQUID, SHORT-FIN	--	1,248	199 m (109 ftm)
MONKFISH (GOOSEFISH)	--	449	267 m (146 ftm)
HAKE, SILVER (WHITING)	--	245	279 m (152 ftm)
FLOUNDER, SUMMER (FLUKE)	--	67	109 m (60 ftm)
WHITING, BLACK (HAKE, OFFSHORE)	--	46	362 m (198 ftm)
SCUP	--	32	133 m (73 ftm)
SQUID, NK	--	23	152 m (83 ftm)
SEA BASS, BLACK	--	20	100 m (55 ftm)
GROUNDFISH, NK	--	18	262 m (143 ftm)
TRAWL,OTTER,BOTTOM,SHRIMP	**6**	**67**	**343 m (188 ftm)**
SHRIMP, ROYAL RED	--	31	344 m (188 ftm)
HAKE, SILVER (WHITING)	--	15	338 m (185 ftm)
SHRIMP, PANDALID (NORTHERN)	--	9	353 m (193 ftm)
WHITING, BLACK (HAKE, OFFSHORE)	--	9	350 m (191 ftm)
Grand Total	**643**	**3,481**	**202 m (110 ftm)**

Table 14: NEFOP observed bottom trawl hauls, trips, and average haul start depth, by gear type and target species, intersecting the **300 meter broad zone** alternative, 2000-2013. Records removed for species observed on less than 5 hauls.

300 meter broad zone			
Gear Type; Target Species	**Number of trips**	**Number of hauls**	**Average Haul Start Depth**
TRAWL,OTTER,BOTTOM,FISH	**432**	**1,486**	**217 m (119 ftm)**
SQUID, SHORT-FIN	--	640	207 m (113 ftm)
SQUID, ATL LONG-FIN	--	441	162 m (88 ftm)
MONKFISH (GOOSEFISH)	--	172	323 m (176 ftm)
HAKE, SILVER (WHITING)	--	121	323 m (177 ftm)
WHITING, BLACK (HAKE, OFFSHORE)	--	42	371 m (203 ftm)
FLOUNDER, SUMMER (FLUKE)	--	31	101 m (55 ftm)
SEA BASS, BLACK	--	13	91 m (50 ftm)
SCUP	--	11	126 m (69 ftm)
GROUNDFISH, NK	--	7	289 m (158 ftm)
SQUID, NK	--	5	147 m (81 ftm)
TRAWL,OTTER,BOTTOM,SHRIMP	**6**	**67**	**343 m (188 ftm)**
SHRIMP, ROYAL RED	--	31	344 m (188 ftm)
HAKE, SILVER (WHITING)	--	15	338 m (185 ftm)
SHRIMP, PANDALID (NORTHERN)	--	9	353 m (193 ftm)
WHITING, BLACK (HAKE, OFFSHORE)	--	9	350 m (191 ftm)
Grand Total	**438**	**1,553**	**222 m (122 ftm)**

Table 15: NEFOP observed bottom trawl hauls, trips, and average haul start depth, by gear type and target species, intersecting the **400 meter broad zone** alternative, 2000-2013. Records removed for species observed on less than 5 hauls.

400 meter broad zone			
Gear Type; Target Species	**Number of trips**	**Number of hauls**	**Average Haul Start Depth**
TRAWL,OTTER,BOTTOM,FISH	**272**	**627**	**221 m (121 ftm)**
SQUID, SHORT-FIN	--	291	208 m (113 ftm)
SQUID, ATL LONG-FIN	--	166	158 m (86 ftm)
HAKE, SILVER (WHITING)	--	63	348 m (190 ftm)
MONKFISH (GOOSEFISH)	--	56	378 m (207 ftm)
FLOUNDER, SUMMER (FLUKE)	--	19	91 m (50 ftm)
WHITING, BLACK (HAKE, OFFSHORE)	--	14	395 m (216 ftm)
SEA BASS, BLACK	--	10	86 m (47 ftm)
SCUP	--	7	126 m (69 ftm)
TRAWL,OTTER,BOTTOM,SHRIMP	**5**	**13**	**357 m (195 ftm)**
SHRIMP, ROYAL RED	--	5	345 m (189 ftm)
Grand Total	**277**	**640**	**225 m (123 ftm)**

Table 16: NEFOP observed bottom trawl hauls, trips, and average haul start depth, by gear type and target species, intersecting the **500 meter broad zone** alternative, 2000-2013.

500 meter broad zone			
Gear Type; Target Species	**Number of trips**	**Number of hauls**	**Average Haul Start Depth**
TRAWL,OTTER,BOTTOM,FISH	**170**	**299**	**192 m (105 ftm)**
FLOUNDER, SUMMER (FLUKE)	--	13	81 m (44 ftm)
HAKE, SILVER (WHITING)	--	12	341 m (186 ftm)
MONKFISH (GOOSEFISH)	--	9	338 m (185 ftm)
SCUP	--	6	123 m (67 ftm)
SEA BASS, BLACK	--	10	86 m (47 ftm)
SQUID, ATL LONG-FIN	--	95	157 m (86 ftm)
SQUID, NK	--	1	106 m (58 ftm)
SQUID, SHORT-FIN	--	153	212 m (116 ftm)
TRAWL,OTTER,BOTTOM,SHRIMP	**1**	**1**	**349 m (191 ftm)**
SHRIMP, ROYAL RED	--	1	349 m (191 ftm)
Grand Total	**171**	**300**	**192 m (105 ftm)**

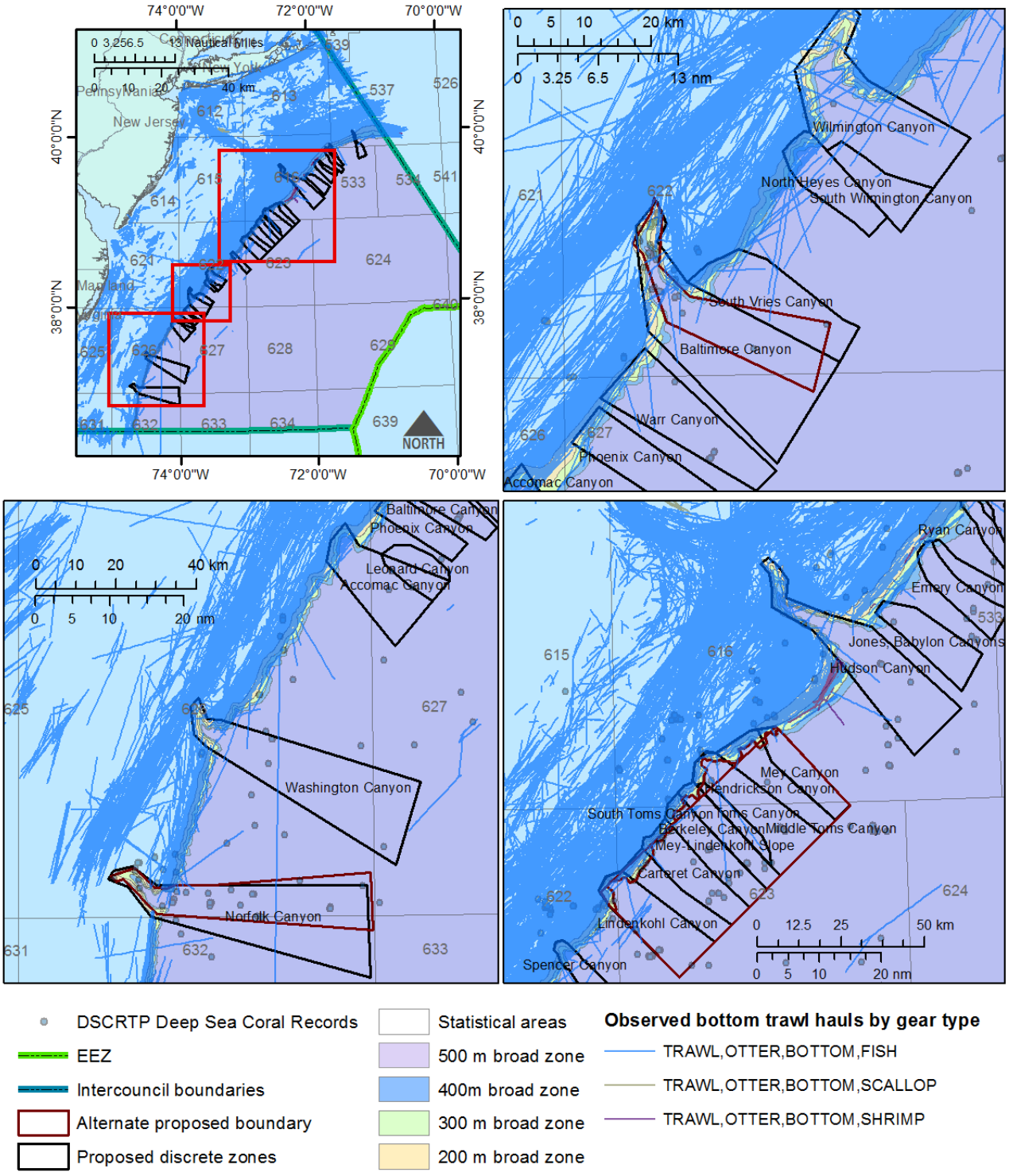


Figure 19: NEFOP observed bottom trawl hauls in the mid-Atlantic region by gear type, 2000-2013.

Observed Gillnet Effort

Observer data indicate that in the Northeast Region from 2000-2013, there were 63,494 observed hauls (on 14,160 trips) using gillnet gear. Geographic coordinates for gillnet set location were present for only about 33% of the records in the database; therefore, haul coordinates were analyzed. Records with incomplete geographic location for haul were removed (6% of hauls; 4% of trips).

Within the MAFMC region, there were 13,928 observed hauls using gillnet gear, on 3,432 trips (Table 17a). Of these observed hauls, only six intersected any of the proposed coral zones (0.0004%). All six of these were hauls targeting monkfish using sink gillnets in 2004. These hauls occurred on two trips northeast of Block Canyon along the 300 meter depth contour (Figure 20).

The vast majority of observed gillnet effort since 2000 has occurred in waters significantly shallower than the depths of any of the proposed coral zones in the mid-Atlantic (Table 17). Only about 0.006% of observed gillnet trips and 0.005% of observed gillnet hauls occurred deeper than 75 fathoms (137 meters), according to haul depth information recorded in the observer data.

Table 17: NEFOP Observer records of gillnet gear a) in the MAFMC region and b) intersecting proposed coral zones, 2000-2013.

a) Within MAFMC Region

Gear Type	Trips	Hauls	Average Haul Depth
GILL NET, ANCHORED-FLOATING, FISH	32	135	10 m (5 fathoms)
GILL NET, DRIFT-FLOATING, FISH	197	621	20 m (11 fathoms)
GILL NET, DRIFT-SINK, FISH	496	2,045	8 m (15 fathoms)
GILL NET, FIXED OR ANCHORED,SINK, OTHER/NK SPECIES	2,707	11,127	12 m (22 fathoms)
Total	**3,432**	**13,928**	**11 m (21 fathoms)**

b) Within proposed coral zones

Gear Type	Trips	Hauls	Average Haul Depth
GILL NET, FIXED OR ANCHORED,SINK, OTHER/NK SPECIES	2	6	282 m (154 fathoms)
Total	**2**	**6**	**282 m (154 fathoms)**

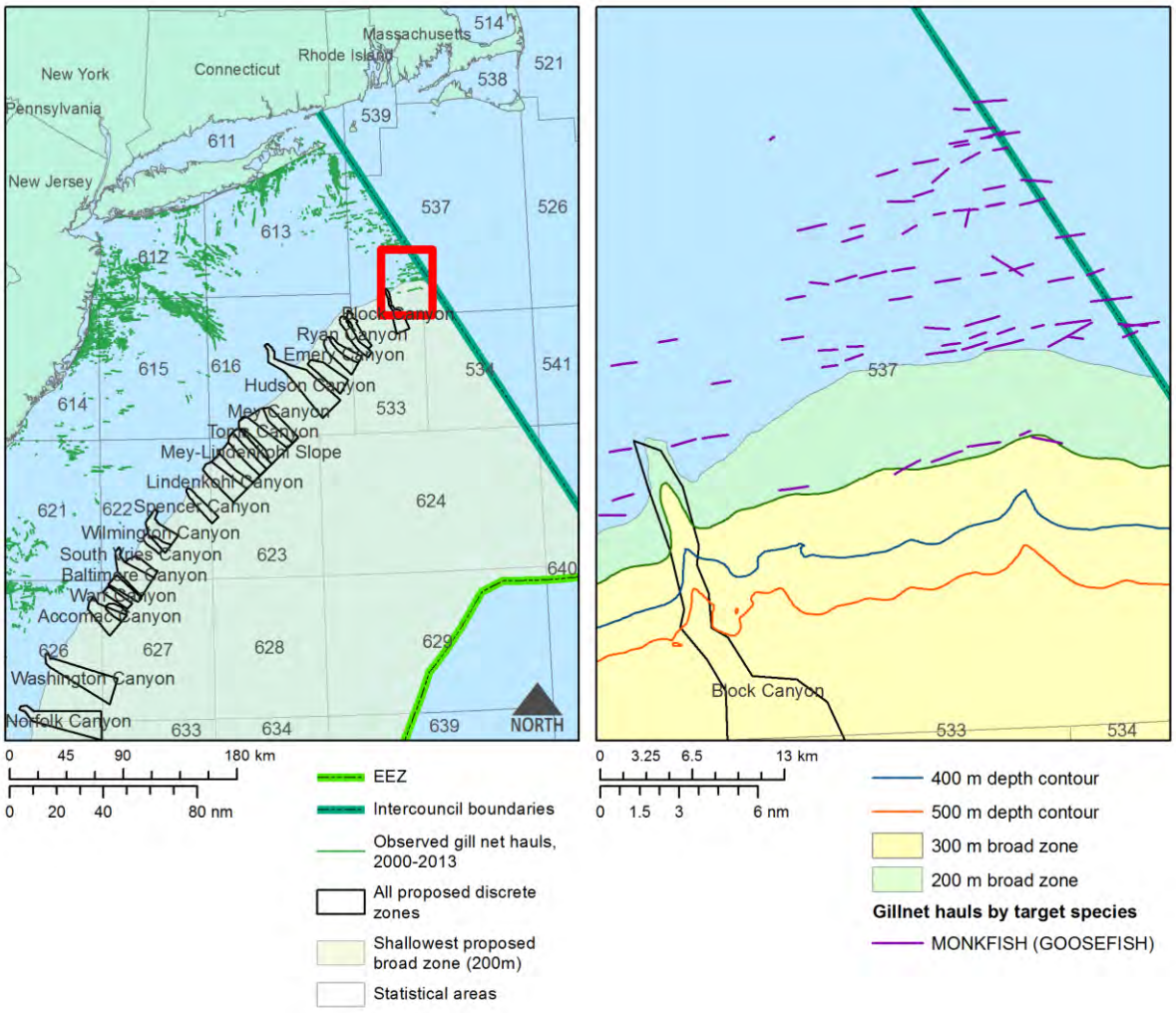


Figure 20: NEFOP observer hauls for gillnet gear in the mid-Atlantic, 2000-2013, and area of intersection with proposed MAFMC broad coral zones.

Observed Bottom Longline Effort

For years 2000-2013, a total of 885 trips and 4,791 hauls using bottom longline gear were recorded for the Northeast Region in the NEFOP database. The majority of these records occurred within the management region of the New England Fishery Management Council, and primarily targeted Atlantic cod, haddock, and other groundfish. Records with missing or incomplete geographic coordinates were unable to be plotted and were removed (about 1% of trips; 8% of hauls).

Within the MAFMC region, a total of 130 hauls using bottom longline gear were recorded in the observer data for 2000-2013. All of these records indicated tilefish as the target species, and occurred in northern areas of the MAFMC management region between 2004 and 2008 (Table 18; Figure 21).

In total, the proposed coral zones are intersected by most of these observed longline trips occurring within the MAFMC region (92%), but only about half of the hauls (53%). At the 300 meter broad zone, the number of observed trips within proposed zones drops to 4. Only one trip extends into the 400 meter and 500 meter broad zones (Figure 21). This would suggest that longline effort in these areas tends to be concentrated around the 200 meter depth contour or shallower at the heads of the canyon.

Table 18: NEFOP Observer data records of hauls using bottom longline gear from 2000-2013 a) in the MAFMC region, and b) within proposed coral zones.

a) Within MAFMC Region

Gear Type, Target Species	Trips	Hauls	Average Haul Depth
LONGLINE, BOTTOM			
TILEFISH, GOLDEN	10	98	180 m (99 ftm)
TILEFISH, NOT KNOWN	3	32	166 m (91 ftm)
Grand Total	**13**	**130**	**177 m (97 ftm)**

b) Within proposed coral zones

Gear Type, Target Species	Trips	Hauls	Average Haul Depth
LONGLINE, BOTTOM			
TILEFISH, GOLDEN	10	54	205 m (112 ftm)
TILEFISH, NOT KNOWN	2	15	195 m (106 ftm)
Grand Total	**12**	**69**	**203 m (111 ftm)**

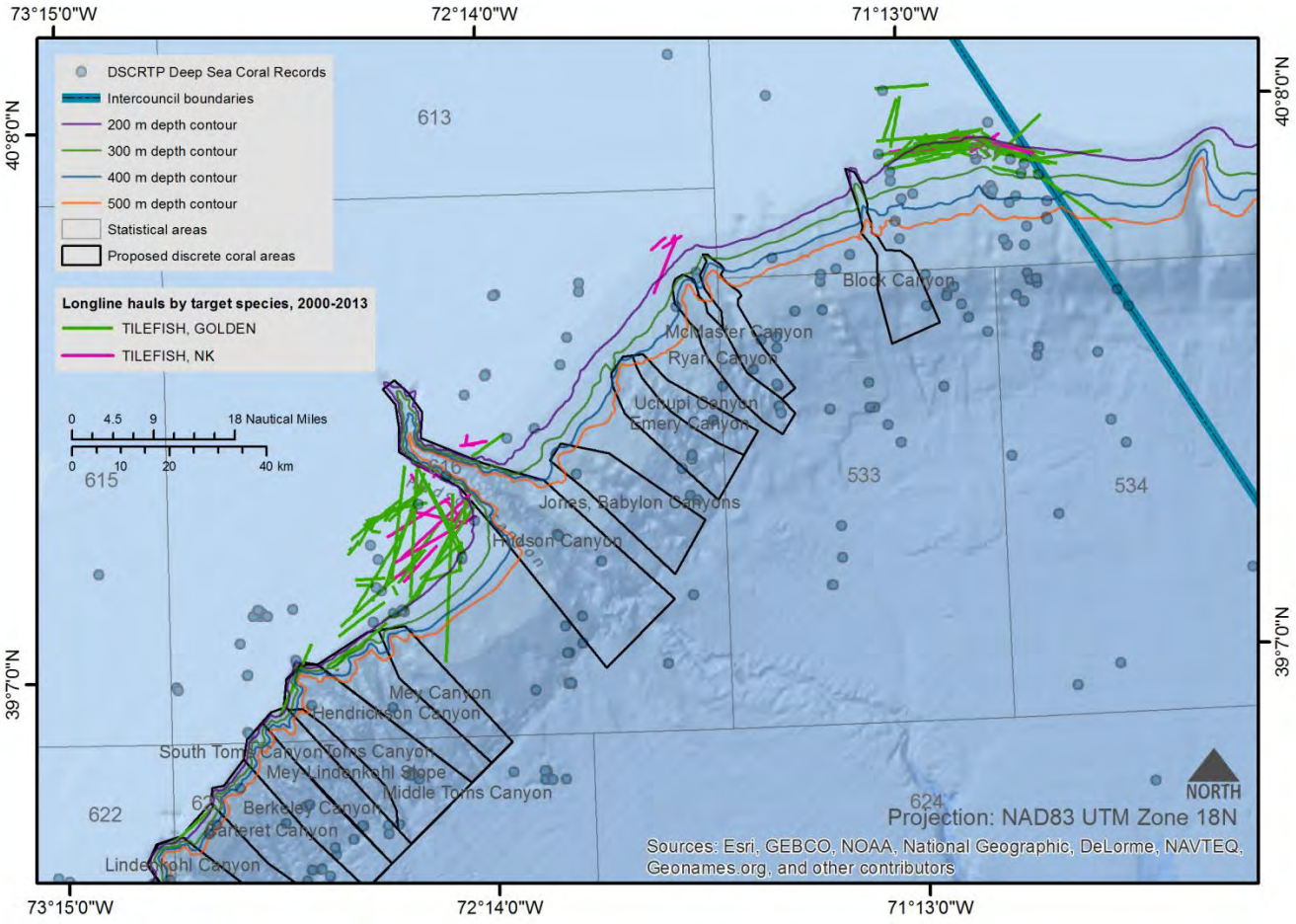


Figure 21: Observed bottom longline hauls in the MAFMC region, 2000-2013.

7.2.2 VTR Revenue Mapping Model

Economic impacts of proposed coral zones were analyzed using a Vessel Trip Report (VTR)-based revenue mapping model produced by the Northeast Fisheries Science Center. Federally permitted vessels are required to submit a VTR for each trip, the requirements of which include indicating a general fishing location as a set of geographic coordinates. The revenue-mapping model covers the years 2007-2012, and estimates revenue generated from fishing trips in a given area based on specified parameters such as gear type, species, or port of landing. The model takes into account uncertainty around reported VTR points, and can be used to identify areas important to specific fishing communities, species, gears, and seasons to establish a baseline of commercial fishing effort.

VTR-point data were used to identify the primary gear-species combinations that occur within proposed broad and discrete zones (Figures 22-24), in order to identify which combinations to query within the revenue mapping model. Revenue-intensity maps (Figures 25-30) were then generated for gear-species combinations that in total accounted for approximately 95% of estimated revenue generated within the proposed coral zones.

The primary gear types used within the proposed coral zones (broad and discrete combined) include bottom otter trawls, sea scallop dredges, crab pots and traps, lobster pots, and bottom longlines (Figure 22). The primary species caught include longfin squid, *Illex* squid, sea scallops, deepsea red crab, American lobster, summer flounder, silver hake (whiting), golden tilefish, Jonah crab, scup, and black sea bass (Figure 23).

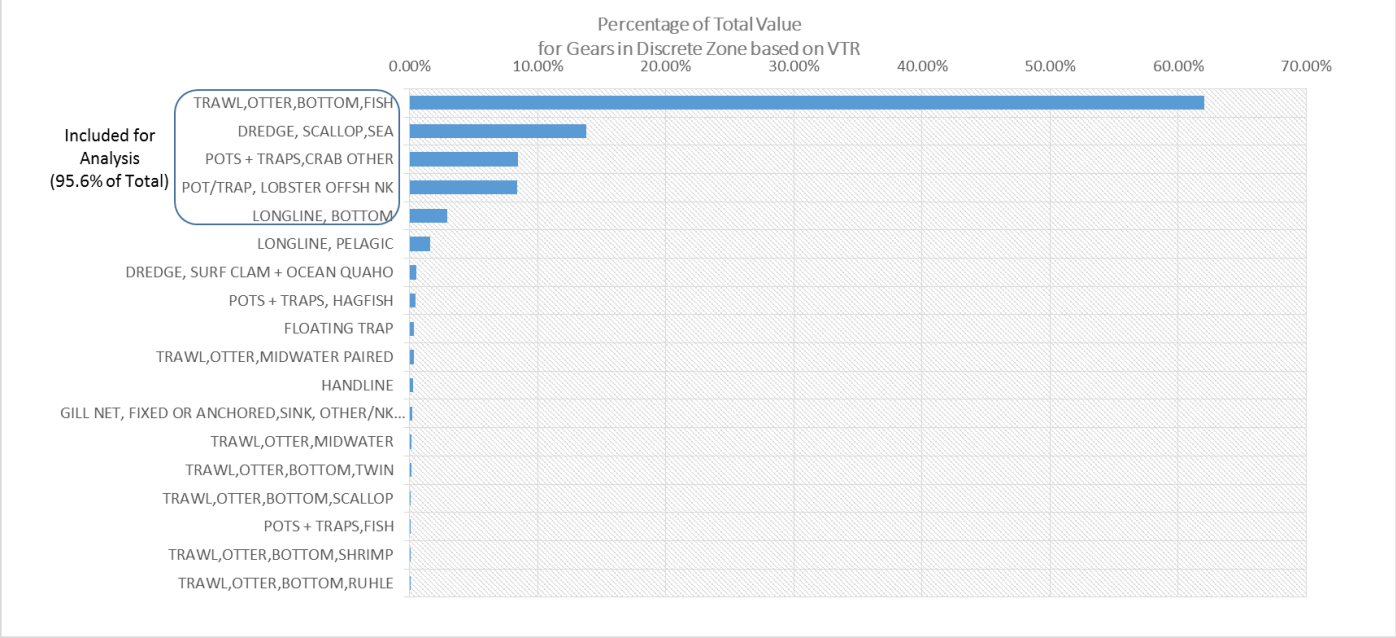


Figure 22: Primary gears used within proposed coral zones, based on VTR data.

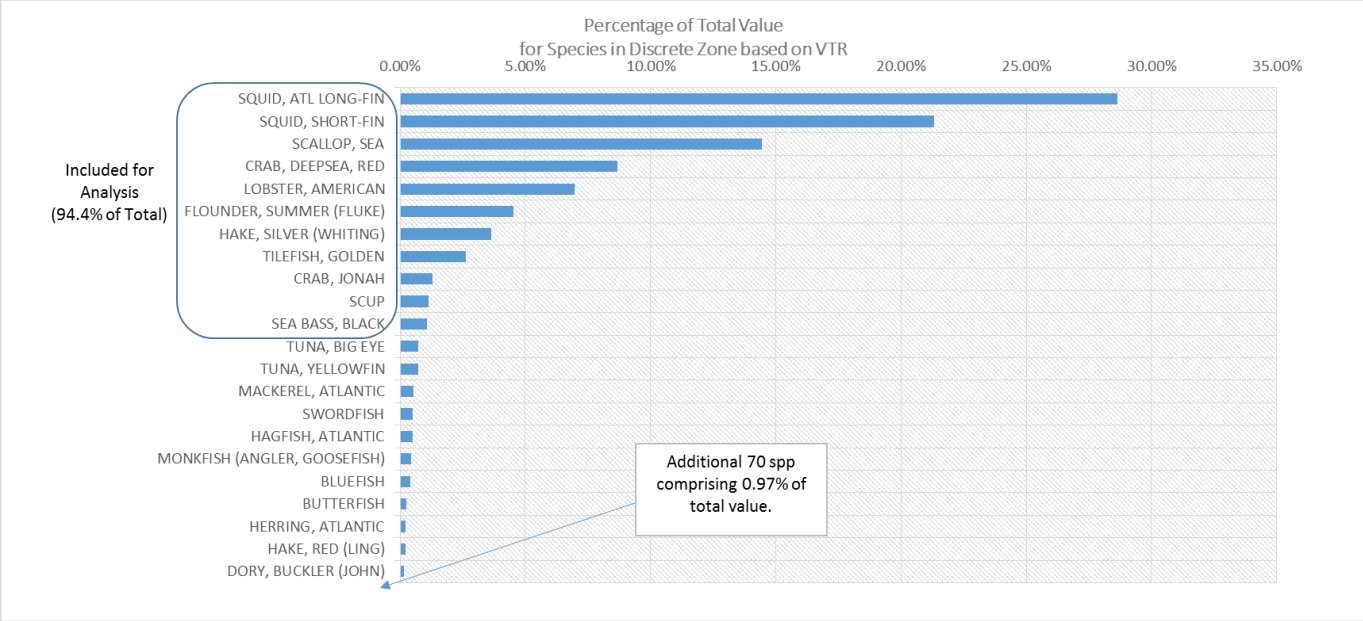


Figure 23: Primary species caught within proposed coral zones, based on VTR point data.

The primary gear-species combinations identified for further analysis (Figure 24) include:

1. Bottom otter trawl – Squid (*Illex* and longfin)
2. Bottom otter trawl – Hake
3. Bottom otter trawl – Summer flounder, scup, and black sea bass
4. Pots/Traps – Red crab
5. Bottom longline – Golden tilefish
6. Dredge – Sea scallops
7. Lobster pots – American lobster
8. Lobster pots – Jonah crab

Of these gear-species combinations, American lobster and Jonah crab were not included in further analysis due to the nature of the regulatory authority under which the alternatives in this document are proposed. Management measures applied under the discretionary provisions of the MSA to designate deep sea coral zones would be applicable to Federally-managed fisheries only, meaning they would not impact lobster pots, since lobster is managed solely by the Atlantic States Marine Fisheries Commission (i.e., not jointly managed with NMFS or the Councils). Jonah crabs are caught as bycatch within the lobster pot fishery, and generally retained for sale.

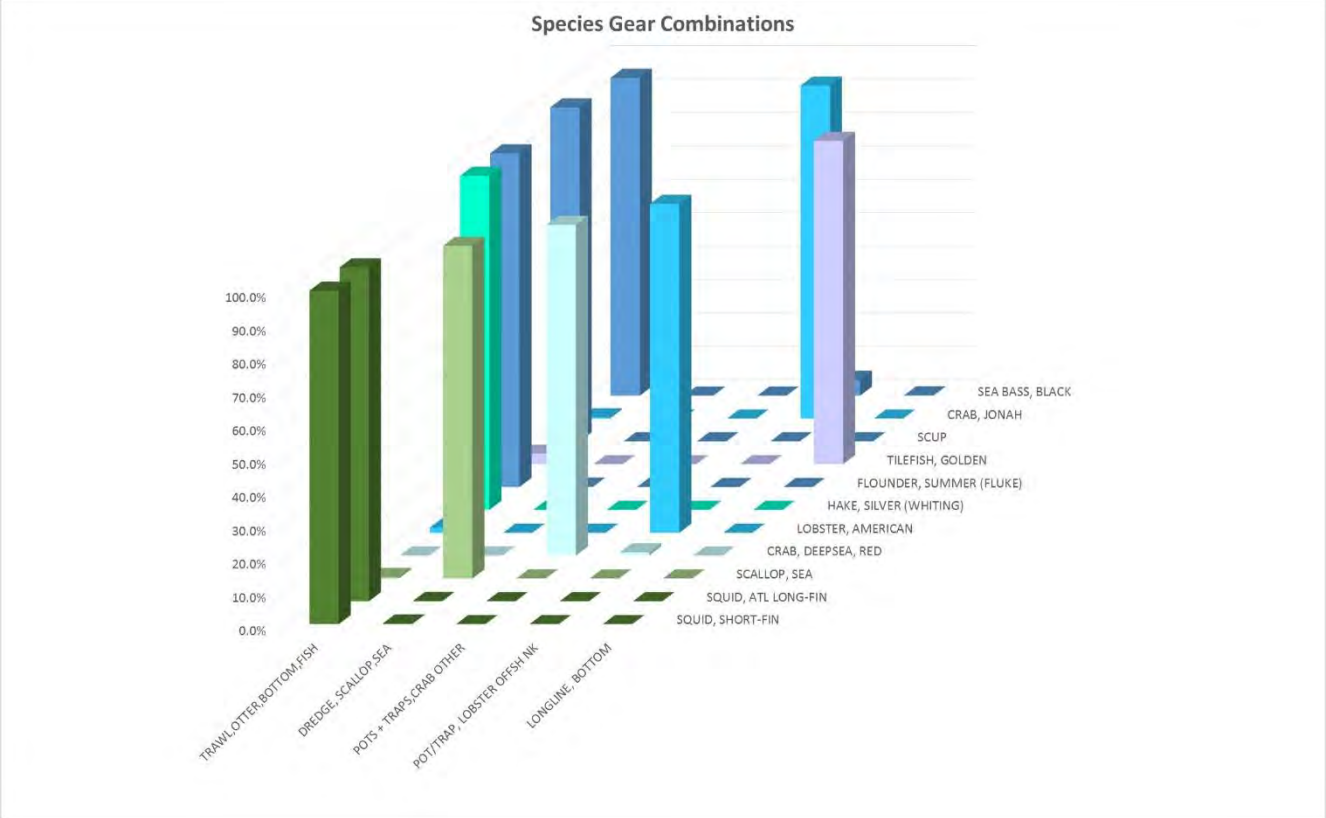


Figure 24: Major species-gear combinations within proposed coral zones, 2007-2012, based on VTR point data.

Revenue estimates in U.S. dollars were then calculated for each species-gear combination within each proposed discrete zone (Table 19) and broad zone (Table 20). Highest estimated revenues were unsurprisingly associated with larger areas. The highest estimated revenue across most gear-species combinations originated from the Hudson Canyon and Mey-Lindenkohl slope areas, which are the two largest proposed discrete zones by area (Table 19). The highest estimated revenue was generated from the bottom otter trawl squid fisheries for both the broad and discrete zones, while the lowest estimated revenue within the proposed zones originated from the bottom longline tilefish fishery. Revenue intensity maps shown in Figures 25-30 reveal spatial concentrations of effort that provide some context to these estimates. For instance, for both tilefish and hake, estimated revenue drops off significantly south of Hudson Canyon. Squid fisheries, on the other hand, are concentrated along the shelf-slope break throughout the Mid-Atlantic region, but generate lower estimates of revenue in the northernmost proposed canyons.

Table 19: VTR model-estimated cumulative revenue (USD) by proposed discrete zone for major species-gear combinations, 2007-2012, Maine through North Carolina. BOT = bottom otter trawl; BLL = bottom longline; DRG = dredge.

Canyon	Area	BOT-Squid Value	BOT-Hake Value	BOT-SFSCBSB Value	POT-RedCrab Value	BLL-Tile Value	DRG-Scall Value	Total
Block Canyon	232	27,644	129,821	22,488	0	0	0	642,460
Ryan-McMaster Canyons	390	58,780	97,142	47,904	72,016	0	0	607,001
Emery-Uchupi Canyons	369	32,291	78,549	9,476	115,304	0	0	253,733
Jones-Babylon Canyons	166	23,333	271	0	26,253	200,761	392,828	643,446
Hudson Canyon	766	3,476,787	977,172	612,444	418,568	652,372	192,493	6,395,169
Mey-Lindenkohl Slope	2,808	4,138,775	118,779	1,015,517	813,022	82,816	1,819,913	8,527,034
Spencer Canyon	163	2,115,127	785	18,809	108,675	0	213,804	2,501,598
Wilmington Canyon	268	1,563,093	5,818	157,115	402,654	70,569	214,083	3,051,588
South Vries Canyon	143	2,548,415	2,419	49,516	0	0	786,016	3,388,854
Baltimore Canyon	231	2,099,788	1,297	457,605	433,368	0	389,905	3,541,174
Warr-Phoenix Canyon Complex	511	746,578	16,327	3,403	244,208	0	92,174	1,219,502
Accomac-Leonard Canyons	538	441,171	3,133	16,880	269,682	0	309,641	1,065,818
Norfolk Canyon	542	1,989,953	13,288	36,165	81,063	9,834	625	2,326,221
North Heyes-South Wilmington Canyon	183	363,222	732	3,414	168,538	0	358,561	894,467
Washington Canyon	554	78,193	0	173,297	209,592	0	682,272	1,268,753

Table 20: VTR model-estimated cumulative revenue (USD) by proposed broad zone for major species-gear combinations, 2007-2012, Maine through North Carolina. BOT = bottom otter trawl; BLL = bottom longline; DRG = dredge.

Area	BOT-Squid Value	BOT-Hake Value	BOT-SFSCBSB Value	POT-RedCrab Value	BLL-Tile Value	DRG-Scall Value	Total
200 m broad zone	5,095,728	444,772	1,064,780	626,886	431,275	2,917,199	10,580,640
300 m broad zone	4,608,815	350,884	913,685	599,678	312,446	2,636,159	9,421,667
400 m broad zone	4,157,989	274,475	796,440	569,745	255,053	2,385,016	8,438,718
500 m broad zone	4,000,807	238,380	745,802	555,932	221,050	2,294,912	8,056,883

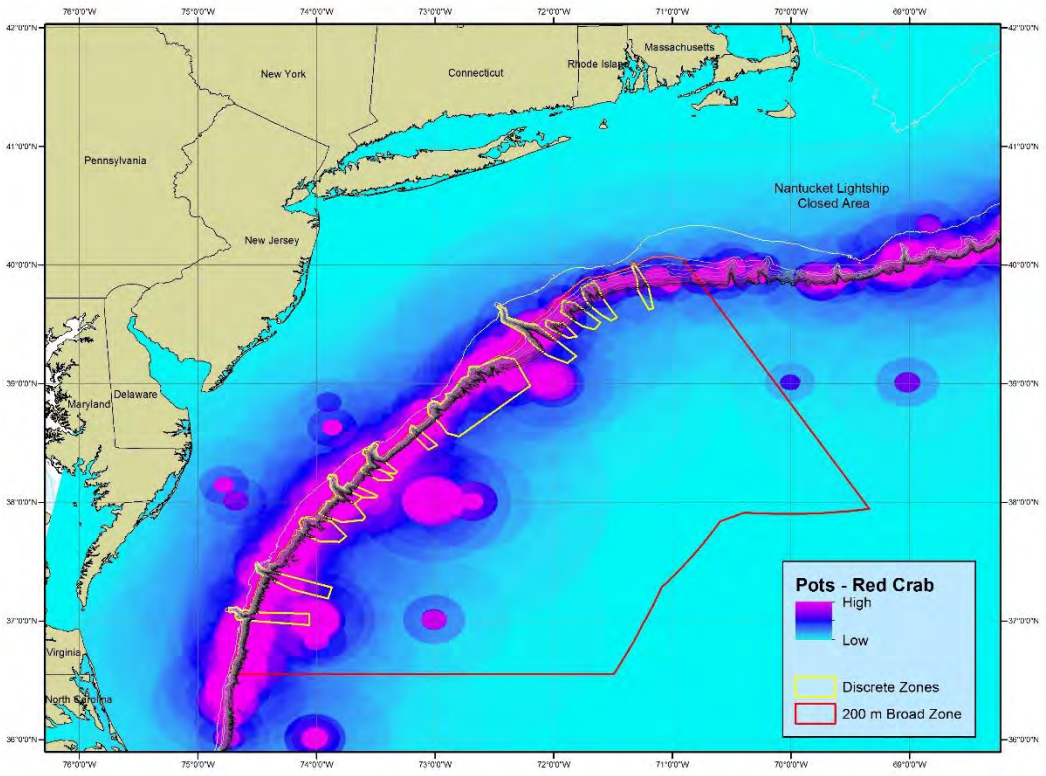


Figure 25: Areas of high cumulative estimated revenue (USD) for red crab caught using pots, 2007-2012, Maine through Virginia.

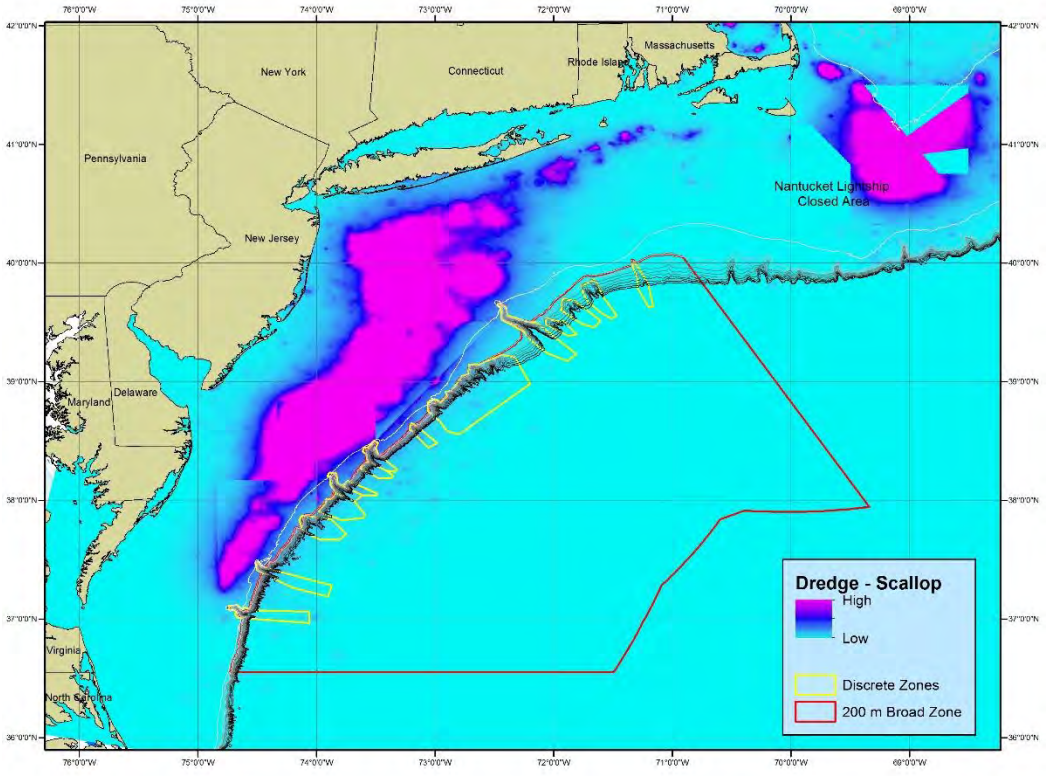


Figure 26: Areas of high cumulative estimated revenue (USD) for scallops caught using dredge gear, 2007-2012, Maine through Virginia.

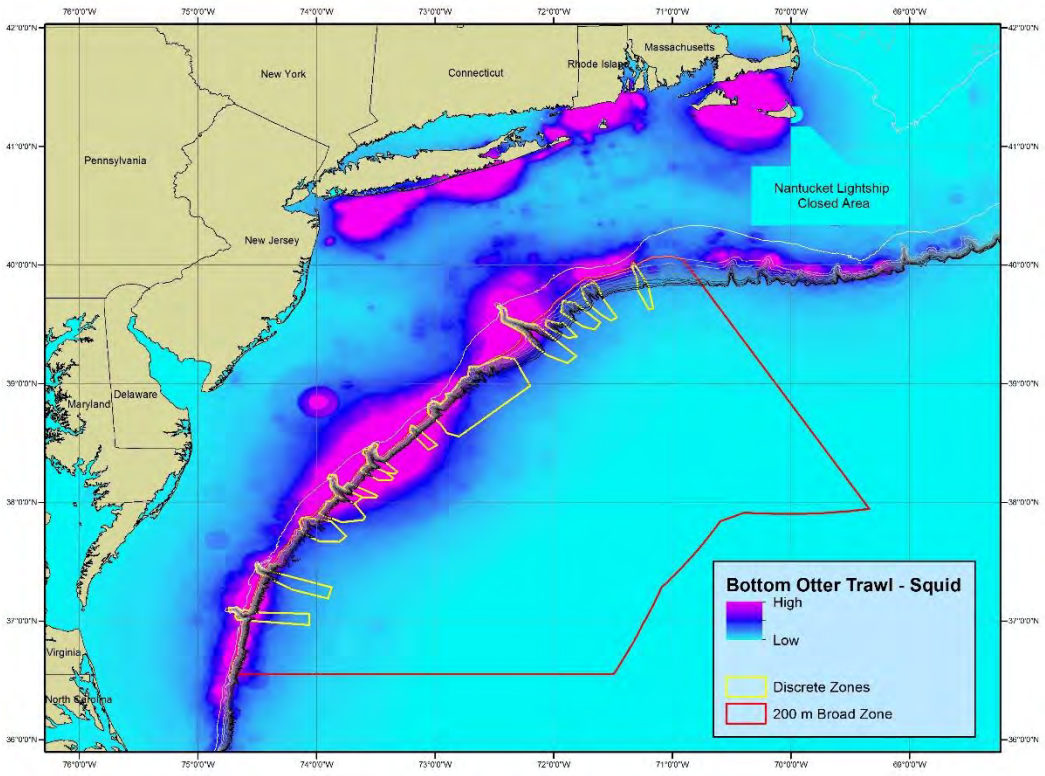


Figure 27: Areas of high cumulative estimated revenue (USD) for *Illex* and longfin squid caught using bottom otter trawls, 2007-2012, Maine through Virginia.

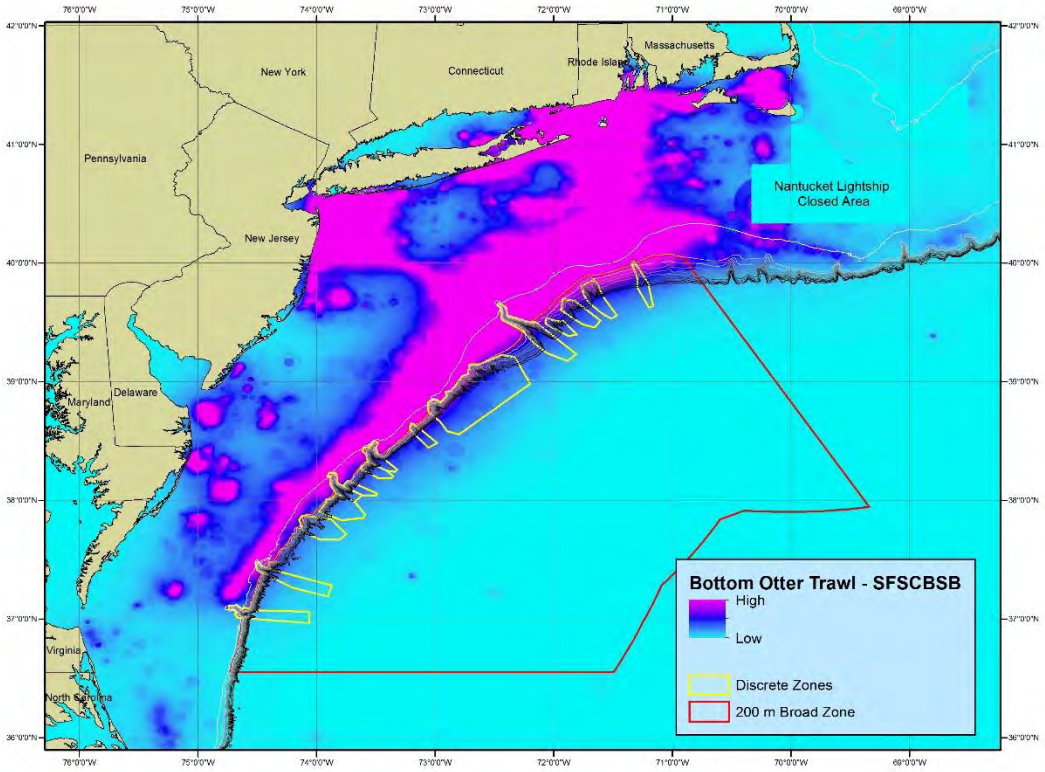


Figure 28: Areas of high cumulative estimated revenue (USD) for summer flounder, scup, and black sea bass caught using bottom otter trawl gear, 2007-2012, Maine through Virginia.

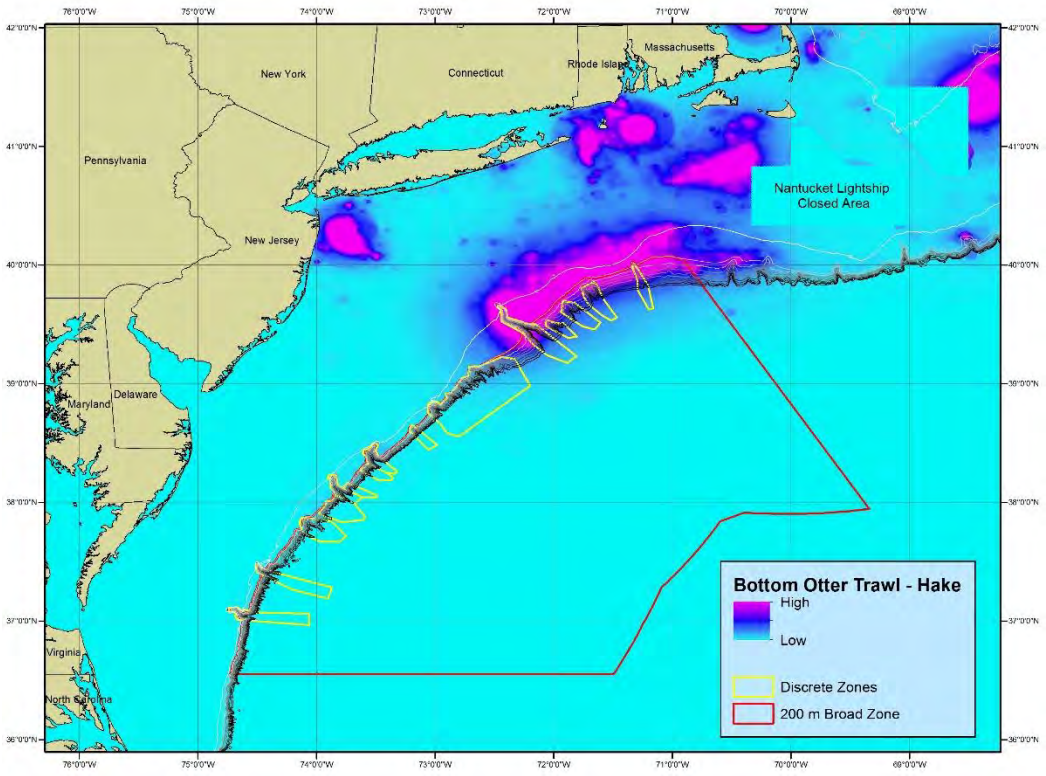


Figure 29: Areas of high cumulative estimated revenue (USD) for silver hake (whiting) caught using bottom otter trawl gear, 2007-2012, Maine through Virginia.

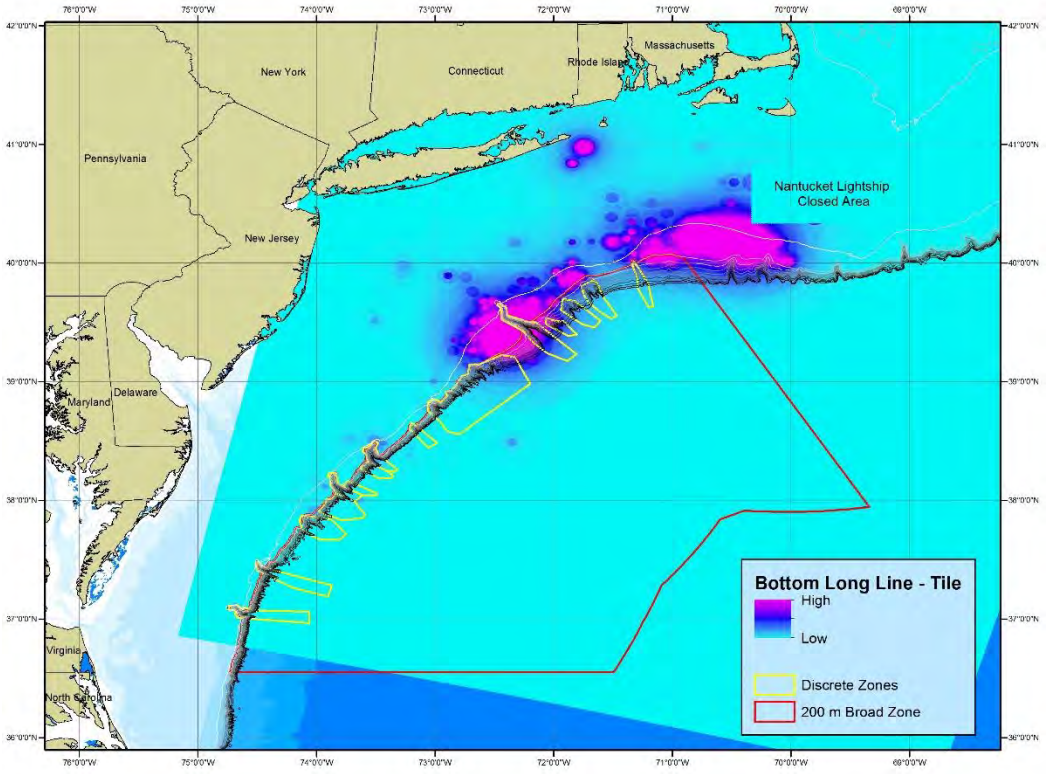


Figure 30: Areas of high cumulative estimated revenue (USD) for golden tilefish caught using bottom longline gear, 2007-2012, Maine through Virginia.

APPENDIX A: Criteria for revisions to original discrete zone boundaries

The Council's Deep Sea Corals FMAT met in April 2014 to discuss revisions to the original discrete zone boundaries based on new scientific information. Original boundaries were developed by the New England Habitat Plan Development Team (PDT) during development of the New England Council's Omnibus Habitat Amendment 2 (prior to splitting deep sea coral alternatives into a separate omnibus amendment).

The FMAT reviewed the boundaries relative to new information available from a deep sea coral habitat suitability model, new high resolution bathymetry data, and recent observations of corals from research surveys. The following criteria were developed by the FMAT and used to guide the re-drawing of boundaries:

1. Identify the major geomorphological features of each canyon or slope area (major axes; overall shape) within the current range of alternatives, based on examination of high resolution slope, bathymetry and other data describing canyon features and morphology.
2. Encompass areas of high and very high habitat suitability[1] from the deep sea coral habitat suitability model outputs for Alcyonacean corals (gorgonian and non-gorgonian combined), within the geographic range of each proposed canyon or slope area. Note: the Alcyonacean model output is expected to be the best predictor of habitat suitability for structure-forming corals.
3. For each proposed canyon or slope area, encompass areas of slope greater than 30 degrees, with emphasis on areas of slope greater than 36 degrees[2], within approximately 0.4 nautical miles (2 habitat suitability model grid cells) of high or very high suitable habitat. Note: during 2012-2013 TowCam and Okeanos Explorer cruises, areas of slope >=36 degrees contained exposed hard bottom almost 100% of the time, and areas of slope >=30 degrees often contained hardbottom habitat.
4. Draw boundaries to approximate a buffer of 0.4 nautical miles (2 model grid cells) from target areas of high slope and areas of high habitat suitability (as described in steps 2 and 3 above).
5. Incorporate available data for coral observations from 2012-2013 fieldwork in Baltimore Canyon, Norfolk Canyon, Toms Canyon complex, Block Canyon, and Ryan Canyon. Ensure that boundaries encompass areas where corals were observed within the proposed canyons, if location data is available. Note: These observations have not yet been incorporated into the habitat suitability model or the DSCRTP coral database.
6. Identify additional areas of conservation interest based on database (historical) records of deep sea corals, with an emphasis on records of Alcyonaceans (soft corals and gorgonians) and Scleractinians (stony corals), particularly larger and/or structure-forming (including colonial) coral types.
7. For adjacent canyons or slope areas with identified conservation areas of interest, identify whether such adjacent areas should be collapsed into a single area. Eliminate overlap between proposed discrete zone boundaries. Simplify boundary lines where possible.
8. Identify whether these coral data-based boundaries conflict with any of the industry-proposed boundaries, and where there are major discrepancies, consider sub-options.

[1] "High" and "very high" likelihood classes for habitat suitability were taken directly from thresholded versions of the model output provided by NOAA/NCCOS model developers.
[2] Slope data derived from ACUMEN 25m resolution multibeam data.

NOAA Fisheries working to improve fisheries data quality

Contact: Maggie Mooney-Seus, Northeast Regional Office, 978-281-9175
Teri Frady, Northeast Fisheries Science Center, 508-495-2239
Shelley Dawicki, Northeast Fisheries Science Center, 508-495-2378

FOR IMMEDIATE RELEASE:
December 19, 2013

NOAA Fisheries today announced that it is undertaking a coordinated effort to improve the quality, usefulness, timeliness, and delivery of data collected from the fishing industry used in its science and management. The Gulf of Maine Research Institute (GMRI), Portland, Maine, in partnership with the School for Marine Science and Technology (SMAST), Dartmouth, Massachusetts, will help NOAA Fisheries by conducting a survey of external data users and others interested in contributing to improving our data systems.

NOAA Fisheries collects a variety of information from fishing vessels and seafood dealers such as fishing location, gear type used, area fished, landings, bycatch, ex-vessel price, operational costs, and catch sampling, which is used for management and scientific tasks including estimating fish stock abundance and setting fishing quotas.

“We created our existing data reporting and monitoring systems over many years to support fishery management measures as they were developed,” said John Bullard, regional administrator, Northeast, NOAA Fisheries. “But as management plans and requirements have evolved, we’ve seen an increased demand for finer scale and more timely information. We recognize that our data systems need to improve to accommodate that demand.”

This fall, NOAA Fisheries established an internal working group to begin to explore what improvements can be made to existing data collection and management systems. With the help of the GMRI and SMAST, NOAA Fisheries hopes to learn more about data needs from various user groups and explore better ways to compile and deliver that data.

Bill Karp, science and research director, NOAA Fisheries' Northeast Fisheries Science Center, said that working with external partners and the fishing industry is key to improving information gathered on the fisheries. "These data underlie everything from abundance estimates to quota setting and management. It is critical that what we use is accurate, current, and available as quickly as possible," he said.

Over the next several months, interviews will be conducted throughout the region with NOAA Fisheries scientists and managers, state fishery management agencies, regional fishery management councils and commissions, vessel operators, dealers, commercial fishing organizations, non-governmental organizations, and academic institutions.

“Through our outreach, we want to emphasize to fishermen and dealers that understanding how they collect, report, and use information is central to improving NOAA’s data system. Ultimately, timely and accurate data will help them with their own business planning and fishery operations,” said Jonathan Labaree, GMRI’s Director of Community Initiatives. “Along with collecting information from data users, we hope to explore new monitoring and data collection models for the fishing and seafood industries that are developed with their input and tested in the real-world environment.”

As various aspects of this review effort are completed, results will be shared publicly via NOAA Fisheries and the Gulf of Maine Research Institute websites, http://www.nero.noaa.gov/, http://www.nefsc.noaa.gov/ and http://www.gmri.org/.

NOAA’s mission is to understand and predict changes in the Earth's environment, from the depths of the ocean to the surface of the sun, and to conserve and manage our coastal and marine resources. Visit us at http://www.noaa.gov or on Facebook at http://www.facebook.com/noaa.

Federal Fishery Dependent Data Visioning Project

Rationale:

- Existing data system is a patchwork system developed to meet specific needs over time
- Need to improve data systems to meet current and anticipated data needs and uses

Comprehensive Data Needs & Requirements Analysis:

- Surveys/interviews with all stakeholders affected by regional fishery dependent data
  - NMFS (GARFO/NEFSC & SERO/SEFSC)
  - Councils and Commissions
  - ASMFC and Gulf FIN
  - States
  - Commercial industry (including party/charter)
  - NGOs
- Discussed all sources of fishery dependent data associated with a fishing trip, including planning, harvest, offload, and sale/marketing of fish caught

Survey/Interview Approach:

1. Identify current data needs/uses of data users
2. Evaluate existing data collections
   - Identify redundant, unused, or missing data elements
   - Evaluate the efficacy of data collection mechanisms
   - Assess the timeliness of submitted data to meet data needs
   - Determine if data submitted are accurate enough
3. Consider the existing system strengths and weaknesses
4. List desired characteristics of an improved system
5. Anticipate future needs

All Options Are Being Considered:

- Changes to regulations
- Process refinements
- Software revisions
- Staffing/resource adjustments

Project Timeline:

- Develop data system requirements document (December 2014)
- Create project plan and appropriate business rules to implement idealized fishery dependent data system (Spring/Summer/Fall 2015)
- Identify and prioritize system implementation modules (Spring/Summer 2016)
- Program & test updates to fishery dependent data system (Fall 2016/Spring 2017)
- Implement improved fishery dependent data system (Summer 2017)

Expected Benefits:

1. More accurate and timely data
2. Reduced reporting burden for industry
3. More efficient utilization of staff resources
4. Increased communication/coordination among all data users
5. Consistent data products for analysis/reports
6. Quicker and easier access to data by all users

Federal Fishery Dependent Data Visioning Project
Preliminary Discussion Questions

We'd like to explore a few issues during the listening session to understand the nuances and unique circumstances of fishing operations in the Mid-Atlantic and tailor our system to better meet your data needs. Below is a list of preliminary questions for you to think about and offer input on during the listening session.

1. **Integrating Vessel and Dealer Data:**
    a. What's the best way for DEALERS to get data (e.g., vessel trip identifier) from vessels?
    b. What's the best way for VESSELS to get data (e.g., price) from dealers?
    c. How can we improve data collection from various landing scenarios?
        i. Offloads to trucks?
        ii. Selling fish at multiple dealers/markets from the same trip?
        iii. Selling fish from multiple trips as part of 1 or more transactions?
    d. Are there other vessel-dealer scenarios that make getting vessel information difficult?
2. **Transition to Electronic Data Collection:**
    a. Are Mid-Atlantic fishermen ready for electronic reporting?
    b. What do you see as the biggest challenge for reporting data electronically?
    c. What's the best way to submit data electronically (iPhone apps, websites)?
3. **Missing Data Needs:**
    a. Are there any data that you want, but can't get?
    b. Is there a better way to provide you with the data you need?
4. **More Precise Fishing Location:**
    a. How can we collect more precise fishing location?
    b. When do you write down the area you fished (tow, end of trip, after landing)?
    c. When is the earliest that you can or would send that information to us? Are there roadblocks to collecting more precise area information?

Additional Project Information

Additional information on topics listed below can be found at the following link:
http://www.gmri.org/mini/index.asp?ID=60&p=190

From the Northeast Federal Fishery Dependent Data Visioning Project Industry Workshop

Northeast Fishery Dependent Data Visioning Project (Project overview)- Doug Christel and Holly McBride

GMRI & SMAST External Project Overview - Jonathon Peros

NMFS and External Partner Data Uses, Strengths/Weaknesses of Existing System, and Future Characteristics - Holly McBride & Doug Christel

Industry Interview Results - Data Map – Daniel Salerno

Data Visioning Interview Results - Cate O'Keefe

Industry Interview: Data Needs and Uses - Jonathon Peros

Current and Expected Data Needs and Uses: NMFS and External Users - Doug Christel and Holly McBride

Data Collection Entry Errors (Industry perspectives) - Daniel Salerno

Data Collections and Entry Errors (Agency perspectives) - Holly McBride

Addressing Data Gaps and Deficiencies (Identified by industry and internal/external data users)- Holly McBride and Dan Salerno

Industry Interview Ideal Data System Suggestions - Jonathon Peros

BLACK SEA BASS SEASON OPENING FRAMEWORK ADJUSTMENT

DISCUSSION DOCUMENT

August 2014

Mid-Atlantic Fishery Management Council
in cooperation with
the National Marine Fisheries Service (NMFS)

Council Address
Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201
Dover, DE 19901

NMFS Address
NMFS Northeast Regional Office
55 Great Republic Drive
Gloucester, MA 01930

First Framework Meeting: June 11, 2014
Second Framework Meeting: August 12, 2014
Final approved by National Oceanic and Atmospheric Administration (NOAA):

Purpose of August 2014 Meeting: Select preferred alternatives as appropriate.

Framework Purpose and Need

This action is necessary to address two issues that have been identified with recreational black sea bass seasons:

1. Closing Wave 1 (Jan-Feb) to black sea bass fishing means that one of the few recreational fisheries in January-February is not available. Access to black sea bass in Wave 1 could be important for the overall business survival of some for-hire operations. From a 2013 Advisory Panel Meeting Report: "The advisors would like to see the fishery open in wave 1 in 2015, and stated that they should not be penalized because NMFS does not have Marine Recreational Information Program (MRIP) sampling during wave 1. [Vessel Trip Reports (VTRs)] are completed by party/charter vessels and can and should be used to account for landings during this time. Alternatively, NMFS should produce estimates for wave 1."

2. Opening the black sea bass fishery on May 1, 2015, versus the middle of May could be important for private and for-hire fishermen alike, as well as the businesses that service those potential fishermen. Early May is a time of the year when not too many other fisheries are open and/or available, and there could be socio-economic benefits to opening the black sea bass fishery on May 1 versus later in May.

Due to the timing of the current specifications and rulemaking process, a framework adjustment would be needed in order to implement either of these changes for the 2015 fishing year. Typically, the final rule for recreational measures does not publish until late May, meaning that the normal specifications process would not allow either of these modifications to be implemented in time for the 2015 season. If no adjustments to the opening dates are desired for the 2015 fishing year, adjustments for 2016, including starting the season on May 1, could still be made through the specifications process in late 2014.

Timeline

June 11, 2014: Framework Meeting 1 - The Council initiates the framework if desired and directs staff regarding alternative development.

August 12, 2014: The Council approves alternatives as appropriate at Framework Meeting 2 to recommend to NMFS.

August 2014: Council staff submits Environmental Assessment

September 2014: Review of Environmental Assessment, document perfection.

October 2014: Proposed Rule publishes

December 1, 2014: Final Rule publishes

January 1, 2015: Final Rule effective

Relevant Motions From December 2013 Meeting

Move that for 2015 there be consideration of a wave 1 fishery in federal waters contingent upon additional reporting including VTR data.
Council: O'Reilly/Zeman (16/2/0)
Motion carries

Move that the possession limit be 15 fish during wave 1, 2015.
Council: O'Reilly/DiLernia (15/1/0)
Motion carries

Relevant Motions From June 2014 Meeting (Framework Meeting 1)

Move that the Council initiate a Framework on opening certain black sea bass seasons as discussed at June 2014 Council meeting.
DiLernia/Anderson (20/0)
Motion Carries

Alternatives

Note on Combinations: Alternative 1 is the no action alternative. If alternative 2 is picked, then any or all of alternatives 3, 4, and/or 5 could be added as well. Alternative 6 could be selected alone, or in combination with Alternative 2 (and its associated alternatives - 3, 4, and/or 5).

Alternative 1 - Status Quo regarding Wave 1 and Wave 3: Wave 1 (January-February) would remain closed for recreational black sea bass fishing (private boat, charter boat, and party/head boat) in Federal waters. Wave 3 fishing would begin on May 19, 2015 or when the traditional annual specifications process is complete (generally mid to late May) if a change is made. The 2014 Federal waters seasons are May 19-September 18 and October 18-December 31. In Federal waters the bag limit is 15 fish and the minimum size limit is 12.5 inches (total length). No additional reporting or operating requirements would be implemented for For-Hire vessels. Currently vessels with federal black sea bass permits must complete vessel trip reports on a trip by trip basis but have to submit their reports on a monthly basis (unless a permit in another fishery requires more frequent reporting).

Alternative 2 - Open Wave 1 with eVTRs: Open Wave 1 for for-hire operators with Federal black sea bass permits that agree to submit electronic vessel trip reports (eVTR) on a weekly basis via one of the electronic logbook packages that are approved by NMFS: http://www.nero.noaa.gov/aps/evtr/index.html. Vessels would have to apply for participation in this program, and the primary qualification for approval would be having started submitting eVTRs so that NMFS could determine the vessel was capable of e-VTR submission. Any vessel may currently start using eVTRs to satisfy their VTR requirements related to Greater Atlantic Region (New England and

Mid-Atlantic) permits (http://www.nero.noaa.gov/aps/evtr/index.html). Any vessel that fails to report landings and discards in an accurate and/or timely manner (or abide by alternatives 3-5 if selected) will immediately lose the opportunity to fish in Wave 1, but could reapply in future years. Vessels would need confirmation from NMFS that their eVTR reporting is functioning and that they may fish for black sea bass in Wave 1. With eVTR, operators must complete the report on software that resides on a computer, on board their vessel, prior to landing. Finalized reports can be uploaded or emailed to NMFS once the operator has internet access. A tablet-based reporting application is under development (Atlantic Coastal Cooperative Statistics Program - ACCSP) but has not yet been certified by NMFS.

The trip limit would be 15 fish per person (12.5 inch size limit unless Alternative 5 is chosen), with culpability for overages at both the individual and vessel level. Future specifications may change these limits. The recreational specifications would have to account for expected Wave 1 catch by adjusting fishing opportunities later in the year. For 2015, this would mean that the black sea bass season would be shortened later in the year through the recreational specifications process to offset the increased Wave 1 catch. VTR catch reports in Wave 1 from participating vessels would count against the recreational annual catch limit.

Alternative 3 - Web-based trip Notification: Vessels participating in the Wave 1 black sea bass fishery would need to notify NMFS 48 hours in advance of their intent to commence a fishing trip along with their scheduled departure and return time and port. This information would be forwarded to Federal and state law entities to facilitate enforcement (and possibly observers in future years).

Alternative 4 - Descending devices: Vessels participating in the Wave 1 black sea bass fishery would be required to possess on board and use descending devices to reduce discard mortality for black sea bass. It is expected that Wave 1 fishing would occur in deeper waters, where barotrauma would be more likely and studies have suggested that rapid recompression may generally improve post-release survival. A variety of descending devices are commercially available.

Alternative 5 - Full Retention of Black Sea Bass: Vessels participating in the Wave 1 black sea bass fishery would be required to retain all black sea bass caught (no discarding), and all fish retained would count against the 15 fish per angler limit, with culpability for discarding at both the individual and vessel level. Like Alternative 4, this measure is also designed to address post-release mortality, but through a different approach. There would be no minimum size for the Wave 1 fishery, if this alternative is implemented, but all fish would have to be retained.

Alternative 6 - May 1 Opening: Black sea bass fishing in Federal waters would open May 1 in Wave 3 (May-June) of each year, starting in 2015 until changed via specifications or other action. The timing of the normal recreational specifications process means that black sea bass fishing usually begins in middle to late May. The recreational specifications would have to reduce fishing opportunities later in the year to account for expected early May catch.

Considered but Rejected Alternatives

In-wave monitoring: Potentially NMFS could use weekly e-VTRs to monitor Wave 1 black sea bass landings and close the Wave 1 fishery when it landed a certain amount of fish (in the same fashion as electronically-submitted weekly dealer data is used to close commercial fisheries). Due to the infrastructure development that would be needed to implement such a system, and the desire to have a Wave 1 fishery operate in 2015, this potential option was not further developed, but could be considered in the future. Also, in-wave monitoring would require more formal allocation of the annual quota, which is beyond the scope of this action.

Full Opening of Wave 1: Potentially Wave 1 could be opened to all anglers (for-hire and private), at least in states that have MRIP or similar monitoring systems in place during Wave 1. Currently, only North Carolina has MRIP monitoring of private-boat fishing in Wave 1. Due to the potential fairness issues that could arise from inequitable treatment across states, and the controversy that such fairness issues could generate, this potential option was not further developed but could be considered in the future. Also, increasing Wave 1 access in an incremental fashion will better allow for accounting of Wave 1 catch, which will reduce the likelihood of overages that could impact future black sea bass fishing.

Provisions for State-Only Vessels: It is anticipated that interest in Wave 1 black sea bass fishing would be predominantly off-shore (Federal waters). The Council only has authority for Federal waters/Federal permits, but states would need to make provisions for vessels once they are back in state waters.

Open Wave 1 with Rapid Hardcopy VTRs: A member of the public at the June 2014 Council meeting asked whether a rapid submission of written VTR data could substitute for electronic reporting, with the concern being that vessels might not have enough time to switch over to electronic reporting. Since vessels can actually switch over to electronic reporting now, this option was not further developed.

Accounting Scenarios

There are different accounting issues for opening the season on May 1 of each year versus opening Wave 1. Moving forward, the May 1 date could likely be maintained or changed with the Waves 3-6 management measures discussions in any given year. The wave 1 fishery presents different issues since it is so early in the year, especially over time across years as accountability measures may need to be applied.

Like the May opening consideration, during the process for setting general recreational specifications for 2015, the increased catch in January and February will be taken into account depending on whatever action the Council recommends for this action. For 2015, the accounting will likely involve shortening the season later in the year to some degree than would otherwise occur. Council Staff and the relevant Monitoring/Technical committees will evaluate historical catch information and recommend appropriate offsets to the Council so that overall catch limits are unlikely to be exceeded. The approximate amounts of the offsets are described in the impact section below.

Unlike the May opening, there would always be a year delay in implementing changes to Wave 1 fishing through the normal recreational specifications process (they typically are implemented in May). Two approaches could be utilized for future adjustments to Wave 1 fishing. While these approaches would be separate from this framework, they are described to give decision makers and the public a preview of future considerations by the Council.

Approach 1

Utilize the existing recreational management measures process. In this case, the results of the 2015 fishing year could not be incorporated in time for January/February fishing in 2016, but rules for those times of the year could be altered so as to be in effect for 2017 fishing. The issue would be most acute if catches were higher in 2015 than expected. The higher than expected 2015 catches that would assumedly occur again in 2016 would have to be accounted for by reducing catches later in 2016, likely through a shorter season, depending on just how large the landings were in 2015. This cascading impact can cause confusion and result in delayed implementation of reductions or liberalization of measures, as experienced with the fishing year 2012 closure, but the scheduled January 1, 2013, opening. For example, if 50,000 more fish were caught in Wave 1 in 2015 than expected, there is no time to implement additional restrictions for Wave 1 in 2016 via the standard recreational specifications process. Instead, if there was a need to reduce catch because of Wave 1 and only the standard recreational specifications process was used, it would have to be through additional reductions later in the year, though any Wave 1 measures in the specifications could be effective for 2017.

Approach 2

Utilize a different action to address future adjustments to black sea bass catches. For 2015, the recreational specifications process would still account for expected Wave 1 catch in 2015 by shortening the recreational black sea bass season later in the year. Future Wave 1 changes (2016 and beyond) could be incorporated into the August-December specifications process in years when overall/commercial specifications are discussed, or implemented via a separate Wave 1 specifications action. While this does allow year to year adjustments, it does mean that an additional management action/NEPA process would need to occur, decreasing staff availability for other projects.

Description of the Affected Environment and Relevant Fisheries

Given the limited scope of this action, the description of the affected environment is incorporated by reference at this point from the Environmental Assessment (EA) for Black Sea Bass Specifications. Additional information and formatting will be added during document perfection.

Black sea bass are not overfished and overfishing is not occurring. Updates on the status of the stock occur quarterly and are available on the following website: http://www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm.

Descriptions of fishery interactions of the managed resources with non-target species, Endangered Species Act (ESA)-listed and Marine Mammal Protection Act (MMPA) protected resources, as well as interactions with Essential Fish Habitat, based on recent data are described in the EA's affected environment section (sections 6.2-6.3), and remain unchanged. The following supplements the description of the social and economic environment in section 6.4 of the EA with more detailed information about the recreational fisheries for black sea bass.

The recreational black sea bass fishery is important to many communities along the East Coast. Recent summer flounder, scup, and black sea bass landing patterns among ports are presented in section 6.5 of the EA. A brief description of the relative importance of black sea bass recreational landings at the state level is described in tables below. The relevant ports and communities are fully described in Amendment 13 (section 3.4). Additional information on "Community Profiles for the Northeast US Fisheries" can be found at: http://www.nefsc.noaa.gov/read/socialsci/communityProfiles.html.

Table 1 summarizes black sea bass catch by wave (Wave 1 = Jan-Feb; Wave 2 = Mar-Apr; Wave 3 = May-Jun; Wave 4 = Jul-Aug; Wave 5 = Sept-Oct; Wave 6 = Nov-Dec). There is no Wave 1 sampling/estimation north of North Carolina. Tables 2 and 3 summarize recent black sea bass specifications and state management measures.

Estimation of primary species sought as reported by anglers in recent intercept surveys from Maine through North Carolina indicates that black sea bass trips increased from a low of 0.14 million trips in 1999 to a high of 0.42 million trips in 2010 (Table 4). In 2013, the number of recreational fishing trips reported by anglers targeting black sea bass was 0.24 million trips. Approximately 73 percent of the black sea bass landed recreationally are by private fishermen or fishermen with boat rentals, followed by 26 percent in the party/charter mode, and 1 percent by shore-based fishermen from 2009 to 2013 (Table 5). Table 6 lists the relative contribution of the states to total black sea bass landings in 2012 and 2013.

Recent years have seen a shift in the location of black sea bass landings from waters more than 3 miles from shore to waters less than 3 miles from shore (Table 7).

The black sea bass recreational fishery was open during Wave 1 2013 and has been open in Wave 1 of earlier years. Table 8 describes VTR landings for Wave 1 while Table 9 describes recent Wave 1 for-hire vessel activity (vessels reporting black sea bass catch on VTRs). Figure 1 illustrates the differences between EEZ for-hire black sea bass landings during the rest of the year (March-December) between MRIP and VTRs.

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Table1. a) Average percent of black sea bass landed (in number) by state and wave, 2006-2008, based on 2006-2008 MRIP landings data, and b) projected reduction in black sea bass landings (in percent) associated with closing one day per wave, based on 2006-2008 MRIP landings data.

a.

State	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6
MA	0.0000	0.0000	37.1113	20.0479	42.8408	0.0000
RI	0.0000	0.0058	4.3758	24.4527	64.0531	7.1126
CT	0.0000	0.0000	2.0370	72.2979	0.9908	24.6742
NY	0.0000	0.0000	24.8098	29.4535	36.1107	9.6260
NJ	0.0000	0.1494	41.5411	16.6213	38.7958	2.8924
DE	0.0000	4.5314	51.5769	21.7233	20.4979	1.6704
MD	0.0000	0.6181	59.0091	9.5374	24.6708	6.1646
VA	0.0000	2.4764	42.8817	25.7301	17.4615	11.4503
NC[a]	2.4157	5.4607	24.6746	23.6117	30.6216	13.2157
Coast	0.0508	0.5525	36.2126	21.8059	36.1011	5.2770

[a] **North of Hatteras.**

b.

State	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6
MA	0.0000	0.0000	0.6084	0.3234	0.7023	0.0000
RI	0.0000	0.0001	0.0717	0.3944	1.0501	0.1166
CT	0.0000	0.0000	0.0334	1.1661	0.0162	0.4045
NY	0.0000	0.0000	0.4067	0.4751	0.5920	0.1578
NJ	0.0000	0.0024	0.6810	0.2681	0.6360	0.0474
DE	0.0000	0.0743	0.8455	0.3504	0.3360	0.0274
MD	0.0000	0.0101	0.9674	0.1538	0.4044	0.1011
VA	0.0000	0.0406	0.7030	0.4150	0.2863	0.1877
NC[a]	0.0409	0.0895	0.4045	0.3808	0.5020	0.2167
Coast	0.0009	0.0091	0.5936	0.3517	0.5918	0.0865

[a] **North of Hatteras.**

Table 2. Summary of management measures for the black sea bass recreational fishery, 1996-2015.

Measure	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Harvest Limit (m lb)	-	-	3.15	3.15	3.15	3.15	3.43	3.43	4.01	4.13
Landings (m lb)[a]	4.1	4.4	1.3	1.7	4.1	3.6	4.4	3.4	2.3	2.2
Possession Limit	-	-	-[b]	-[b]	-[b]	25	25	25	25	25
Size Limit (TL in)	9	9	10	10	10	11	11.5	12	12	12
Open Season	1/1 - 12/31	1/1-12/31	1/1-7/30 and 8/16-12/31	1/1-12/31	1/1-12/31	1/1-2/28 and 5/10-12/31	1/1-12/31	1/1-9/1 and 9/16-11/30	1/1-9/7 and 9/22-11/30	1/1-9/7 and 9/22-11/30
Measure	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Harvest Limit (m lb)	3.99	2.47	2.11	1.14	1.83	1.84	1.32	2.26	2.26	2.26[c]
Landings (m lb)[a]	1.9	2.4	2.1	2.6	3.3	1.3	3.2	2.46[d]	-	-
Possession Limit	25	25	25	25	25	25	20 or 25	20	-	-
Size Limit (TL in)	12	12	12	12.5	12.5	12.5	12.5	12.5	-	-
Open Season	1/1-12/31	1/1-12/31	1/1-12/31	1/1-12/31	1/1-10/5	5/22-10/1 and 11/1-12/31	1/1-2/29, 5/19-10/14, and 11/1-12/31	5/19-10/14, and 11/1-12/31	-	-

[a] For 1996-2003 data are MRFSS, 2004-2013 are MRIP. [b] There was no Federal possession limit but some states implemented a 20 fish possession limit in these years. [c] Council-preferred; pending implementation by NMFS. [d] Projected using average proportion from MRIP wave 6, 2010-2011 and 2013 MRIP wave 1-5 data (Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, January 6, 2013).

Table 3. Black sea bass recreational management measures by state, 2014.

State	Minimum Size (inches)	Possession Limit	Open Season
New Hampshire	13	10 fish	January 1-December 31
Massachusetts (Private and For-hire)	14	8 fish	May 17- September 15
Massachusetts (For-hire with Letter of Authorization from MA DMF)	14	8 fish	May 17- May 31
		20 fish	September 1- September 30
Rhode Island	13	3 fish	June 29- August 31
		7 fish	September 1- December 31
Connecticut (Private and Shore)	13	3 fish	June 21- August 31
		8 fish	September 1- December 31
CT Authorized Party/Charter Monitoring Program Vessels		8 fish	June 21-December 31
New York	13	8 fish	July 15- December 31
New Jersey	12.5	3 fish	July 1- August 31
		15 fish	May 19- June 30; September1- September 6; October 18- December 31
Delaware	12.5	15 fish	May 19 - September 18 and October 18 - December 31
Maryland	12.5	15 fish	May 19 - September 18 and October 18 - December 31
PRFC	12.5	15 fish	May 19 - September 18 and October 18 - December 31
Virginia	12.5	15 fish	May 19 - September 18 and October 18 - December 31
North Carolina (North of Cape Hatteras 35° 15'N Latitude)	12.5	15 fish	May 19 - September 18 and October 18 - December 31

Table 4. Number of black sea bass recreational fishing trips, recreational harvest limit, recreational landings, and historical performance from 1994 to 2014.

Year	Number of Fishing Trips[a]	Recreational Harvest Limit (million lb)	Recreational Landings of Black Sea Bass (million lb)[c]	Overage (+%)/ Underage (-%)
1994	253,888	None	3.05	None
1995	313,537	None	6.34	None
1996	231,090	None	3.99	None
1997	310,898	None	4.26	None
1998	137,734	3.15	1.14	-64%
1999	136,452	3.15	1.64	-48%
2000	255,789	3.15	3.98	+26%
2001	293,191	3.15	3.41	+8%
2002	283,537	3.43[b]	4.37	+27%
2003	299,791	3.43[b]	3.30	-4%
2004	149,670	4.01[b]	1.68	-58%
2005	199,603	4.13[b]	1.88	-54%
2006	253,040	3.99[b]	1.98	-50%
2007	368,042	2.47[b]	2.23	-10%
2008	256,340	2.11[b]	1.57	-26%
2009	393,391	1.14[b]	2.31	+103%
2010	417,665	1.83[b]	2.98	+63%
2011	193,656	1.83[b]	1.27	-31%
2012	267,934	1.32[b]	3.18	+141%
2013	242,828[d]	2.26[b]	2.46[e]	+9%
2014	NA	2.26[b,f]	NA	NA

[a] Estimated number of recreational fishing trips (expanded) where the primary target species was summer flounder, Maine through North Carolina. Source: Scott Steinback, NMFS/NER/NEFSC.
[b] Recreational harvest limits from 2003-2014 are adjusted for research set-aside.
[c] From Maine through Cape Hatteras, North Carolina.
[d] Estimated from preliminary 2013 MRIP data.
[e] Projected using average proportion from 2010-2011 MRIP data (due to recreational closure in wave 6 of 2012) and 2013 MRIP wave 1-5 data (Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, January 6, 2013).
[f] Council-preferred, pending implementation.
NA = Data not available

Table 5. The number of black sea bass landed from Maine through North Carolina by mode, 1981-2013. .

Year	Shore	Party/Charter	Private/Rental
1981	452,103	1,440,169	841,478
1982	81,445	8,104,204	2,063,334
1983	222,012	4,005,707	1,403,508
1984	98,227	1,128,294	1,264,897
1985	163,448	2,393,049	1,659,700
1986	1,021,525	16,695,387	4,187,084
1987	71,956	1,157,243	2,238,159
1988	140,754	1,691,300	2,227,901
1989	237,970	1,991,672	2,419,654
1990	289,378	2,268,915	1,710,455
1991	250,675	2,586,145	2,621,271
1992	45,369	2,043,190	1,780,224
1993	54,676	4,579,662	1,562,227
1994	243,347	2,005,883	1,321,629
1995	275,982	5,197,231	1,413,571
1996	70,523	2,631,733	1,062,027
1997	8,337	3,950,336	908,836
1998	7,073	777,874	474,069
1999	19,231	621,354	771,260
2000	177,489	1,797,702	1,780,240
2001	14,035	1,826,852	1,164,977
2002	16,618	2,066,232	1,338,448
2003	10,760	2,073,132	1,308,493
2004	9,462	698,453	1,217,160
2005	13,110	605,932	869,467
2006	49,080	730,749	612,618
2007	9,865	909,869	709,901
2008	9,447	479,682	852,619
2009	23,992	442,107	1,442,842
2010	6,096	519,529	1,809,046
2011	8,177	310,760	561,730
2012	6,443	701,777	1,237,668
2013	12,205	228,574	1,035,530
% of total, 1981 - 2013	3%	60%	37%
% of total, 2009 - 2013	1%	26%	73%

Source: Personal communication from the National Marine Fisheries Service, Fisheries Statistics and Economics Division.

Table 6. State contribution (as a percentage) to total recreational landings of black sea bass (MRIP Type A+B1 in number of fish), from Maine through North Carolina, 2012 and 2013.

State	2012	2013
Maine	0.0	0.0
New Hampshire	0.2	1.0
Massachusetts	26.7	23.8
Rhode Island	5.3	6.0
Connecticut	5.7	8.3
New York	16.5	26.4
New Jersey	37.8	25.8
Delaware	2.1	2.0
Maryland	1.7	0.6
Virginia	0.2	1.7
North Carolina	3.9	4.5
Total	**100%**	**100%**

Source: Personal communication from the National Marine Fisheries Service, Fisheries Statistics and Economics Division (August 2013).

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Table 7. Percentage of black sea bass recreational landings (MRIP Type A+B1 in number of fish) by year and area, Maine through North Carolina, 2004-2013. These area information are self-reported based on the area where the majority of fishing activity occurred per angler trip.

Year	State <= 3 mi	EEZ > 3 mi
2004	25.6%	74.4%
2005	29.9%	70.1%
2006	34.9%	65.1%
2007	34.8%	65.2%
2008	60.3%	39.7%
2009	67.5%	32.5%
2010	72.1%	27.9%
2011	63.8%	36.2%
2012	72.6%	27.4%
2013	68.8%	31.2%
Avg. 2004 - 2013	53.0%	47.0%
Avg. 2011 - 2013	68.4%	31.6%

Source: Personal communication from the National Marine Fisheries Service, Fisheries Statistics and Economics Division (August 2013).

Table 8: Jan/Feb sea bass catch- VTR results MA-VA*.

year	number trips	number anglers	number caught	number kept	number discarded	number kept per angler	kept/discard ratio
1996	13	435	3998	3866	132	8.9	29.3
1997	45	1233	10457	10342	115	8.4	89.9
1998	35	889	7089	6754	335	7.6	20.2
1999	34	786	11526	11019	507	14.0	21.7
2000	36	909	11761	10289	1472	11.3	7.0
2001	27	1036	31581	28016	3565	27.0	7.9
2002	70	2152	29478	25909	3569	12.0	7.3
2003	30	1200	22704	21451	1253	17.9	17.1
2004	36	1496	17849	16515	1334	11.0	12.4
2005	46	1709	18865	17680	1185	10.3	14.9
2006	63	2463	37408	35840	1568	14.6	22.9
2007	125	3092	39621	36045	3576	11.7	10.1
2008	103	2941	40539	37462	3077	12.7	12.2
2009	117	3032	44449	38960	5489	12.8	7.1
2010	15	394	2319	61	2258	0.2	0.0
2011	9	171	369	1	368	0.0	0.0
2012	160	3262	8612	1147	7465	0.4	0.2
2013	245	6353	98189	70533	27656	11.1	2.6

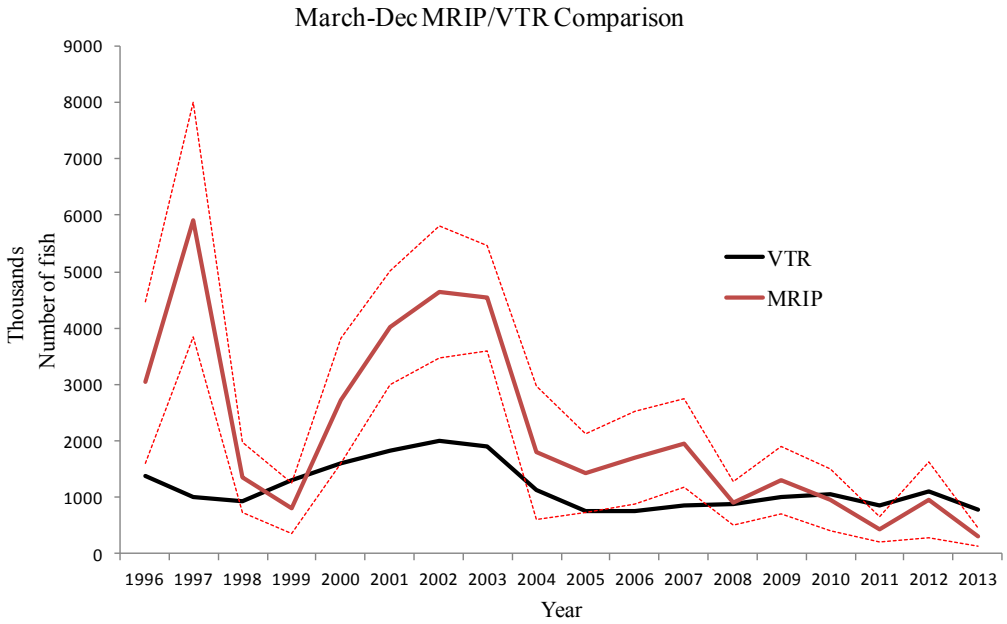
Source: Personal communication, Gary Shepherd, NEFSC.
*Note that vessels fishing in state waters without a federal permit are not required to submit a VTR.

Table 9: Recent Wave 1 For-Hire Vessel Activity (Vessels Reporting Black Sea Bass in Jan-Feb.

	2013	2012	2011	2010
NJ	17	13		4
NY	12	13		3
VA	6			
RI		3		
others	4	4		3
Total	39	33		10

Source: Personal communication, Gary Shepherd, NEFSC.

Figure 1. EEZ For-Hire black sea bass landings, March-December, MRIP/VTR Comparison.



Dotted lines are the calculated ± 95% confidence interval from MRIP.
Source: Personal communication, Gary Shepherd, NEFSC

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Impacts

Note: The Monitoring Committee met on July 25 and discussed the potential opening of Wave 1 in 2015. Several concerns were identified, as discussed below.

Biological Impacts on Managed Species

Since additional expected Wave 1/Wave 3 black sea bass catch would be accounted for by restricting fishing later in the year, biological impacts should be minimal for all action alternatives compared to the no action. There are several qualitative concerns that warrant mention however.

First, anecdotal reports (there is no Wave 1 size information since only numbers of fish are recorded on recreational for-hire VTRs) suggest that black sea bass caught offshore during Wave 1 are relatively large fish that might be the primary spawning males once they come inshore. While it is theoretically possible that this could have an impact on spawning behavior, there is no available information to suggest that previous Wave 1 fisheries had a detrimental impact on spawning or that other males would not replace the fish that are caught. Also, once large fish move inshore they are still susceptible to fishing before/during spawning.

Second, there is concern that there could be relatively high barotrauma mortality of released fish offshore (in deep water). While a recent study (Rudershausen et al 2014) suggests that barotrauma may not be as problematic as previously thought for black sea bass, those fish were caught from 29 meters – 34 meters deep, which is not as deep as the offshore Wave 1 fishery. If the anecdotal reports of the fish being larger offshore are correct, then discarding may be lower during offshore fishing. While most recreational discard information is self-reported and therefore data quality concerns exist, in 2013 the overall black sea bass discard rate was 87% (MRIP Query), while Table 8 (VTR data) suggests that Wave 1 discard rates in the for-hire fishery are much lower when Wave 1 is open to black sea bass fishing. Alternatives 4 and 5 also propose measures to reduce discard mortality.

Third, there is concern (raised by the Monitoring Committee) that relying on self-reported data for a tightly quota-controlled species may lead to overfishing even if reported landings are within established limits. While this is a potential concern, the same is true for all recreational data, and there is actually a stronger link for enforcement related to accurate VTR reporting than for recreational data collected at access sites through MRIP. The trip notification options under consideration could also facilitate enforcement by identifying clearly when trips are departing and returning. The Monitoring Committee also raised concerns about the ability of NMFS to integrate VTR and MRIP data, but staff discussions with NMFS have indicated that if only VTR data is collected, then it could be added to MRIP totals for annual catch limit monitoring purposes.

Finally, the lack of biological information for Wave 1 means that estimating the weight of fish caught will be problematic. Assumptions will have to be made during the recreational specifications setting process about how much to assume each fish caught in Wave 1 weighs, but there are no length/weight data collected for Wave 1 fish since MRIP does not operate in Wave 1. It could be possible to set up such a program for 2016 but not for 2015. Several members of the Monitoring Committee noted that if Wave 1 were to be opened, gathering validated data (landings and discards) from those trips should have a high priority.

Habitat Impacts

The primary gear used in the recreational summer flounder, scup, and black sea bass fisheries is hook and line. Although the specific effects of this gear type on various bottom habitats are poorly understood, any potential habitat impacts are likely minimal, especially in the context of overall fishing activity in the Mid-Atlantic and New England regions (which includes substantial bottom trawling that likely has much greater impact). Accordingly, habitat impacts associated with any of the action alternatives are likely minimal compared to the no action.

Impacts on Protected Resources

Recreational fisheries in the Mid-Atlantic and New England regions, in general, have limited interaction with ESA-listed or MMPA protected species. The primary gear used in the recreational summer flounder, scup, and black sea bass fisheries is hook and line. Anecdotal information indicates that recreational anglers periodically hook or foul hook sea turtles and Atlantic sturgeon, but these are believed to be relatively infrequent occurrences in the Mid-Atlantic and New England regions. Recreational fishermen also likely contribute to difficulties for ESA-listed and MMPA protected marine species in that it is estimated that recreational fishermen discard over 227 million lb (103 million kg) of litter each year (O'Hara et al. 1988). However, Wave 1 black sea bass fishing is likely to only amount to several thousand angler trips (see Table 8), which is minimal compared to the 20-22 million boat-based angler trips off the U.S. East Coast each year (2011-2013, http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-data-query/queries/index). While vessel strikes of turtles related to recreational fishing are also likely to occur to some degree from a coast-wide perspective (http://www.nmfs.noaa.gov/pr/species/turtles/threats.htm), interactions would not be expected during the times of year (early) and area (Mid-Atlantic and New-England) affected by this action. Accordingly, protected resource impacts associated with any of the action alternatives are likely minimal compared to the no action.

Impacts on Non-Target Fish Species

Given the focused nature of potential Wave 1 and early Wave 3 black sea bass fishing, impacts to other species should be minimal for any of the action alternatives compared to the no action.

Socioeconomic Impacts

The key impacts from the action alternatives are likely to be socioeconomic since the issue at hand is largely distributional because increased Wave 1 catch will be accounted for by reducing catch later in the year. In 2013, Wave 1 VTR included 245 trips by 39 vessels landing black sea bass, with a total of 6,353 angler trips. They landed 70,533 black sea bass and discarded 27,656 black sea bass. Reopening Wave 1 would facilitate fishing trips in Wave 1, which would lead to economic benefits for participating for-hire operators and communities, as well as providing value to the patrons in terms of the opportunity to fish. While not a huge number of trips in the scale of overall for-hire fishing, there are not many fishing opportunities in Wave 1 and for-hire operators have communicated to the Council that having some fishing opportunities in Wave 1 is important for their business operations (they will not fish otherwise).

With a limited quota however, the higher Wave 1 catch will have to be balanced by less catch later in the year. While the recreational specifications package will analyze the question in greater detail, the approximate range of impacts can be estimated. The 2013 annual average weight for black sea bass was 1.91 pounds (pers com K. Dancy, MRIP data). Assuming that weight for landings and half that weight for discards, and a 15% discard mortality rate, the mortality in pounds was approximately 139,000 pounds. If the assumed weight is higher for an offshore fishery (50%), then the mortality in pounds was approximately 208,000 pounds. Given the current recreational harvest limit (2,259,715 pounds), this would mean that a 6%-9% reduction would be needed later in the year to offset this additional catch. Using the catch reduction tables used for recent specifications, this could translate into reducing the season during Wave 5 for example by approximately 10-15 days (see Table 1b).

There are several distributional aspects that should be noted and were flagged by the Monitoring Committee. First, while the benefit of a Wave 1 for-hire fishery would go to the participating for-hire vessels and their patrons, all vessels and participants (including private) would lose fishing days later in the year. Several members of the Monitoring Committee noted that if all participants had to give up days later in the year then all should be able to participate in Wave 1. This however would conflict with the Council's intent to only open up Wave 1 with associated monitoring. Also, even if Wave 1 was open for all participants, most private boats and smaller for-hire vessels do not participate in the offshore fishery during Wave 1 due to weather conditions. A staggered late season closure of the private and for-hire fisheries (for-hire closing first) to keep access equivalent is theoretically possible but would need an amendment according to NMFS.

Another distributional issue involves varying participation across states. From 1996-2013 85%-90% of Wave 1 VTR black sea bass landings came from New Jersey (pers Com Moira Kelly, VTR data). Table 1a shows which Waves were most important to each state, and depending on when the season was shortened to make up for additional Wave 1 catch, some states might be disproportionately impacted. For example, from 2006-2008 Virginia had 17% of its landings from Wave 5 while New York had 36% of

its landings from Wave 5, so additional restrictions later in the year will affect different states differently depending on the distribution of sea bass in any given year.

A final distributional issue is that if the offshore fishery lands relatively large fish before those fish more inshore, there will be fewer large fish during the inshore fishery. While impossible to quantify, this may negatively impact the fishing experience for some inshore anglers.

Finally, there are also some impacts related to trip reporting (may require Office of Management and Budget / Paperwork Reduction Act clearance) and/or purchasing descending devices. The web reporting and descending device costs should be minimal. Running the eVTR program currently requires a laptop. Some operators likely have a laptop they could use, but others may need to purchase a laptop. Inexpensive laptops can be bought for $250-$500 and if/when a tablet e-VTR option becomes available the cost for a tablet can be less than $150.

The May 1 opening alternative has the same basic socioeconomic issue in terms of trading early days for late days, but since all participants are affected there are less distributional issues. Table 1b suggests that there would be approximately a 1:1 tradeoff between Wave 3 days and Wave 5 days, i.e. for every day earlier in May the season opened the same number of days would have to be eliminated in Wave 3.

Cumulative Impacts

A cumulative impacts section will be added based on the Council's preferred alternatives, but based on the limited scope of this action no change to cumulative impacts is expected. The most recent EA for black sea bass can be consulted for current cumulative impact descriptions.

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 648

[Docket 130702585–4484–01]

RIN 0648–BD42

Fisheries of the Northeastern United States; Special Management Zones for Five Delaware Artificial Reefs

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Proposed rule; request for comments.

SUMMARY: NMFS proposes management measures to implement Special Management Zones for five Delaware artificial reefs under the black sea bass provisions of the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan. The implementing regulations for the Special Management Zones require NMFS to publish proposed measures to provide an opportunity for public comment. The intent of these measures is to promote orderly use of the resource by reducing user group conflicts, and help maintain the intended socioeconomic benefits of the artificial reefs to the maximum extent practicable.

DATES: Comments must be received by 5 p.m. local time, on August 4, 2014.

ADDRESSES: You may submit comments on this document, identified NOAA–NMFS–2014–0060, by any of the following methods:

• *Electronic Submission:* Submit all electronic public comments via the Federal e-Rulemaking Portal. Go to *www.regulations.gov/#!docketDetail;D=NOAA-NMFS-2014-0060* click the ''Comment Now!'' icon, complete the required fields, and enter or attach your comments.

• *Mail and Hand Delivery:* John K. Bullard, Regional Administrator, NMFS, Greater Atlantic Regional Fisheries Office, 55 Great Republic Drive, Gloucester, MA 01930. Mark the outside of the envelope: ''Comments on SMZ Measures.''

Instructions: Comments sent by any other method, to any other address or individual, or received after the end of the comment period, may not be considered by NMFS. All comments received are a part of the public record and will generally be posted for public viewing on *www.regulations.gov* without change. All personal identifying information (e.g., name, address, etc.), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. NMFS will accept anonymous comments (enter ''N/A'' in the required fields if you wish to remain anonymous). Attachments to electronic comments will be accepted in Microsoft Word, Excel, or Adobe PDF file formats only.

Copies of the Environmental Assessment and Initial Regulatory Flexibility Analysis (EA/IRFA) and other supporting documents for the Special Management Zones measures are available from Paul Perra, NOAA/NMFS, Sustainable Fisheries Division, 55 Great Republic Drive, Gloucester, MA 01930. The Special Management Zone measures document is also accessible via the Internet at: *http://www.nero.noaa.gov.*

FOR FURTHER INFORMATION CONTACT: Paul Perra, Fishery Policy Analyst, (978) 281–9153.

SUPPLEMENTARY INFORMATION: The Delaware Fish and Wildlife Department (DFW) has requested and the Mid-Atlantic Fishery Management Council has recommended that five Delaware artificial reef sites, currently permitted by the U.S. Corps of Engineers in the Exclusive Economic Zone (EEZ), be designated as Special Management Zones (SMZs) under the regulations implementing the Council's Summer Flounder, Scup and Black Sea Bass Fishery Management Plan (FMP).

The summer flounder, scup, and black sea bass fisheries are managed cooperatively under the provisions of the FMP developed by the Council and the Atlantic States Marine Fisheries Commission, in consultation with the New England and South Atlantic Fishery Management Councils. The management units specified in the FMP include summer flounder (*Paralichthys dentatus*) in U.S. waters of the Atlantic Ocean from the southern border of North Carolina (NC) northward to the U.S./Canada border, and scup (*Stenotomus chrysops*) and black sea bass (*Centropristis striata*) in U.S. waters of the Atlantic Ocean from 35° 13.3' N. lat. (the latitude of Cape Hatteras Lighthouse, Buxton, NC) northward to the U.S./Canada border.

The Council prepared the FMP under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), 16 U.S.C. 1801 *et seq.* Regulations implementing the FMP appear at 50 CFR part 648, subparts A (general provisions), G (summer flounder), H (scup), and I (black sea bass). General regulations governing fisheries of the Northeastern U.S. also appear at 50 CFR part 648. States manage these three species within 3 nautical miles (4.83 km) of their coasts, under the Commission's plan for summer flounder, scup, and black sea bass. The applicable species-specific Federal regulations govern vessels and individual fishermen fishing in Federal waters of the EEZ, as well as vessels possessing a summer flounder, scup, or black sea bass Federal charter/party vessel permit, regardless of where they fish.

Special Management Zone Measures Background

The DFW requested in June 2011 that the Council designate five artificial reef sites, currently permitted by the U.S. Corps of Engineers in the EEZ, as SMZs under the regulations implementing the Council's FMP. The SMZ request noted that the DFW has received complaints from hook-and-line anglers regarding fouling of their fishing gear in commercial pots and lines on ocean reef sites for more than 10 years. It also noted that the U.S. Fish and Wildlife Service (FWS) Sportfish Restoration Program (SRP) had notified DFW that these gear conflicts are not consistent with the objectives of the SRP program, which provides funding for the building and maintenance of the artificial reefs. In order to comply with the goals of the SRP, the FWS is requiring that state artificial reef programs be able to limit gear conflicts by state regulations in state waters or by SMZs for sites in the EEZ.

The Council process for devising SMZ management measures is to recommend measures to NMFS for rulemaking, and is described in the following section. All meetings are open to the public and the materials utilized during such meetings, as well as any documents created to summarize the meeting results, are public information and typically posted on the Council's Web site (*www.mafmc.org*) or are available from the Council by request. Extensive background on the SMZ management measures recommendation process is therefore not repeated in this preamble.

The SMZ recommendations from the Council were established under the FMP's black sea bass provisions (§ 648.148). A monitoring committee, consisting of representatives from the Council, NMFS Greater Atlantic Regional Fisheries Office, and NMFS Northeast Fisheries Science Center was formed to review the DFW SMZ request. The FMP's implementing regulations require the monitoring committee to review scientific and other relevant information to evaluate the SMZ

requests in the form of a written report, considering the following criteria:

(1) Fairness and equity;

(2) Promotion of conservation;

(3) Avoidance of excessive shares;

(4) Consistency with the objectives of Amendment 9 to the FMP, the Magnuson-Stevens Act, and other applicable law;

(5) The natural bottom in and surrounding potential SMZs; and

(6) Impacts on historical uses.

The Council then considered the monitoring committee's recommendations and any public comment in finalizing its recommendations. The Council forwarded its final recommendations to NMFS for review. NMFS is required to review the Council's recommendations to ensure that they are consistent with the FMP and all applicable laws and Executive Orders before ultimately implementing measures for Federal waters.

The timeline for establishing the SMZs is summarized here: The DFW requested SMZ status for the artificial reefs in June 2011; the Council and NMFS established a monitoring committee to review the request in April 2012; the monitoring committee provided a report to the Council evaluating the SMZ request in October 15–18, 2012, in Long Branch, New Jersey, and December 10–13, 2012, in Baltimore, Maryland.

Following these meetings, the Council held three public hearings on the proposed SMZs (Ocean City, Maryland, January 15, 2013; Lewes, Delaware, January 16, 2013; and Toms River, New Jersey, January 17, 2013), and final recommendations on the SMZs were made by the Council at its February 12–13, 2013, meeting in Hampton, Virginia. NMFS subsequently has reviewed the Council's recommendations through the development of an EA and this proposed rule.

Proposed SMZ Measures

NMFS is proposing the Council's recommended measures that would apply in the Federal waters of the EEZ and to all vessels: That all five Delaware artificial reefs, including a 0.46-km buffer around each artificial reef, be established as year-round SMZs, and within the established areas of the SMZs, all vessels would only be allowed to conduct fishing with hook and line and spear (including the taking of fish by hand). The five designated SMZ reef areas are U. S. Army Corps of Engineers permit Delaware artificial reef sites 9, 10, 11, 13, and 14. The five Delaware artificial reef sites are off the coast of Delaware at various distances from approximately 4 to 58 nautical miles (7.4 to 107.0 km), rectangular in shape, and encompass areas 3.21 to 4.11 square km.

The boundaries of the proposed SMZs artificial reef sites, including their buffers, encompass 7.4 to 8.8 square km, and are in Federal waters bounded by the following coordinates connected by straight lines in the sequence specified in Tables 1–5 below (coordinates include a 500-yard (0.46-km) squared-off buffer placed around each artificial reef site).

In order to facilitate the codification of the coordinates for the five SMZ reef areas, this rule proposes to re-organize 50 CFR 648.148 in its entirety. This rule would to redesignate the special management zone designation criteria and process provisions, currently at 50 CFR 648.148(a)–(e), in 50 CFR 648.148(a). The coordinates of the five SMZ reef areas proposed to be created by this rule would be codified at 50 CFR 648.148(b). The re-organization of the existing regulations concerning the special management zones designation criteria and process into CFR 648.148(a) is a change only to the format; no substantive changes are intended or proposed for those provisions. NMFS also proposes to add new § 648.14(p)(1)(vi) to cross reference to the new coordinates at § 648.148(b).

TABLE 1—REEF SITE 9

Corner	N. Latitude	W. Longitude
9SE	38°39.71016′	−74°59.0883′
9SW	38°39.82578′	−75°1.11264′
9NW	38°41.1048′	−75°0.63288′
9NE	38°41.03244′	−74°58.45098′
9SE	38°39.71016′	−74°59.0883′

TABLE 2—REEF SITE 10

Corner	N. Latitude	W. Longitude
10SE	38°35.93706′	−74°55.44408′
10SW	38°36.0759′	−74°57.57864′
10NW	38°37.36314′	−74°57.01812′
10NE	38°37.21938′	−74°54.96474′
10SE	38°35.93706′	−74°55.44408′

TABLE 3—REEF SITE 11

Corner	N. Latitude	W. Longitude
11SE	38°39.61578′	−74°42.81462′
11SW	38°39.7797′	−74°45.20484′
11NW	38°41.11092′	−74°44.73474′
11NE	38°40.97472′	−74°42.3459′
11SE	38°39.61578′	−74°42.81462′

TABLE 4—REEF SITE 13

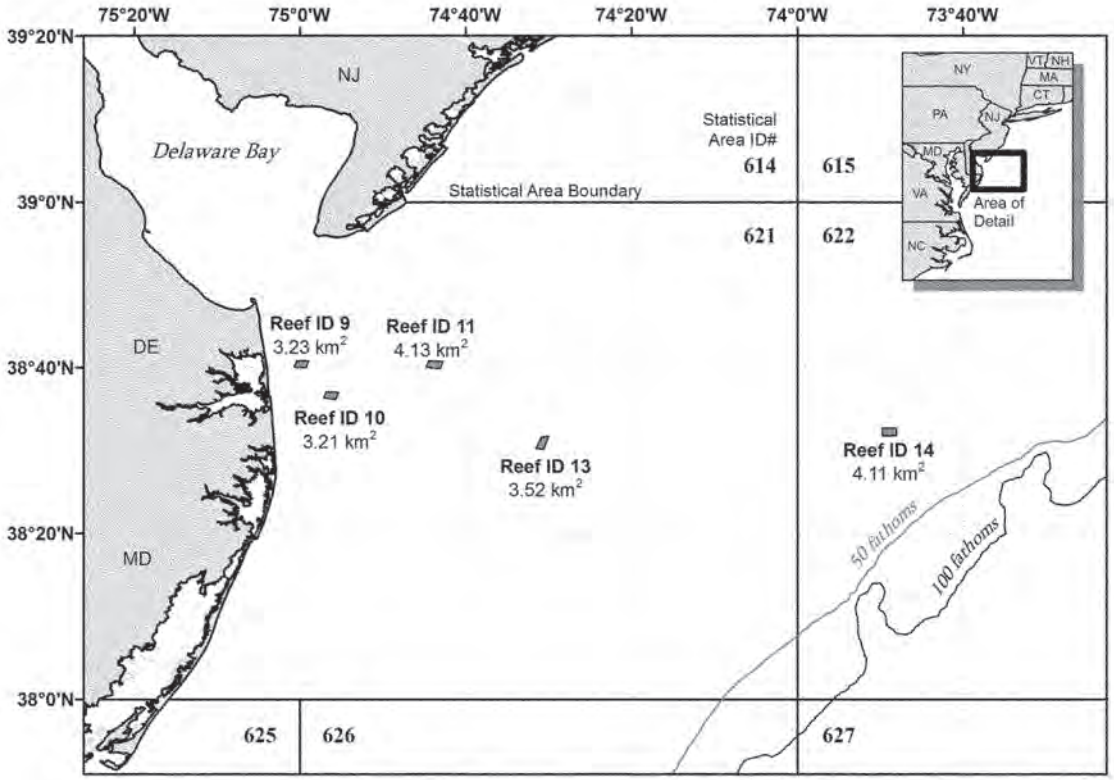
Corner	N. Latitude	W. Longitude
13SE	38°29.87118′	−74°30.34818′
13SW	38°30.00876′	−74°31.93008′
13NW	38°31.83384′	−74°31.09968′
13NE	38°32.04756′	−74°29.5839′
13SE	38°29.87118′	−74°30.34818′

TABLE 5—REEF SITE 14

Corner	N. Latitude	W. Longitude
14SE	38°31.55286′	−73°47.75244′
14SW	38°31.55286′	−73° 0.08164′
14NW	38°32.94684′	−73°50.08158′
14NE	38°32.94714′	−73°47.75232′
14SE	38°31.55286′	−73°47.75244′

Figure 1. shows the location of the five proposed artificial reef sites off the coast of Delaware.

Figure 1. Location of Five Delaware Artificial Reef Sites in the EEZ Proposed for SMZ Status.



Classification

Pursuant to section 304(b)(1)(A) of the Magnuson-Stevens Act, the Assistant Administrator has determined that this proposed rule is consistent with the Summer Flounder, Scup, and Black Sea Bass FMP, other provisions of the Magnuson-Stevens Act, and other applicable law, subject to further consideration after public comment.

This proposed rule has been determined to be not significant for purposes of Executive Order 12866.

NMFS prepared an IRFA, as required by section 603 of the Regulatory Flexibility Act (RFA), which is included in the EA and supplemented by information contained in the preamble to this proposed rule. The IRFA describes the economic impact this proposed rule, if adopted, would have on small entities. A summary of the IRFA follows. A copy of this analysis is available from the Greater Atlantic Regional Fisheries Office (see **ADDRESSES**).

Federal Rules Which May Duplicate, Overlap, or Conflict With This Proposed Rule

This proposed action will not duplicate, overlap, or conflict with any other Federal rules. NMFS did not consider any alternatives that would provide additional fishing opportunities beyond what was recommended by the Council because of the through consideration of alternatives by the SMZ monitoring committee and Council.

Description of the Reasons Why Action by the Agency Is Being Considered

DFW requested and the Council has recommended that five Delaware artificial reef sites, currently permitted by the U.S. Corps of Engineers in the EEZ, be designated as SMZs to limit recreational/commercial gear conflicts on the artificial reefs, and to maintain FWS SRP funding for the building and maintenance of the artificial reefs.

Statement of the Objectives of and the Legal Basis for This Proposed Rule

To eliminate current and/or future potential for recreational/commercial gear conflicts on the five Delaware artificial reefs in order to maintain access to the reefs for recreational fishing. This action is proposed through the Magnuson-Stevens Act, 16 U.S.C. 1801 *et seq.*

Description of the Projected Reporting, Record-Keeping, and Other Compliance Requirements of the Proposed Rule

This action does not introduce any new reporting, recordkeeping, or other compliance requirements.

Description of an Estimate of the Number of Small Entities To Which the Proposed Rule Would Apply

The Small Business Administration (SBA) defines a small commercial finfish fishing business as a firm with annual receipts (gross revenues) of up to $19 million. A small commercial shellfishing business is a firm with annual receipts of up to $5 million and small for-hire recreational fishing businesses are defined as firms with receipts of up to $7 million.

Having different size standards for different types of fishing activities creates difficulties in categorizing businesses that participate in multiple fishing related activities. For purposes

of this assessment, business entities have been classified into the SBA-defined categories based on the activity that produced the highest percentage of average annual gross revenues from 2010—2012. This classification is now possible because vessel ownership data have been added to Northeast permit database. The ownership data identify all individuals who own fishing vessels. Using this information, vessels can be grouped together according to common owners. The resulting groupings were treated as a fishing business for purposes of this analysis. Revenues summed across all vessels in a group and the activities that generate those revenues form the basis for determining whether the entity is a large or small business.

This rule would apply to all Federal permit holders except recreational for-hire permit holders. Thus, the affected business entities of concern are businesses that hold commercial Federal fishing permits with the exception of those that fish with hook and line. While all business entities that hold commercial Federal fishing permits could be directly affected by these regulations, not all business entities that hold Federal fishing permits fish in the areas identified as potential SMZs. Those who actively participate, i.e., land fish, in the areas identified as potential SMZs would be the group of business entities that are directly impacted by the regulations.

The number of possible affected entities as well as an enumeration of the number of commercial fishing vessels with recent activity at the five reef sites, by gear type are described in detail in Table 6.

TABLE 6—NUMBER OF REPORTED VESSEL TRIP REPORTS OF COMMERCIAL FISHING TRIPS WITHIN 0.46 KM OF THE REEF SITES, BY GEAR TYPE

	Reef site and gear type						
	9	10		11	13	14	
		Trawl	Pot/Trap	Pot/Trap	Pot/Trap	Dredge	Trawl
2004	0	0	0	10	3	0	0
2005	0	0	1	25	0	0	0
2006	0	0	0	7	2	0	0
2007	0	0	0	0	1	0	0
2008	0	0	0	4	10	0	0
2009	0	0	0	8	14	17	7
2010	0	1	0	3	12	0	0

NMFS considered two option under this action, the no buffer and two SMZ buffer zones around the five artificial reefs. The no buffer alternative would have had no effect on the commercial vessels operating near the artificial reefs, so assessments of commercial activity within the 500-yard (0.46 km) buffer zone is included in this IRFA summary. The buffer area was recommended to improve enforcement of the recommended SMZ management measures for the artificial reefs. The 0.46-km buffer is the preferred measure. The no buffer alternative and an alternative for a 1,000-yard (0.91-km) buffer were not preferred because they were considered either too small for enforcement to effectively protect the SMZs (no buffer) or needlessly too large (1,000-yard (0.91-km) buffer) and disruptive to commercial fishing near the artificial reefs.

During 2008, 2009, and 2010, only 2 commercial vessels reported landings within 0.46 km of the reef sites in each of these years, 1 vessel reported landings in two of the three years, and 12 vessels reported landings in only one of the three years. This implies a total of 15 unique commercial vessels reported landings within 0.46 km of the reef sites from 2008–2010.

Based on the ownership data classification process described above, all of the directly affected participating commercial fishing vessels were found to be unique fishing business entities. The ownership data indicated that no two affected vessels were owned by the same business entity. Total revenue earned by these business was derived from both shellfishing and finfishing, but the highest percentage of average annual revenue for the majority of the businesses was from shellfishing. Of the 15 unique fishing business entities potentially estimated to be affected by implementation of a 0.46-km buffer around the five reef sites, 9 entities earned the majority of their total revenues (i.e., from all species and areas fished) from landings of shellfish, and 6 entities earned the majority of the their total revenues from landings of finfish. Thus, under the 0.46-km buffer alternative, nine of the potentially affected businesses are classified as shellfishing business entities and six as finfishing business entities.

Average annual gross revenue estimates calculated from the most recent 3 years of available Northeast regional dealer data (2010–2012) indicate that only one of the potentially affected shellfishing business entities under the preferred 0.46-km buffer alternative would be considered large according to the SBA size standards. In other words, one business, classified as a shellfishing business, averaged more than $5 million annually in gross revenues from all of its fishing activities during 2010–2012. Therefore, under the preferred 0.46-km buffer alternative, 14 of the 15 potentially affected business entities are considered small (8 shellfish and 6 finfish) and 1 business entity is considered large (shellfish).

Table 7 shows the number of potentially affected business entities by percent of total average annual gross revenue landed within 0.46 km of the reef sites.

TABLE 7—NUMBER OF POTENTIAL BUSINESS ENTITIES AFFECTED BY PERCENT OF TOTAL AVERAGE ANNUAL GROSS REVENUE LANDED WITHIN 0.46 KM OF THE REEF SITES

Business entity	Percent of total average annual gross revenue (2010–2012)			
	<5%	5–9%	10–19%	20–29%
Shellfish (Small)	6	1	1	0
Shellfish (Large)	1	0	0	0
Finfish (Small)	3	1	1	1

Of the eight shellfishing businesses categorized as small in this assessment, six obtained less than 5 percent of their total average annual gross revenues from landings within 0.46-km of the reef sites, one obtained between 5–9 percent, and one between 10–19 percent. The only business entity defined as large (shellfish) in this assessment, under the preferred 0.46-km buffer, earned less than 5 percent of its total average annual gross revenues from landings at the reef sites. Finally, of the six finfish business entities defined as small finfishing businesses, under the preferred 0.46-km buffer, three obtained less than 5 percent of their total average annual gross revenues from landings at the reef sites, one obtained between 5–9 percent, one obtained between 10–19 percent, and one between 20–29 percent.

Description of Significant Alternatives to the Proposed Action Which Accomplish the Stated Objectives of Applicable Statues and Which Minimize Any Significant Economic Impact on Small Entities

The Council initially considered a range of alternatives for the provions proposed in this action, such as seasonal restrictions, which Delaware permitted artificial reef sites to designate as SMZs, and gear restrictions associated with the SMZs. NMFS considered three alternatives for the seasonal closures that would prohibit commercial gears in the SMZs: all year (Alternative 1), when the recreational black sea bass season was open (Alternative 2), or from Memorial Day to Labor Day (Alternative 3). Under Alternative 1, NMFS would designate all or some of the Delaware EEZ reef sites as SMZs when the recreational season for the federal black sea bass is open. Since the rational for the SMZ request relates to the black sea bass fishery this alternative seeks to reduce gear conflicts throughout the recreational season for black sea bass on the artificial reefs. The open season for black sea bass can vary by state and year. But as an example, NMFS implemented black sea bass recreational fishery open seasons from May 19–October 14 and November 1–December 31 for 2013. Delaware implemented open black sea bass season from January 1–February 28, May 19–October 14 and November 1–December 31 in 2013. If this Alternative is selected, the ability of the recreational fleet to fish the reefs during the Federal season could differ from the regulations for the state in which the fish will be landed. In this case the more restrictive regulations must be followed. Under Alternative 2 the SMZ designation for any or all of the five artificial reefs would be in effect for the entire calendar year. Under Alternative 3, the SMZ designation for any or all of the five artificial reefs would be in effect from Memorial Day to Labor Day. This alternative attempts to reduce gear conflicts at Delaware reefs sites by designating SMZs during periods when the chance of gear conflicts would be expected to be at a maximum (i.e., during periods of peak recreational fishing activity).

NMFS considered three different SMZ site area designations in this action: designate all sites (sites 9, 10, 11, 13 and 14) (Alternative 1), designate sites 11, 13, and 14 (Alternative 2), or designate sites 9, 10, 13, and 14 (Alternative 3). Under Alternative 1, NMFS would designate all five of the Delaware reef sites as SMZs. Under Alternative 2, NMFS would designate reef sites 11, 13 and 14 as SMZs. Little or no commercial fishing activity was documented in the vicinity of reef sites 9 and 10, so there appears to be little opportunity for gear conflicts to occur at these sites (especially for fixed pot/trap gear) unless there is some unforeseen shift in commercial fishing effort. However, commercial fishing activity on sites 11, 13 and 14 was documented at these sites based on VTR data, so the potential for gear conflicts exists at these sites. While gill nets and long lines are not currently reported being used on the artificial reefs, they pose further potential for gear conflicts because of their ability to restrict recreational fishing on the reefs by causing fouling or snagging of hooks as recreational vessels attempt to fish on or drift over the artificial reefs. Also, displaced pot fishing vessels from the artificial reef may shift to long lines or gill nets to maintain access to their same fishing grounds, and this would continue the recreational/commercial gear conflicts on the artificial reef sites. Under Alternative 3, NMFS would designate reef sites 9, 10, 13 and 14 as SMZs. During the original permit process for reef sites 9, 10 and 11, the Council opposed the granting of a permit for reef site 11 by the COE because there were indications that considerable commercial fishing activity took place at this location. Therefore, NMFS could designate reef sites 9, 10, 13, and 14 as SMZs but not site 11 based on the argument that it would remain consistent with that historical position. However, site 11 appears to be the area that has the greatest potential for gear conflicts between hook & line gear and fixed pot/trap gear.

Different gear types were considered to be prohibited in the SMZs: prohibit the use of fixed pot/trap gear (Alternative 1), or prohibit the use of all gear except hook and line, and spear fishing (Alternative 2). Under Alternative 1 (the preferred alternative), NMFS would prohibit the use of fixed pot/trap gear on reef sites designated as SMZs. Under Alternative 2, NMFS would prohibit the use all fishing gear on reef sites designated as SMZs, except hook & line and spear-fishing gear. Under this alternative, the use of commercial hook & line fishing gear within the designated boundaries of SMZs would still be permitted, however the use of all other commercial fishing gears would be prohibited (i.e., gill nets, long lines, etc.).

These multiple alternatives were narrowed to only consider all five sites as SMZs with a year round closure to all commercial gear except hook and line and spear fishing. The five site SMZ alternative with the year round closure to all commercial gear except hook and line and spear fishing in combination with no buffer, 0.46 km buffer, or 0.91 km buffer was then analyzed for its effects on small entities.

The 0.46-km buffer alternative is the preferred measure and the only significant alternative which accomplishes the stated objectives of applicable statutes and which minimizes any significant economic

impact on small entities. The 0.46-km buffer is considered large enough to effectively protect the SMZs, while not being overly disruptive to commercial fishing near the artificial reefs. NMFS considered two alternatives to the selected provision, the no buffer alternative and the 0.91-km buffer alternative. The no buffer alternative was considered too small for enforcement and makes enforcement of the SMZs impractical, undermining the objectives of the proposed action. The 0.91-km buffer alternative was considered too severe and would cause undue economic impacts.

An assessment of potential impacts by gear type was examined to investigate whether business entities might be disproportionately impacted according to the type of fishing gear employed by the business. If the artificial reefs are designated as SMZs through this action, commercial fishing effort in the SMZs would likely shift to other open areas mitigating potential revenue losses, but fishing businesses that employ fixed gear likely fish at the reef sites because catch rates are higher and because conflicts with mobile gear vessels are reduced. Forcing fixed gear vessels out of the SMZ sites may increase the likelihood of conflicts with vessels in other areas, and expose them to additional costs if their gear is dragged through by vessels fishing mobile gear. Nonetheless, vessels that drag mobile gear through the proposed 0.46-km closed buffer area around the reef sites will also have to shift to other areas that are potentially less productive, so it is difficult to ascertain with certainty whether disproportionate impacts will occur according to the type of fishing gear employed.

There were four business entities that employed pot/trap gear within 0.46 km of the artificial reef sites in at least one of the three years included in this assessment (2008–2010). All four businesses entities were determined to be ''small'' according to the SBA size standards. Two of the four business entities obtained less than 5 percent of their total average annual gross revenues from landings at the reef sites, one obtained between 5–9 percent, and one between 10–19 percent. Thus, there will likely be adverse economic consequences for at least four small business entities that employ pot/trap gear in the areas under consideration for SMZ designation. The economic losses suffered by the four small business entities displaced from the SMZs, however, will likely be mitigated to some degree by redirection of fishing effort to other areas. The combined areas under consideration for SMZ designation represent about 10 square km of the total available fishing area over the continental shelf off of Delaware so alternative fishing areas are prevalent. A quantitative assessment of these changes on revenues for the four small business entities under SMZ designation is not possible to a lack of sufficient data. Additionally, there were no small business entities that reported pot/trap landings at more than one of the reef sites in any given year.

Business entities that use mobile gear (dredge and trawl) also reported trips within 0.46 km of reef site 14 on their VTRs. There were no reported trips at the other reef sites, except for one trip within 0.46 km of reef site 10 in 2010. There were 11 business entities that employed mobile gear within 0.46 km during the three years included in this assessment (2008–2010). However, none of the businesses demonstrated a consistent pattern of annual landings since all 11 reported trips in only one of the three years. Ten of the businesses were determined to be ''small'' according to the SBA size standards and one was categorized as ''large.'' Six of the 11 business entities obtained less than 5 percent of their total average annual gross revenues from landings at the reef sites, 2 obtained between 5–9 percent, and 1 between 10–19 percent, and 1 between 20–29 percent. Sea scallops comprised 99 percent of the total value on those mobile gear trips occurring within 0.46 km of reef site 14. This action would preclude the 11 mobile gear vessels from fishing within 0.46 km of reef site 14 or any of the other reef sites. As previously mentioned though, commercial fishermen are only required to report location information once on their VTRs when fishing within a single NMFS statistical area, even when using mobile gear that can be towed over the bottom for hours covering many miles. In fact, according to VTR data in 2010, the average limited access sea scallop dredge trip covered approximately 9.3 km per haul and consisted of 66 hauls per trip. This means that the average limited access dredge vessel covered approximately 614 km total per trip in 2010. The area under consideration surrounding reef site 14 is only approximately 2.5 square nautical miles (4.6 square km) so the majority of the scallop landings on those trips in 2010 likely occurred in areas that will remain open under this action. Therefore, given that all but one mobile gear trip was reported in only one year within 0.46 km of reef 14 during 2004–2010, the impacts of the proposed action on earnings by mobile gear vessels is likely to be minimal under the Council preferred buffer zone of 0.46 km.

List of Subjects in 50 CFR Part 648

Fisheries, Fishing, Reporting and recordkeeping requirements.

Dated: June 16, 2014.

Samuel D. Rauch III,

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

For the reasons set out in the preamble, 50 CFR part 648 is proposed to be amended as follows:

PART 648—FISHERIES OF THE NORTHEASTERN UNITED STATES

■ 1. The authority citation for part 648 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.*

■ 2. In § 648.14, paragraph (p)(1)(vi) is added to read as follows:

§ 648.14 Prohibitions.

* * * * *

(p) * * *

(1) * * *

(vi) *Special management zone.* Fail to comply with any of the restrictions for special management zones specified in § 648.148(b).

* * * * *

■ 3. In § 648.148, the introductory paragraph is removed, paragraphs (a) and (b) are revised, and paragraphs (c), (d) and (e) are removed, as follows:

§ 648.148 Special management zones.

(a) *General.* The recipient of a U.S. Army Corps of Engineers permit for an artificial reef, fish attraction device, or other modification of habitat for purposes of fishing may request that an area surrounding and including the site be designated by the MAFMC as a special management zone (SMZ). The MAFMC may prohibit or restrain the use of specific types of fishing gear that are not compatible with the intent of the artificial reef or fish attraction device or other habitat modification within the SMZ. The establishment of an SMZ will be effected by a regulatory amendment, pursuant to the following procedure: A SMZ monitoring team comprised of members of staff from the MAFMC, NMFS Greater Atlantic Fisheries Region, and NMFS Northeast Fisheries Science Center will evaluate the request in the form of a written report.

(1) Evaluation criteria. In establishing a SMZ, the SMZ monitoring team will consider the following criteria:

(i) Fairness and equity;

(ii) Promotion of conservation;

(iii) Avoidance of excessive shares;

(iv) Consistency with the objectives of Amendment 9 to the Summer Flounder,

Scup, and Black Sea Bass Fishery Management Plan, the Magnuson-Stevens Act, and other applicable law;

(v) The natural bottom in and surrounding potential SMZs; and

(vi) Impacts on historical uses.

(2) The MAFMC Chairman may schedule meetings of MAFMC's industry advisors and/or the SSC to review the report and associated documents and to advise the MAFMC. The MAFMC Chairman may also schedule public hearings.

(3) The MAFMC, following review of the SMZ monitoring teams's report, supporting data, public comments, and other relevant information, may recommend to the Regional Administrator that a SMZ be approved. Such a recommendation will be accompanied by all relevant background information.

(4) The Regional Administrator will review the MAFMC's recommendation. If the Regional Administrator concurs in the recommendation, he or she will publish a proposed rule in the **Federal Register** in accordance with the recommendations. If the Regional Administrator rejects the MAFMC's recommendation, he or she shall advise the MAFMC in writing of the basis for the rejection.

(5) The proposed rule to establish a SMZ shall afford a reasonable period for public comment. Following a review of public comments and any information or data not previously available, the Regional Administrator will publish a final rule if he or she determines that the establishment of the SMZ is supported by the substantial weight of evidence in the record and consistent with the Magnuson-Stevens Act and other applicable law.

(b) *Approved/Established SMZs—Delaware Special Management Zone Areas.* Special management zones are established for Delaware artificial reef permit areas # 9, 10, 11, 13, and 14 in the area of the U.S. Exclusive Economic Zone. From January 1 through December 31 of each year, no fishing vessel or person on a fishing vessel may fish in the Delaware Special Management Zones with any gear except hook and line and spear fishing (including the taking of fish by hand). The Delaware Special Management Zones are defined by straight lines connecting the following points N. latitude and W. longitude in the order stated:

(1) Delaware artificial reef # 9:

(i) 38°39.71016′ lat., 74°59.0883′ long.;

(ii) 38°39.82578′ lat., 75°1.11264′ long;

(iii) 38°41.1048′ lat., 75°0.63288′ long; and

(iv) 38°41.03244′ lat., 74°58.45098′ long; and then ending at the first point.

(2) Delaware artificial reef # 10:

(i) 38°35.93706′ lat, 74°55.44408′ long;

(ii) 38°36.0759′ lat., 74°57.57864′ long;

(iii) 38°37.36314′ lat., 74°57.01812′ long; and

(iv) 38°37.21938′ lat., 74°54.96474′ long; and then ending at the first point.

(3) Delaware artificial reef # 11:

(i) 38°39.61578′ lat., 74°42.81462′ long.;

(ii) 38°39.7797′ lat.; 74°45.20484′ long.;

(iii) 38°41.11092′ lat., 74°44.73474′ long.; and

(iv) 38°40.97472′ lat., 74°42.3459′ long.; and then ending at the first point.

(4) Delaware artificial reef # 13:

(i) 38°29.87118′ lat.; SE. 74°30.34818′ long.;

(ii) 38°30.00876′ lat., 74°31.93008′ long.;

(iii) 38°31.83384′ lat., 74°31.09968′ long.; and

(iv) 38°32.04756′ lat., l74°29.5839′ long.; and then ending at the first point.

(5) Delaware artificial reef # 14:

(i) 38°31.55286′ lat., 73°47.75244′ long.;

(ii) 38°31.55286′ lat., 73°50.08164′ long.;

(iii) 38°32.94684′ lat.; 73°50.08158′ long.; and

(iv) 38°32.94714′ lat, 73°47.75232′ long.; and then ending at the first point.

[FR Doc. 2014–14358 Filed 6–18–14; 8:45 am]

BILLING CODE 3510–22–P

NOAA Fisheries Proposed Rulemaking on Special Management Zones (SMZs) for Five Artificial Reefs off the Coast of Delaware

Proposed Action

NOAA's National Marine Fisheries Service (NOAA Fisheries), Northeast Regional Office, has published a proposed rule to implement SMZs for five artificial reefs in Federal waters off the coast of Delaware. These measures are intended to promote the orderly use of the resource, reduce user group conflicts, and maintain the intended socioeconomic benefits of the artificial reefs to the maximum extent practicable. This rule is in response to the recommendations of the Delaware Fish and Wildlife Department (DFW) and the Mid-Atlantic Fishery Management Council (Council) that the SMZs be established.

Background

The DFW requested that the Council designate five artificial reef sites, currently permitted by the U.S. Corps of Engineers in the Exclusive Economic Zone (EEZ), as SMZs under the regulations implementing the Council's Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (FMP). The SMZ request noted that the DFW has received complaints from hook-and-line anglers regarding fouling of their fishing gear in commercial pots and lines on ocean reef sites for more than 10 years. It also noted that the U.S. Fish and Wildlife Service (FWS) Sportfish Restoration Program (SRP) had notified DFW that these gear conflicts are not consistent with the objectives of the SRP, which provides funding for the building and maintenance of the artificial reefs. In order to comply with the goals of the SRP, the FWS is requiring that state artificial reef programs be able to limit gear conflicts by state regulations in state waters or by SMZs for sites in the EEZ. The major issues from the FWS's perspective include: 1) Proliferation of commercial fishing traps/pots on artificial reefs constructed with SRP funds; 2) commercial/recreational gear conflicts interfere with accomplishment of artificial reef grant objectives; and 3) absence of mechanisms to manage commercial fishing on reefs located in state-controlled waters and the EEZ.

The FWS has terminated SRP funding for New Jersey's artificial reef program because that state has no mechanism to manage recreational/commercial gear conflicts on its artificial reefs. Concern over the recreational/commercial gear conflicts on the DFW artificial reefs, and the FWS termination of SRP funding for New Jersey's artificial reef program, led DFW to petition the Council for SMZ status for its five Federal waters artificial reefs.

Based on requirements in the FMP, the Council formed an SMZ Monitoring Team (Team) that evaluated the DFW request based on the following criteria: 1) Fairness and equity; (2) promotion of conservation; (3) avoidance of excessive shares; (4) consistency with the objectives of Amendment 9 to the FMP, the Magnuson-Stevens Fishery Conservation and Management Act, and other applicable law; (5) the natural bottom in and surrounding potential SMZs; and (6) impacts on historical uses.

After a review of the Team's report, and input from three public hearings, the Council recommend that all five artificial reefs be established as SMZs through a regulatory amendment. The action would allow only hook-and-line and spear fishing, including the taking by hand, in the artificial reef designated areas (all year round), and these measures would be implemented with a 500-yard buffer around each artificial reef site.

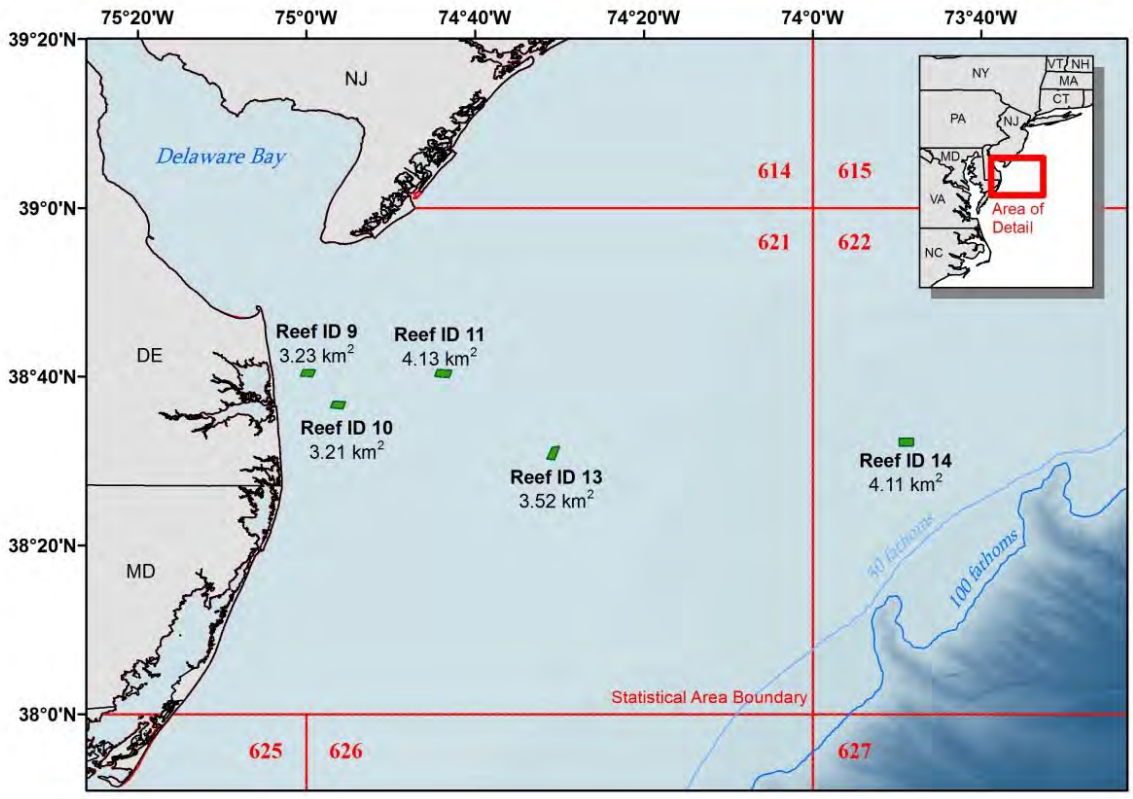
NOAA Fisheries has developed an Environmental Assessment and proposed rule to evaluate and consider implementation of the Council's recommendations.

The measures proposed for the SMZs are not expected to be controversial; some small amount of commercial fishing (mostly black sea bass pot fishing) will no longer be allowed on the comparatively small areas of the five artificial reefs. The total area designated as SMZs would encompass 11.9 square nautical miles (Attachment 1). The recreational fishing fleet would retain access to the artificial reefs sites, and the State of Delaware would maintain its SRP funding for its artificial reef program. Commercial activity would continue to be allowed on the artificial reefs through hook-and-line fishing.

Summer flounder, scup, and black sea bass are managed jointly by the Council and the Atlantic States Marine Fisheries Commission (Commission), with the implementing of complementary action in state waters to the Council's FMP by the Commission. The five proposed SMZs are all in Federal waters. However, the black sea bass pot fishery that takes place on or near the artificial reefs also may catch and land lobsters. There is no Council FMP for lobsters although NOAA Fisheries issues lobsters regulations in close cooperation with the Commission under the Atlantic Coastal Fisheries Cooperative Management Act.

Attachment 1

Five Artificial Reef Sites in the EEZ (DE Artificial Reef Sites 9, 10, 11, 13, and 14) Considered for Special Management Zone (SMZ) Designation



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL CONTROL

DELAWARE COASTAL MANAGEMENT PROGRAM

89 KINGS HIGHWAY
DOVER, DELAWARE 19901

Phone: (302) 739- 9283
Fax: (302) 739-2048

May 20, 2014

John K. Bullard
National Marine Fisheries Service – Northeast Region
55 Great Republic Drive
Gloucester, MA 01930-2276

RE: Delaware Coastal Management Federal Consistency Determination
Delaware Artificial Reef Special Management Zones
FC # 2014.0055

Dear Mr. Bullard:

The Delaware Coastal Management Program (DCMP) has received and reviewed your consistency determination for the proposed rule to establish Special Management Zones (SMZs) for five artificial reef sites in Delaware in federal waters under the black sea bass provisions of the Summer flounder, Scup, and Black Sea Bass Fishery Management Plan. Based upon our review and pursuant to National Oceanic & Atmospheric Administration regulations (15 CFR 930), the DCMP concurs with your consistency determination for the above referenced project.

However, we offer the following comments for your thoughtful consideration:

Delaware is committed to maintaining quality recreational fishing opportunities consistent with the U.S. Fish and Wildlife Service's Sport Fish Restoration Office funding requirements. To this end, fishing gear conflicts were required to be minimized at our artificial reef sites. Delaware's request to the Mid-Atlantic Fisheries Management Council (MAFMC) for the establishment of the SMZs to reduce gear conflicts included only the area within the permitted reef sites. During the MAFMC process, the U.S. Coast Guard added the 500 yard buffer around each site to the SMZ area. This increases the total area of the closure by more than 50%. We believe this should be reconsidered for the following reasons in order to minimize adverse impacts to the commercial watermen using pot/trap gear:

1. Delaware's SMZ regulations for sites in state waters include only the area of the permitted site, without buffers. Delaware Fish & Wildlife Enforcement agents do not consider this to be an enforcement problem.

2. In permitting ocean sites, Delaware included only featureless bottom within sites, but in most cases natural wrecks were adjacent to sites, within the proposed 500 yard buffer. These are traditional areas for commercial pot fisherman and should not be lost.

3. The precedent for this proposed buffer may be SMZs established by the South Atlantic Fishery Management Council for Snapper/grouper. These have been in effect for over 20 years. At that time, LORAN C was the best navigational aid available, crude by today's standards. Today we have GPS which is far more accurate, and AIS (Automatic Identification System) with which it is possible to identify vessels and pinpoint their location from a considerable distance. These should be sufficient for enforcement purposes and the 500 yard buffer should be eliminated.

We ask that your agency consider modifying the boundaries of the SMZ proposal for the reef sites in Delaware based on the reasons stated above. If you have any questions please do not hesitate to contact me or Tricia Arndt of my staff at (302) 739-9283.

Sincerely,

for

Sarah W. Cooksey, Administrator
Delaware Coastal Management Program

SWC/tka
cc: File 2014.0055
Paul Perra-NMFS
Jeff Tinsman-DFW

New England Fishery Management Council
50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116
E.F. "Terry" Stockwell III, *Chairman* | Thomas A. Nies, *Executive Director*

July 30, 2014

Mr. John Bullard
Regional Administrator
NMFS, Greater Atlantic Regional Fisheries Office
55 Great Republic Drive
Gloucester, MA 01930

RE: Request for comments on proposed rule to implement special management zones (SMZs) for five Delaware Artificial Reefs

Dear John:

The New England Fishery Management Council (NEFMC) staff has reviewed the proposed rule and Draft Environmental Assessment (EA) prepared for measures to implement special management zones for five Delaware artificial reefs under the Black Sea Bass Fishery Management Plan. We have several concerns about this potential action and process.

First, the NEFMC has a clear interest in this proposed action. While these areas are in the Mid-Atlantic off the coast of Delaware, Area 14 is almost 60 miles offshore and overlaps with fishing grounds used by the sea scallop, skate and monkfish fisheries, which are managed by the NEFMC. Area 14 is located at a depth of about 60 meters and is within the Elephant Trunk scallop rotational area, an area that has had special management status in the Scallop FMP since 2004 when it was first closed to protect juvenile scallops. Since that time this area has become one of the more productive and valuable scallop access areas in the entire region.

Second, the analyses of potential fishery impacts in the Draft Environmental Assessment are incomplete. The EA includes some analysis of the potential impacts on the sea scallop fishery, but potential impacts on the monkfish and skate fisheries are not addressed. There is no map in the EA that overlays other fishery management areas with the artificial reef sites/SMZs, so it is difficult to evaluate the effects of the SMZs at a glance. As noted above, Area 14 is within the Elephant Trunk scallop rotational area, and overlaying scallop biomass data from the Northeast Fishery Science Center dredge survey confirms that this area overlaps with high concentrations of offshore scallop beds (Figure 1).

Vessel Trip Report (VTR) fishing locations (one point per trip) are the primary data source used to evaluate the potential impacts on fisheries. The EA recognizes that using VTR data to estimate fishing activity in such small areas likely underestimates the impacts, but no attempt has been made to correct for this or to consider other data sources that are available such as vessel monitoring system data (VMS). Council staff has plotted similar VTR data with updated years (2008-2012) for the scallop fishery to highlight this concern (Figure 2). Only three reported locations fall within the boundaries of the Area 14 SMZ, and all scallop catch and revenue from these trips was about 192,000 pounds and $1.2 million dollars. However, if VTR fishing locations reported within two

nautical miles (or 0.05 decimal degrees) of Area 14 are considered as well, the catch and revenue estimates are much higher; over 3 million pounds and over $20 million dollars (Figure 3). This is a very simplistic method to expand VTR data to describe potential fishery impacts. If possible, the final EA should consider more sophisticated geoprocessing methods, or use Vessel Monitoring System (VMS) data to better quantify overlaps with fishing effort. For example, the Northeast Fishery Science Center developed a method to analyze VTR data which infers fishing effort in circular bands around a single VTR points. This approach is currently being used to evaluate impacts in the New England Council's Omnibus Essential Fish Habitat Amendment 2 and could be used in this EA.

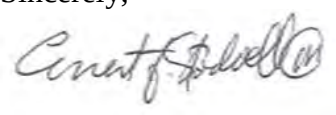
In addition, the EA should acknowledge that scallop fishing effort in Area 14 shows substantial inter-annual variation due to its status as a scallop rotational access area, and a complete lack of scallop fishing during a particular year may be due to a rotational area closure. During other years there has been controlled access but relatively high levels of fishing, and at times the area has reverted to an open area and was fished more sporadically. This cycle of closures and opening is expected to continue in the future if this area continues to be a productive area. Most recently, Elephant Trunk was closed to the scallop fishery on December 12, 2012. The area will remain closed for over two years and is scheduled to reopen to limited fishing in 2015 through either 2017 or 2018.

Finally, the EA concludes overall that designating SMZs with gear restrictions for all five reefs would have, "negligible impacts on trawl or scallop fishing because it would not alter their fishing activities" and "vessels using dredges or trawls would avoid the rough bottom of the small artificial reef areas". These conclusions may be valid for the other four areas that already have artificial reefs, but there is currently no artificial reef in Area 14. Therefore, implementing an SMZ for Area 14 would essentially close an area that is actively fished, does not have rough bottom and that does not currently have an artificial reef, at a potential scallop revenue loss of between $1 million to $20 million.

While the full Council has not had an opportunity to discuss this proposal, I urge NMFS not to implement an SMZ to address gear conflicts in Area 14 until an artificial reef is actually placed there, or to consider exempting mobile bottom tending gears from the Area 14 SMZ. As there is currently no artificial reef in Area 14, implementing a SMZ at this time would create adverse impacts on fisheries active in that area with no associated benefits.

Please contact me if you have any questions.

Sincerely,



Terry Stockwell
NEFMC Chairman

cc: Christopher Moore, MAFMC
Robert Beale, ASMFC
Enclosure

Figure 1 – Estimated exploitable biomass in kg from all NEFSC scallop dredge survey tows (1979-2005)

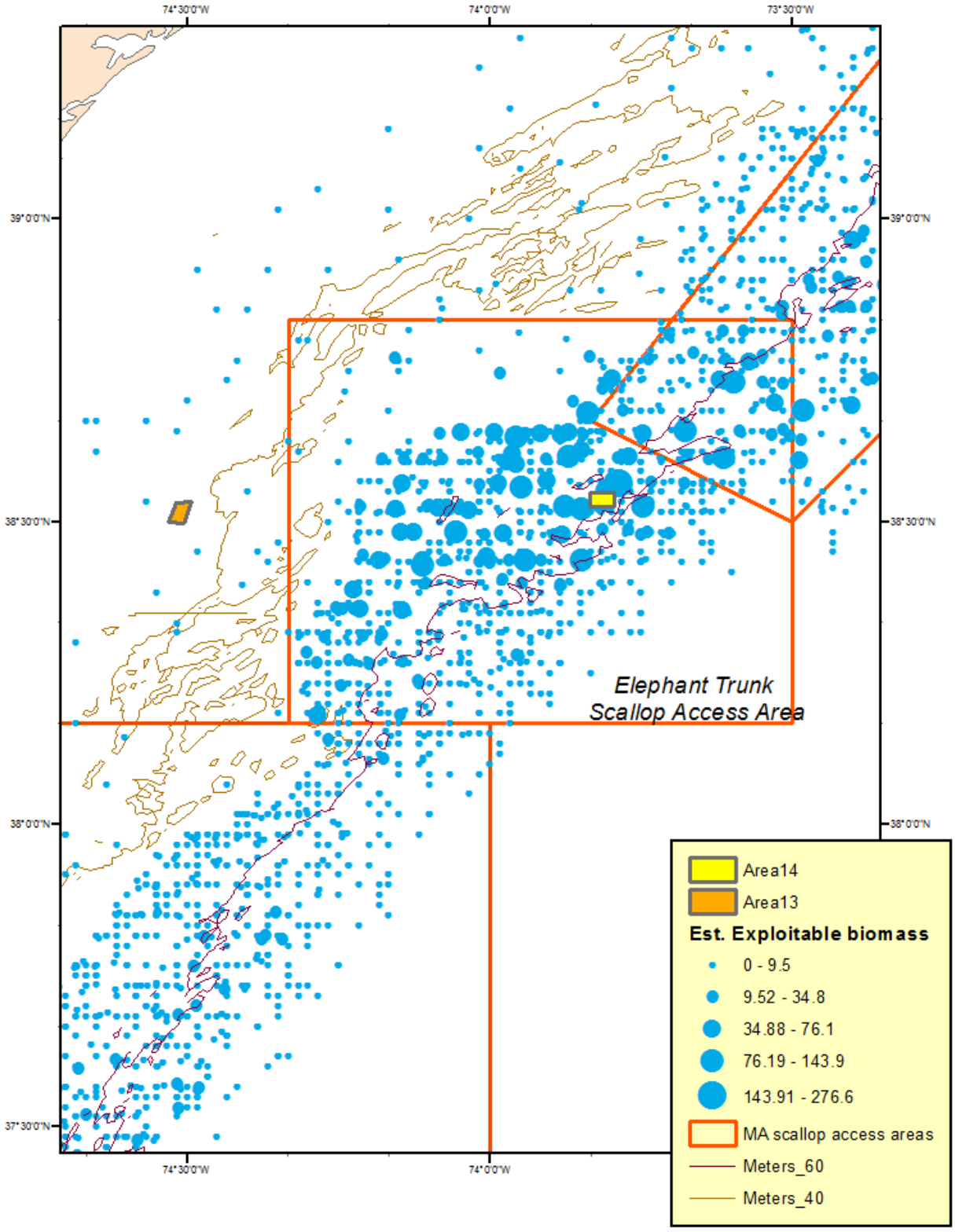


Figure 2 – Fishing location data for trips with scallops as primary species landed (VTR data 2008-2012)

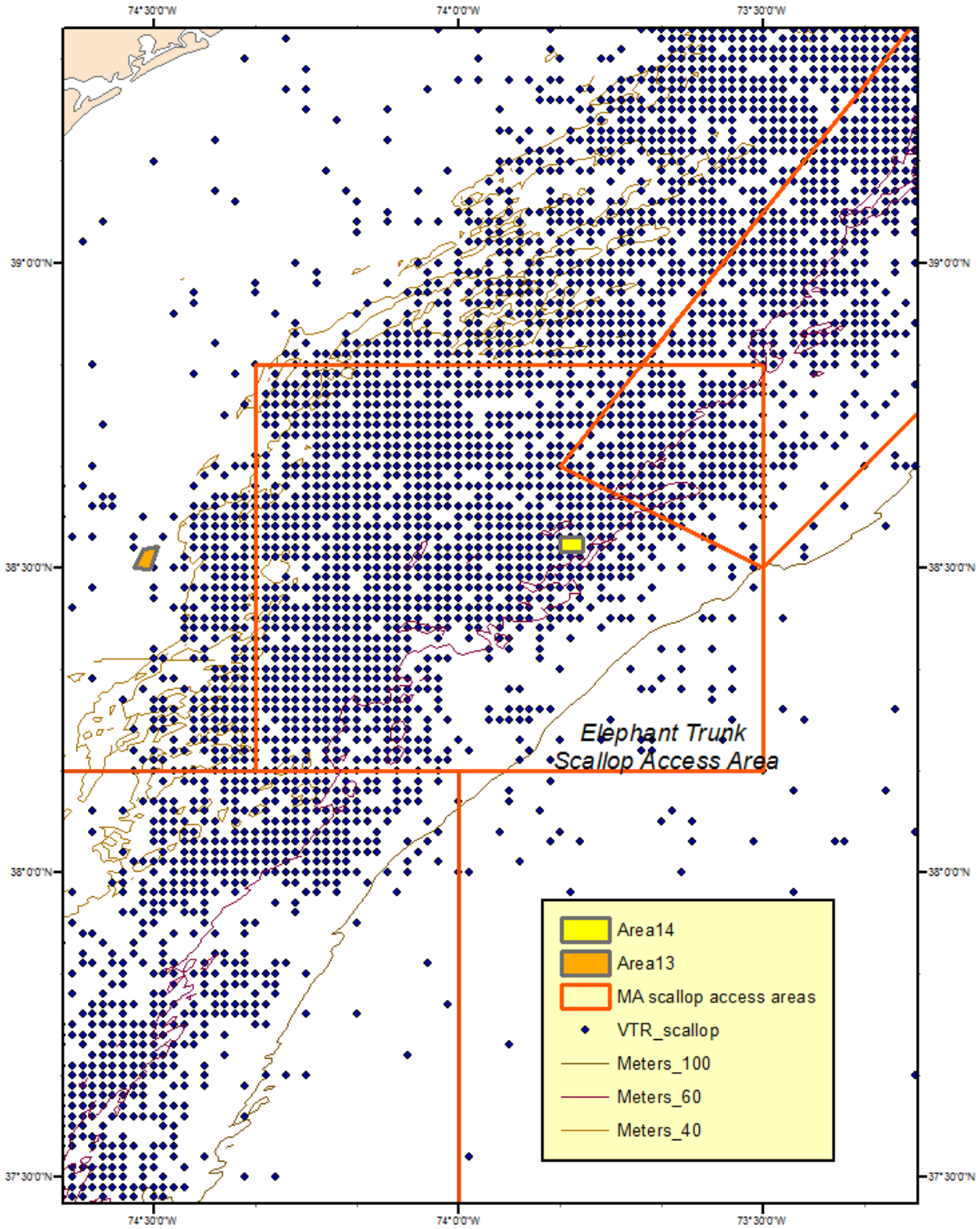
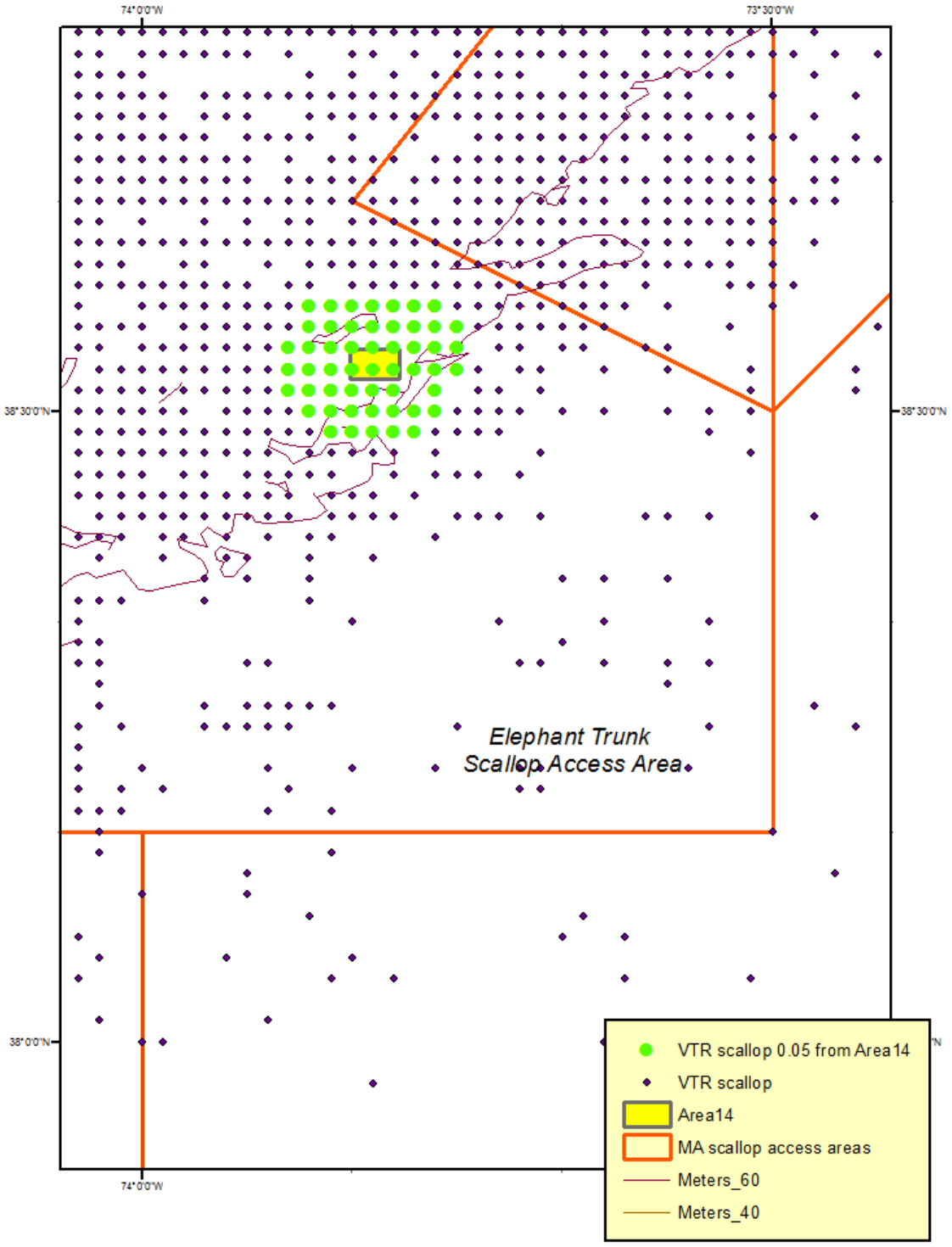


Figure 3 – VTR locations for trips with scallops as primary species landed within 2 nautical miles of Area 14



Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201, Dover, DE 19901
Phone: 302-674-2331 | Toll Free: 877-446-2362 | FAX: 302-674-5399 | www.mafmc.org
Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: July 30, 2014

To: Chris Moore

From: Rich Seagraves

Subject: RSA Program Issues

As per your request, I have reviewed the NMFS response (attachment 1) to the September 25, 2012 Council letter (attachment 2) to John Bullard requesting changes to the way the RSA Program is conducted and administered. In the course of that review, I have outlined a number of outstanding issues that still need to be addressed relative to the RSA program that should be considered by the Council when making a determination on the level of RSA specification for 2015 and beyond.

Costs/Benefits of the program

The Mid-Atlantic Council created the Research Set-Aside Program through Framework Adjustment 1 to the Summer Flounder, Scup and Black Sea Bass FMP, Atlantic Mackerel, Squid and Butterfish FMP, Bluefish FMP and Tilefish FMP. The first research projects funded under this program began in 2002 and the program has continued annually since then. Over the course of its 13 year history, the RSA Program has funded 41 research projects at a total cost of $16,321,643 (Tables 1 - 3). While there were projects which produced tangible results that were subsequently incorporated into the Council's management programs (four studies on black sea bass escape vent size/configuration and discard reduction, summer flounder mesh selectivity, and NEAMAP), there were also a number of projects which, after completion, failed to pass peer review and could not be used for science or management purposes.

The fact that a number of RSA Projects failed scientific review after completion raised major concerns about the process by which RSA Proposals were vetted and the oversight of the projects as they were being conducted. Some of these concerns have been addressed through inclusion of our SSC in the scientific review of proposals prior to funding. However, considering the costs associated with administration and enforcement, as well as the value of the RSA quota, it's probable that the program costs have far outweighed the benefits to the Council and public.

RSA Program Originally Established to Regain the Public Trust

One of the original objectives of the RSA Program was to foster collaboration between the scientific community (from both government and academia), the fishing community, and the general public. The EA for the RSA program states:

Commercial fishermen seek to maximize the revenue from their harvests, and will operate their vessels and deploy their gear in such a way as to best accomplish this end. Scientists, conversely, are bound by the "scientific method," and seek to gain information and verify its accuracy through rigorous experimental procedures. Management programs based on this information may then be questioned by the public, and lack credibility in their eyes. The Mid-Atlantic Council has developed the research set-aside program to address these concerns. Without the active cooperation of the fishing public, most management programs are destined to fail, as it is chiefly through the actions of commercial and recreational user groups that humans interact with and affect fisheries resources.

Discussion

One of the issues identified during the Council's Visioning Project was the lack of public trust in the auction conducted by NFI. Under the current program, successful RSA applicants are given a grant in the form of fish and the vast majority of RSA awarded fish are then sold at auction through an agreement with NFI to fund the proposed research. The NFI charges a fee for their services (12.5 %) and numerous stakeholders raised concerns about this process including the requirement that bidders must join NFI to participate in the auction. It should be recognized by Council members and the public that the NFI auction operates outside of the control of the Council process and is a private business agreement between NFI and the grant recipients.

The RSA program (as it has evolved into its current form) has tended to decouple the harvest of the RSA quota from the actual research as a result of the NFI auction process. For example, although the two projects funded for 2014 (NEAMAP and BSB Trap Survey) are collaborative efforts using commercial fishing vessels as sampling platforms, the fact remains that the actual harvest of the RSA quota to generate the funds required to pay for the research is conducted independently from the actual research. Although the auction model tends to increase the value of any given amount of RSA quota, this development (separation of auction from researchers) contravenes the objective of collaboration between scientists and the public. Direct compensation fishing to fund the research has met with limited success because the RSA quota only has greater intrinsic value relative to the general fishery quotas when the fishery is closed or other fishery restrictions are in place (i.e., trip limits, seasonal closures, etc.).

Reporting and Enforcement

In its 2012 letter to the RA, the Council requested that NMFS include in the reporting call-in system a requirement for vessels to call-in to the IVR system at least one hour prior to landing RSA quota. In addition, the Council requested that NMFS implement a notification system via email or other real-time communication mechanism to alert law enforcement personnel about activities related to the RSA program.

According to NMFS personnel, a better IVR system is being implemented this year. However, in regard to the real-time notification of RSA activities to law enforcement, it is unclear to what degree this has been implemented beyond procedures that were already in place prior to 2012. For example, the 2009 programmatic review of the RSA Program indicated that real-time notification of law enforcement relative to RSA vessel activity was already in place. This calls into question the effectiveness of this measure since this practice was adopted in or around 2009 and serious non-reporting violations associated with the RSA Program occurred in the following years.

Discussion

The public perception that the RSA Program has created an easily exploited mechanism to allow for illegal harvest has done little to regain the public trust in the RSA program or any of the RSA research. In fact, tracking and enforcing the RSA quota has been difficult and a major source of controversy since inception of the RSA Program. A 2009 Programmatic Review of the MAFMC Research Set-Aside Program noted the following concerning monitoring and enforcing the RSA quota:

Allegations of misreporting landings have been made. All RSA users must declare into a trip by calling an interactive federal phone system and obtain a trip number. The VTR serial number must be faxed or emailed to the state before the trip is begun. When the trip is over, a vessel must call-out on the federal system. New York also requires charter/party boats harvesting RSA to fax to the state a sheet containing each angler's name, how many fish they caught, how many pounds they weighed, and showing the progression of every trip and the use of the poundage allowed by the vessel. However, the allegation is that fishermen are not reporting all the RSA quota of Summer Flounder (Fluke) and Scup in various locations in Long Island, when law enforcement presence is lacking when fishermen land their catch. ***If the vessel is fishing during closed periods, and law enforcement is present, the fishermen can simply present their EFP and not receive a violation.***

These allegations have been numerous. To-date, little hard evidence exists and enforcement actions have been limited due to inadequate shore side monitoring, but various scenarios and situations have been reported to NMFS, New York State authorities, and explained to RSA staff during public meetings. Enforcement monitoring has begun and at least 2 cases are currently being investigated.

The dispersed and diffuse nature of the large number of landing locations (commercial docks and recreational marinas) and characteristics of marine fisheries in New York makes shore side monitoring of RSA quota landings extremely difficult. *In addition, the following factors contribute to scenarios where RSA landings are not fully accounted for.*

- *Unintended financial incentives to not report all RSA quota landings exist under current RSA program policies.*
- *Current policy for recreational landing reporting is not verifiable through dealer reporting requirements as in commercial fishing regulations.*
- *Monitoring and enforcement capacity in both State and Federal agencies is inadequate to verify all RSA landings and ensure full accountability and transparency.*

Obviously, hard evidence of abuse and non-reporting by vessels involved in the RSA Program now exists. Logan Gregory (NMFS OLE) presented a report to the Council at its June 2014 meeting on recent enforcement activities in New York which resulted in four convictions involving federally permitted vessels and dealers engaged in the unlawful landing of summer flounder related to the RSA Program (see below for more details). Since then, two more guilty pleas have occurred for similar charges (see attachment 3) and Mr. Gregory noted that up to 70 additional subpoenas related to this investigation throughout the state of New York are pending. Clearly, non-reporting and abuse of the RSA has been and remains a major problem.

Illegal/unreported landings associated with the RSA Program jeopardize FMP compliance with National Standard 1

All FMPs, amendments and frameworks developed by the Council must contain analyses which demonstrate FMP compliance with the ten National Standards (NS) as outlined in Section 301(a) of the MSFCMA. Foremost among the national standards is NS1 which requires that all FMPs prevent overfishing and rebuild overfished stocks. The EA for the Amendment that created the RSA program contained the following language with respect to compliance with NS1:

In order to comply with the SFA requirements, the Mid-Atlantic Council specifies annual harvest quotas for each species that limit fishing to the required levels. This framework action works within the parameters of the annual quotas by specifying that research set-asides be subtracted from the quota for each species, and not taken in addition to annual quotas. Hence, this framework action is consistent with National Standard 1.

In addition, section 5.3.2 (Biological Impacts section) of the EA contained the following language relative to compliance with NS1:

The biological impacts of harvesting the annual quotas for each species are analyzed in the specification packages submitted to NMFS each year. The set-asides enabled by this framework action will always be deducted from and not in addition to the Total Allowable Landings that are set for each species. ***Hence the biological impacts resulting from the harvest of set-aside quantities will always be fully accounted for.***

Discussion

The EA completed for Framework 1 that created the RSA Program correctly states that specification of research set-aside quota is deducted from the TAL (and not added to it), and therefore harvest of RSA quota is consistent with National Standard 1. However, no serious consideration was given in the original analysis of the potential for abuse of the program resulting in significant quota harvest overages due to unreported harvest. Recent enforcement efforts in New York related to abuse of the RSA program revealed that significant quantities of summer flounder were being taken illegally under the "cover" of RSA quota amounts acquired through the RSA program (see attachment 3).

One of the primary issues with the summer flounder stock assessment has been the persistent retrospective pattern in estimation of fishing mortality – that is, summer flounder stock assessments

have generally underestimated recent fishing mortality rates. This phenomenon could be largely explained by unreported fishing mortality (landings) of the type associated with the recently uncovered illegal landing of summer flounder in NY associated with the RSA Program.

The exact total amount of summer flounder harvested illegally in NY is still unknown but the effect could be a substantial quota overage of the total ACL established for the summer flounder fishery. In an enforcement briefing of the Council on ongoing enforcement activities in NY in June 2014, it was noted that the known illegal harvest of summer flounder exceeds 50% of the annual quota allocation for the State of New York, and the illegal harvest estimate is likely to increase substantially as the investigation in that state continues to unfold. Quota overages of this magnitude are not trivial and may approach or exceed levels that would be considered violations of National Standard 1. As such, the real and potential quota overages resulting from illegal activities related to the RSA Program may place the Council's FMPs in direct violation of National Standard 1 if the overages have resulted in overfishing. This situation has arisen as a direct result of the inability of NMFS to adequately track, monitor and enforce the quota landed under the RSA Program.

Staff Recommendation:

Given the controversial nature of the RSA Program and the uncertainty that exists with respect to adequately tracking RSA landings as well as the enforcement and science issues, staff recommend that the Council specify RSA amounts at zero for 2015 for all RSA species. A hiatus in the RSA Program will allow adequate time for a thorough review of the RSA Program and determination of when and how it should be resumed.

Attachment 1

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
55 Great Republic Drive
Gloucester, MA 01930-2276

FEB 28 2013

Christopher M. Moore, Ph.D.
Executive Director
Mid-Atlantic Fishery Management Council
800 North State Street, Ste. 201
Dover, DE 19901

Dear Chris:

In response to your letter of September 25, 2012, we have considered the Mid-Atlantic Fishery Management Council's requests for improving the Mid-Atlantic Research Set-Aside (RSA) Program, and agree that some of the recommendations could improve the science and administration of the program. Following are the Council's recommendations, and our responses.

1. The Council's Scientific and Statistical Committee (SSC) ranks research priorities during the development/update of the Council's 5-year research plan. The RSA Committee then identifies the top 10 research and management needs based on SSC priorities.

   Response: RSA research priorities are developed by the Council. We have no objection to the Council adjusting its process for establishing research priorities under this program.

2. Based on the prioritization developed above, NOAA's National Marine Fisheries Service (NMFS) develops a request for proposals based on research and management needs identified by the RSA Committee.

   Response: We will continue to base the RSA solicitation on the Council's RSA research priorities.

3. Council SSC members should be included in the pool of technical reviewers.

   Response: We will ensure that the Council's SSC members are included in the pool of potential technical reviewers.

4. The RSA Committee conducts a management review of the proposals received and makes recommendations for funding of projects under the RSA Program to NMFS.

   Response: We will continue to solicit feedback and recommendations from RSA Committee members through the management review as part of the proposal selection process.

5. Researchers funded successfully will be required to submit interim and final reports and final reports will be reviewed by the SSC for scientific validity and approval for use by the Council.

   Response: RSA grant recipients have interim and final reporting requirements as a condition of their RSA grant. In an effort to involve the SSC even further, the Center will forward all interim and final reports to the SSC for review. This will allow for further input from the Council to assist in ensuring a useful scientific end product. The final report will be sent to the SSC, subsequent to our review and the response from the Principal Investigator.

6. The Council has received complaints from the public and state marine resource agencies that landings made under the RSA program are not being properly tracked. This is especially important under the Council's new ACL/AM amendment, which requires strict accounting of all sources of fishing mortality and includes accountability measures that require (in most cases) that overages be deducted from an ACL/ACT in the following fishing year.

   Response: We make considerable efforts to ensure that RSA quota is properly tracked and accounted for; including monitoring RSA quota landings reported through the Interactive Voice Response (IVR) system, dealer-reported landings, and Vessel Trip Report (VTR) data. However, there is room for improvement, and we feel that taking some of the steps recommended by the Council and outlined herein will further improve RSA quota monitoring.

7. The Council feels that the Mid-Atlantic RSA program has created what amounts to a 1-year property right for fishermen that purchase RSA quota at auction. The Council feels that special consideration must be given to monitoring the RSA quota amounts that may be landed outside the existing quota systems developed by the Council.

   Response: NMFS recognizes that the granting of RSA quota to a successful RSA program applicant is accompanied by a conditioned right to harvest a specified amount of fish. NMFS has established additional reporting and oversight protocols to monitor the harvest and landing of RSA quota. It is expected that the adjustments to these protocols will further enhance RSA compensation fishing oversight. However, the RSA grant does not establish the right of an individual fisherman to harvest an amount of RSA quota. The harvest of RSA quota is dictated by the successful applicant and the industry members they choose to partner with to harvest the RSA award.

8. In addition to the current oversight protocols to monitor the harvest and landing of RSA quota, the Council recommends the following:

   a) Require a pre-landing notification via call-in through the IVR system that the vessel is landing RSA quota, with an estimate of the RSA pounds to be landed, by species, at least 1 hour before returning to the dock.

      Response: We agree that a pre-landing notification would reduce the potential for under-reporting RSA quota landings. Consequently, starting in 2014, vessels on Mid-Atlantic

RSA compensation fishing trips will be required to call the IVR system at least 1 hour before landing and identify the amount of RSA quota that will be landed and the port where it will be landed. This requirement will be identified in the 2014 Mid-Atlantic RSA FFO to ensure applicants and industry partners are aware of this requirement prior to applying for a Mid-Atlantic RSA grant.

b) Require vessels to report their VTR serial number when calling into the IVR system when reporting RSA quota amounts landed.

Response: We agree that requiring the submission of the VTR serial number(s) from federally permitted vessels when submitting RSA quota landings information through IVR will improve RSA quota monitoring and oversight. The principal benefit will be the improved correlation of commercial landings from federally permitted vessels with dealer reported information, which also includes the VTR serial number. In addition to improved correlation with some dealer data, this will facilitate cross referencing VTRs with IVRs, and improve correlating fishing histories with RSA compensation fishing activities.

We will also encourage state marine resource agencies to require state-only permitted fishing vessels to report through the electronic ACCSP VTR program, further enabling the correlation of commercial RSA quota landings with dealer reported data.

c) NMFS should implement a notification system via email or other real-time communications mechanism that alerts law enforcement personnel about all vessel activities under the RSA program, including trip and landing notifications received from vessels participating in the RSA program.

Response: We agree that a notification system that enables access by enforcement personnel of RSA compensation fishing activities could improve oversight and enforcement of these fishing trips. Therefore, NMFS will develop a system that alerts the enforcement community and other interested parties to RSA activities to help ensure vessels are reporting properly and not abusing the special fishing privileges afforded to vessels participating in the RSA program.

d) Require commercial dealers who purchase RSA quota to report RSA amounts purchased from vessels separately from other commercial landing purchases. This will improve verification and accounting by NMFS of the RSA amounts landed.

Response: At this time we are not going to adopt this recommendation as it would only capture a portion of the RSA quota that is landed and would be a challenge to implement effectively. It would not capture fish landed by charter/party vessels or fish sold to non-federally permitted dealers. In addition, dealers likely have no knowledge of whether the fish they are purchasing is RSA quota or not. Mid-Atlantic RSA quota is often only a sub-component of the overall catch being landed, and often only a portion of the catch of a given species may be RSA quota. Consequently, we feel this recommendation would place undue burden on federally permitted dealers to verify if the fish they are purchasing

is RSA quota. We feel that implementing the VTR serial number reporting requirement as outlined above will greatly improve the correlation between commercial landings by federally permitted commercial fishing vessels and dealer reported purchases.

e) Vessels participating in the RSA Program should be required to possess a Federal permit to harvest RSA quota. In cases where RSA quota is to be harvested in state waters only, a state permit would be considered as meeting this requirement.

Response: NMFS does not have the authority to prevent an RSA grant recipient from partnering with a non-state or federally permitted vessel to harvest RSA quota. However, those vessels would need to adhere to all applicable fishing regulations.

9. Advise the Council as to whether or not there is a legal basis under the Magnuson-Stevens Fishery Conservation and Management Act (or other applicable law) for NMFS to enter into a contractual agreement to conduct auctions of RSA designated quota.

Response: NMFS has the authority to procure services through contracts, as established under Federal procurement law. Consequently, it is possible that a contract could be developed for the purpose of establishing terms by which an RSA auction would be conducted. However, the application of this general contracting authority in the context of the Council's request must be considered further. Considerations need to be made with respect to procurement law, how such a contract could be crafted to meet the Council's objectives, and whether the benefits of such a contract would warrant the resources needed to develop and implement such a contract. NMFS will continue to evaluate this request, and will update the RSA Committee once a more thorough response is available.

10. Request NMFS enter into a contractual agreement with a third party to conduct an auction of RSA quota. The contractual arrangement should include stipulations about how the auction is to be conducted including, but not limited to, rules concerning eligibility to participate in the auction, specification of administrative fees, and distribution of funds to researchers. The goal is to provide for an RSA quota auction system that generates revenue to fund scientific research through a competitive and transparent process.

Response: See response to item 9.

11. Conduct annual financial audits of the RSA program, including the auction process, which would be made available to the public.

Response: As a condition of all Mid-Atlantic RSA grants, and as outlined in all Federal Funding Opportunities, grant recipients are currently required to provide a detailed final accounting of all fish caught and landed during compensation fishing and research (including catch by vessels operating under a Letter of Acknowledgment), fish sold, and if applicable, the disbursement of any additional funds generated through the sale of set-aside landings above the cost of the research activities. This information, in conjunction with vessel and dealer reported data, is used to evaluate project performance, as well as gauge the scientific and economic benefits derived from the RSA program. However, financial data included in

these reports are frequently confidential and, therefore, may not be released to the general public. This includes financial arrangements between the grant recipient and industry partner harvesting the RSA quota, as well as some information regarding the sale of RSA quota once caught. RSA quota landings in aggregate are made available to the public through the Northeast Regional Office fishery monitoring web pages. That said, we will consider developing and consolidating additional sources of information that will illustrate program performance, including information relative to scientific endeavors as well as compensation fishing (e.g., a Mid-Atlantic RSA annual report). We would like to work with the RSA Committee to further refine this idea.

I appreciate the Council's continued interest in enhancing the science and administration of the Mid-Atlantic RSA Program. If you have any questions or concerns, please let me know.

Sincerely,

for John K. Bullard
Regional Administrator

cc: William A. Karp, NEFSC
Denise Desautels, GCNE
Logan Gregory, OLE-Northeast

Attachment 2

MID-ATLANTIC FISHERY MANAGEMENT COUNCIL

Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201, Dover, DE 19901
Phone: 302-674-2331 | Toll Free: 877-446-2362 | FAX: 302-674-5399 | www.mafmc.org
Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

September 25, 2012

Mr. John Bullard
Regional Administrator
NMFS, NERO
Republic Drive
Gloucester, MA

Dear Mr. Bullard,

The Mid-Atlantic Council has been conducting an evaluation of the efficacy of its Research Set Aside Program over the past two years. At its August meeting, the Council made recommendations for improving the RSA Program from a both scientific and administrative perspective.

In regard to science, the review of the RSA Program identified the need to increase the input of the Council's SSC in the development of research priorities, review of individual project proposals, and scientific peer review of projects completed under the RSA Program. As a result, the Council approved a procedural order for development of RFPs, funding, and review of research projects under the MAFMC RSA Program. While most of the new procedure is internal to the operations of the Council, a portion of the recommended procedure will necessitate changes to the process by which NMFS plans and reviews scientific research conducted under the existing RSA program. In this regard, the Council recommended the following procedure:

1. The Council's SSC Ranks Research Priorities during development/update of Council's five year research plan. The RSA Committee then identifies the top ten research and management needs based on SSC priorities.

2. Based on the prioritization developed above, NMFS develops a RFP based on research and management needs identified by the RSA Committee.

3. NMFS then coordinates technical review of proposals; MAFMC SSC members should be included in "pool" of technical reviewers.

4. The RSA Committee then conducts management review of the proposals received and makes recommendations for funding of projects under the RSA Program to NMFS.

5. Researchers funded successfully will be required to submit interim and final reports and final reports will be reviewed by the SSC for scientific validity and approval for use by the Council.

In addition to concerns about the scientific veracity of research which has been funded under the RSA Program, the Council has received complaints from the public and state marine resource agencies that landings made under the RSA program are not being properly tracked. This is especially important under the Council's new ACL/AM amendment which requires strict accounting of all sources of fishing mortality and includes accountability measures which require (in most cases) that overages be deducted from an ACL/ACT the following fishing year.

Under the current RSA program, grant recipients may contract with a third party to sell the RSA allocation granted to them, thus generating the revenue necessary to fund the scientific research. This

MID-ATLANTIC
FISHERY MANAGEMENT COUNCIL

system, while likely to generate the maximum value for a given level of RSA specified by the Council, presents administrative and enforcement challenges with respect to monitoring and enforcement. It has also has created what amounts to a one year property right for successful bidders at auction. That is, successful bidders essentially own a share of the species quota and are free to land that amount at a time suited to their maximum advantage, subject to permit requirements and restrictions. Although unintended by the Council, the RSA auction system has created a quasi individual fishing quota which is similar, in many respects, to other overt IFQ systems developed by the Council. As such, special consideration must be given to monitoring the RSA quota amounts which may be landed outside the existing quota systems developed by the Council.

The current RSA monitoring system requires that all vessels making an RSA trip call-in their intention to make an RSA trip 24 hours in advance through the existing IVR system. Vessels operating under the RSA Program are also required to call in through the IVR system 24 hours after landing and report the amount in weight of RSA amounts landed by species. In addition to the current call-in and reporting requirements, the Council adopted the following recommendations:

For all vessels landing RSA quota (commercial and party/charter vessels):

1. Require a pre-landing notification via call-in through the IVR system that the vessel is landing RSA quota with an estimate of the RSA pounds to be landed by species at least one hour before returning to the dock.

2. Require vessels to report their VTR serial number when calling into the IVR system when reporting RSA quota amounts landed.

3. NMFS should implement a notification system via email or other real-time communications mechanism which alerts law enforcement personnel about all vessel activities under the RSA program including trip and landing notifications received from vessels participating in the RSA program.

4. Require commercial dealers who purchase RSA quota to report RSA amounts purchased from vessels separately from other commercial landing purchases. This will improve verification and accounting by NMFS of the RSA amounts landed.

5. Vessels participating in the RSA Program should be required to possess a federal permit to harvest RSA quota. In cases where RSA quota is to be harvested in state waters only, a state permit would be considered as meeting this requirement.

Thank you for your consideration of these Council recommendations to improve the current RSA Program. We look forward to working with staff from the Regional Office and the Northeast Fisheries Science Center to implement the recommended changes. Please call me or Rich Seagraves of my staff if you have any questions.

Sincerely,

Christopher M. Moore, PhD.
Executive Director, Mid-Atlantic Fishery Management Council

cc: Robins, Anderson, Pate, Seagraves

Attachment 3

RSA Violations Result in Arrest, Guilty Plea for New York Fisherman

In July 2010, agents for NOAA's Office of Law Enforcement initiated an investigation into Research Set-Aside (RSA) violations. On April 11, 2014, the investigation culminated in a guilty plea by a Levittown, New York, fisherman to mail fraud, wire fraud, and falsifying federal records.

NOAA special agents uncovered research set-aside violations of unreported fluke valued at nearly $625,000.

Anthony Joseph pled guilty in federal district court to one count of mail fraud, two counts of wire fraud, and one count of falsifying federal records. Though the final sentence is up to the Court, the defendant has agreed to pay between $629,000 and $692,000 in combined fines and forfeitures. He also agreed to multiple sentence conditions, including relinquishment of his New York State summer flounder permit, a ban on participation in the RSA program, and a lifetime ban from possessing a NOAA operator's permit. At a future sentencing hearing, the Court will decide what other penalties, if any, will be imposed.

In all, OLE agents determined that Joseph filed 158 false fishing logs and was complicit in the submission of 167 false dealer reports. These violations led to criminal charges, and he also violated provisions of the Magnuson-Stevens Act.

"Accurate reporting on submitted fishing logs and dealer reports is the foundation for sound and sustainable management of our fisheries," said Special Agent Todd Smith. "In this instance, the offending party committed more than 300 violations under the Magnuson-Stevens Act. We are hopeful results like this will serve as a deterrent to future fraud and abuse in the fishing industry."

Joseph capitalized by purchasing set-asides for summer flounder and underreporting the total catch. He used two cooperating dealers to file false federal dealer reports that matched the reports filed from his fishing vessel.

"The ability to catch and sell fish from a limited set-aside quota of fish to help fund scientific research should be considered a privilege that not all fishermen can participate in," said Logan Gregory, Special Agent in Charge of the Office of Law Enforcement's Northeast Division. "The unlawful non-reporting of this privileged opportunity not only undermines the accurate management of the quota, but the introduction of these fish into commerce also affects the profitability of these fish for those fishermen who comply with the regulations."

OLE special agents spent nearly 2 years working to break down this illicit, highly organized scheme to catch and land illegal fluke. Agents' observations of the individual in a public area over the course of several months provided solid evidence of the illegal activity. Agents worked with the Department of Justice Environmental Crimes Section to obtain and execute search warrants leading to the documentation of more than 290,000 pounds of unreported catch worth nearly $625,000.

Special Agent Matt Gilmore noted that "[T]his is another successful example of the systematic identification and exposure of individuals exploiting the RSA program and jeopardizing a public marine resource. This will benefit both commercial and recreational users throughout Long Island."

Research Set-Aside Program

The RSA program was established as a mechanism to fund research and compensate vessel owners through the sale of fish harvested under a research quota or research days at sea.

While using set-aside days or quota, vessels are often allowed to do so in more opportune ways than the general fleet, for example, with exemptions from trip limits, some seasonal closures, or other restrictions that would otherwise apply.

This marks the second RSA case since August 2013 that has resulted in a guilty plea by a fisherman abusing the program. The work of OLE special agents has prompted NOAA to revise program requirements for 2014 to ensure accurate reporting and a level the playing field for honest fishermen.

Story by John Thibodeau, communications specialist for NOAA's Office of Law Enforcement. To contact him, please call 301-427-8234 or email john.thibodeau@noaa.gov.

Table 1. Summary of Mid-Atlantic RSA Funded Projects Since Inception in 2002.

	YEAR	# of PROJECTS	TOTAL
	2002	3	$215,331
	2003	5	$699,087
	2004	3	$868,169
	2005	3	$1,471,709
	2006	4	$1,358,612
	2007	4	$2,052,987
	2008	3	$722,759
	2009	3	$1,761,570
	2010	3	$1,722,276
	2011	3	$1,288,444
	2012	3	$1,385,104
	2013	2	$1,350,801
	2014	2	$1,424,794
TOTAL	13	41	$16,321,643

Table 2.

NOAA FISHERIES SERVICE
Northeast Fisheries Science Center
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Northeast Cooperative Research Program

Projects Search Results

New Search | Add Criteria | Home

Year	Funding Source	Project Category	Fishery	Title	Funding Level	State	Organization	Principal Investigator
2013	M. Atlantic-RSA	IBS-Inshore		Data collection & analysis in support of single & multispecies stock assessments in the Mid-Atlantic & Southern New England: Northeast Area Monitoring & Assessment Program Near Shore Trawl Survey, 2013	$1,120,000	VA	Virginia Institute of Marine Science	Chris Bonzek & Robert Latour
2013	M. Atlantic-RSA	IBS-Pilot	Black Sea Bass	Industry Based Survey on Black Sea Bass Utilizing Ventless Traps	$230,801	RI	Cockeast Fisheries, Inc.	Laura Skrobe, Captain Charles Borden, Najih Lazar, & Steve Cadrin
2012	M. Atlantic-RSA	IBS-Inshore		Data collection & analysis in support of single & multispecies stock assessments in the Mid-Atlantic & Southern New England:Northeast Area Monitoring & Assessment Program Near Shore Trawl Survey, 2012	$922,759	VA	Virginia Institute of Marine Science	Chris Bonzek & Robert Latour
2012	M. Atlantic-RSA	IBS-Pilot	Black Sea Bass	Industry Based Survey on Black Sea Bass Utilizing Ventless Traps	$212,044	RI	Cockeast Fisheries, Inc.	Laura Skrobe
2012	M. Atlantic-RSA	IBS-Pilot	Scup	Fishery Independent Scup Survey of Hard Bottom Areas in Southern New England Waters	$250,301	RI	Cockeast Fisheries, Inc.	Laura Skrobe
2011	M. Atlantic-RSA	IBS-Inshore		Data Collection and Analysis in Support of Single and Multispecies Stock Assessments in the Mid-Atlantic: Northeast Area Monitoring and Assessment Program Nearshore Trawl Survey, 2011	$859,060	VA	Virginia Institute of Marine Science	
2011	M. Atlantic-RSA	IBS-Pilot	Scup	2011 Fishery Independent Scup Survey of Hard Bottom Areas in Southern New England Waters	$207,600	RI	Charles Borden	
2011	M. Atlantic-RSA	Resource Dynamics	Black Sea Bass	Understanding the effects of fishing on the size, age, and sex distribution of black sea bass (Centropristis striata) during the spawning season	$221,784	VA	National Fisheries Institute	
2010	M. Atlantic-RSA	Conservation Engineering-Trawl	Squid - Butterfish	A Method to Reduce Butterfish Retention in The Offshore Loligo Squid Fishery Through The Use Of a Bycatch Reduction Device (BRD) Adapted to Pre-Existing Gear.	$524,024	NY	Cornell Cooperative Extension	

Table 2.

Year	Funding Source	Project Category	Fishery	Title	Funding Level	State	Organization	Principal Investigator
2010	M. Atlantic-RSA	IBS-Inshore		Data Collection and analysis in support of single and multi-species stock assessments in the Mid-Atlantic: Northeast Area Monitoring and Assessment Program Nearshore Trawl Program, 2010 to 2012. FINAL REPORT	$991,952	VA	Virginia Institute of Marine Science	Christopher F. Bonzek, James Gartland, J. David Lange, Robert J. Latour, Ph.D.
2010	M. Atlantic-RSA	IBS-Pilot	Scup	2010 Fishery Independent Scup Survey of Hard Bottom Areas in Southern New England Waters FINAL REPORT	$206,300	RI	Charles Borden	
2009	M. Atlantic-RSA	Discard Mortality	Summer Flounder	Evaluation of Summer Flounder Discard Mortality in the Bottom Trawl Fishery Part II: A Study of the Offshore Winter Fishery	$376,650	NY	Cornell Cooperative Extension	
2009	M. Atlantic-RSA	IBS-Inshore		Data Collection and Analysis in Support of Single and Multispecies Stock Assessments in the Northeast Area Monitoring and Assessment Program Near Shore Trawl Program FINAL REPORT	$1,264,582	VA	Virginia Institute of Marine Science	Christopher F. Bonzek, James Gartland, J. David Lange, Robert J. Latour, Ph.D.
2009	M. Atlantic-RSA	IBS-Pilot	Scup	2009 Fishery Independent Scup Survey of Hard Bottom Areas in Southern New England Waters FINAL REPORT	$120,338	RI	Charles Borden	
2008	M. Atlantic-RSA	Discard Mortality	Summer Flounder	Discard Mortality in the Summer Flounder Fishery: A New Approach to Evaluation FINAL REPORT	$148,719	VA	National Fisheries Institute	Kenneth Able, Thomas Grothues, and Eleanor Bochenek
2008	M. Atlantic-RSA	IBS-Inshore		Data collection and analysis in support of single and multispecies stock assessments in the Mid-Atlantic: Northeast Area Monitoring and Assessment Program Near Shore Trawl Program FINAL REPORT	$481,500	VA	Virginia Institute of Marine Science	Christopher Bonzek
2008	M. Atlantic-RSA	IBS-Pilot	Scup	2008 Fishery Independent Scup Survey of Hard Bottom Areas in Southern New England Waters FINAL REPORT	$92,540	RI	Charles Borden	Laura Skrobe
2007	M. Atlantic-RSA	Conservation Engineering-Trawl	Squid Fishery	Bycatch Reduction and Gear Development in the Mid-Atlantic: Evaluation of Optimal Codend Mesh Size in the Loligo Fishery FINAL REPORT	$522,749	VA	National Fisheries Institute	Eric Powell
2007	M. Atlantic-RSA	Discard Mortality	Summer Flounder	Evaluation of Summer Flounder Discard Mortality in the Bottom Trawl Fishery FINAL REPORT	$284,800	NY	Cornell Cooperative Extension	Emerson Hasbrouck
2007	M. Atlantic-RSA	IBS-Pilot		Development of a Supplemental Finfish Survey Targeting Mid-Atlantic Migratory Species FINAL REPORT	$1,165,676	VA	National Fisheries Institute	Eric Powell
2007	M. Atlantic-RSA	IBS-Pilot	Scup	2007 Fishery Independent Survey of Selected Hard	$79,762	RI	Charles Borden	Laura Skrobe

Table 2.

Year	Funding Source	Project Category	Fishery	Title	Funding Level	State	Organization	Principal Investigator
				Bottom areas in Southern New England FINAL REPORT				
2006	M. Atlantic-RSA	Conservation Engineering-Other	Black Sea Bass	An Evaluation of Size Selectivity and Relative Efficiency of Black Sea Bass, Centropristis strata Habitat Pots Equipped with large Mesh Panels. FINAL REPORT	$76,540	VA	Virginia Institute of Marine Science	David Rudders and Robert Fishers
2006	M. Atlantic-RSA	IBS-Pilot		Development of a Supplemental Finfish Survey Targeting Mid-Atlantic Migratory Species FINAL REPORT	$874,017	VA	National Fisheries Institute	Eric Powell
2006	M. Atlantic-RSA	IBS-Pilot	Scup	2006 Fishery Independent Survey of Selected Hard Bottom areas in Southern New England FINAL REPORT	$86,364	RI	Charles Borden	Laura Skrobe
2006	M. Atlantic-RSA	Recreational	Summer Flounder	Evaluating Size and Bag Limits in the Summer Flounder Recreational Fishery FINAL REPORT	$321,691	NJ	Fisheries Cons. Trust	Eleanor Bochenek
2005	M. Atlantic-RSA	Conservation Engineering-Trawl	Squid Fishery	Loligo Squid Mesh Selectivity Study to Reduce Bycatch of Juvenile Loligo Squid and other Species FINAL REPORT	$563,367	VA	National Fisheries Institute	Sarah King
2005	M. Atlantic-RSA	IBS-Pilot		Development of a Supplemental Finfish Survey Targeting Mid-Atlantic Migratory Species FINAL REPORT	$822,563	VA	National Fisheries Institute	Eric Powell
2005	M. Atlantic-RSA	IBS-Pilot	Scup	2005 Fishery Independent Survey of Selected Hard Bottom areas in Southern New England FINAL REPORT	$85,779	RI	Charles Borden	Laura Skrobe
2004	M. Atlantic-RSA	Conservation Engineering-Other	Black Sea Bass	Evaluation of the Effect of Vent Size and Shape on Black Sea Bass Behavior and Escapement from Pot Gear FINAL REPORT	$110,825	NY	Cornell Cooperative Extension	Emerson Hasbrouck
2004	M. Atlantic-RSA	IBS-Pilot		Development of a Supplemental Finfish Survey Targeting Mid-Atlantic Migratory Species FINAL REPORT	$704,692	VA	National Fisheries Institute	Eric Powell
2004	M. Atlantic-RSA	IBS-Pilot	Scup	Fishery Independent Scup Survey of Selected Areas in Southern New England Waters FINAL REPORT	$52,652	RI	Charles Borden	Laura Skrobe
2003	M. Atlantic-RSA	Conservation Engineering-Trawl	Squid - Scup	Loligo Squid: Extension of Gear Modification Study Through Scup Migratory Season FINAL REPORT	$174,541	VA	National Fisheries Institute	Daniel Cohen
2003	M. Atlantic-RSA	Conservation Engineering-Trawl	Summer Flounder	Effects of Increasing Mesh Size in the Summer Flounder Fishery in Southern New England Inshore Rhode Island Waters FINAL REPORT	$40,320	RI	University of Rhode Island	David Beutel
2003	M. Atlantic-RSA	Discontinued	Black Sea Bass	Effect of Vent Size on Sex Ratios of Black Sea Bass Retained in the Coastal Pot Fishery	$0		Wizard Enterprises	
2003	M. Atlantic-RSA	Discontinued	Scup	Bycatch Characterization and Reduction from Codend Mesh Size Increases in the Directed	$0	RI	University of Rhode Island	

Table 2.

Year	Funding Source	Project Category	Fishery	Title	Funding Level	State	Organization	Principal Investigator
				Bottom Trawl Northern - Inshore Scup Fishery				
2003	M. Atlantic-RSA	IBS-Pilot		Development of a Supplemental Finfish Survey Targeting Mid-Atlantic Migratory Species FINAL REPORT	$484,226	VA	National Fisheries Institute	Eric Powell
2002	M. Atlantic-RSA	Conservation Engineering-Other	Black Sea Bass	The Effect of Circle and Square Escape Vents on Discard Reduction in the Black Sea Bass Trap Fishery FINAL REPORT	$57,069	VA	Virginia Institute of Marine Science	Robert Fisher
2002	M. Atlantic-RSA	Conservation Engineering-Other	Black Sea Bass - Scup	Evaluation of Catch Efficiency and Size Selectivity of Inshore New England Fish Pots for Black Sea Bass and Scup as a Function of Escape Vent Size FINAL REPORT	$43,079	RI	W. Gell	Laura Skrobe
2002	M. Atlantic-RSA	Conservation Engineering-Trawl	Squid Fishery	Loligo Squid Gear Modification Study FINAL REPORT	$115,183	VA	National Fisheries Institute	Eric Powell

Table 3.

2014 Mid-Atlantic RSA Awards (2)

NA14NMF4540004 Virginia Institute of Marine Science (VIMS)
"Data Collection & Analysis in Support of Ssingle & Multispecies Stock Assessments in the Mid-Atlantic & Southern New England: Northeast Area Monitoring & Assessment Program Near Shore Trawl Survey, 2014"

Research: $1,105,620 Awarded: 01/14/14

Principal Investigators: Christopher Bonzek & Robert Latour

The NEAMAP Near Shore Trawl Survey is a fishery-independent survey designed to collect information on the late juvenile and adult stages of the majority of the finfish species (including RSA species summer flounder, scup, black sea bass, butterfish, and bluefish) and several of the invertebrate species (including Longfin squid) inhabiting the near shore waters of the Mid-Atlantic Bight (inshore of the 10fm contour), Block Island Sound, and Rhode Island Sound.

487,825 lbs. Summer Flounder
697,281 lbs. Scup
1,400,000 lbs. Longfin Squid
51,686 lbs. Black Sea Bass
99,000 lbs.Bluefish
99,800 lbs. Butterfish
250,000 lbs. Spiny Dogfish

NA14NMF4540005 Cockeast Fisheries, Inc
"Industry Based Survey on Black Sea Bass Utilizing Ventless Traps"
Research : $319,174. Awarded: 01/14/14

Principal Investigator: Laura Skrobe, Captain Charles Borden, Najih Lazar, & Dr. Steven Cadrin

A fishery independent black sea bass survey of five separate hard bottom sites in Southern New England (SNE) and Mid-Atlantic waters is proposed. Unvented black sea bass pots will be fished on each site for five months running from June through October in SNE, and April through August in the Mid-Atlantic. Five commercial vessels will conduct the fieldwork and the University of Rhode Island (URI) and SMAST will oversee the project including administration, logistical support, and data analysis. Staff from the Rhode Island Department of Environmental Management (RIDEM) Division of Fish and Wildlife, Massachusetts Division of Marine Fisheries (MADMF), New Jersey Department of Environmental Protection (NEDEP) Fish and Wildlife, New York State Department of Environmental (NYSDEC), and Virginia Marine Resources Commission (VMRC) will also collaborate on the project.

54,175 lbs. Summer Flounder
200,000 lbs. Scup
85,000 lbs. Black Sea Bass

NOAA FISHERIES

Mid-Atlantic Research Set-Aside Program - *Frequently Asked Questions*

Vessel Participation and Eligibility

1. *How does the Mid-Atlantic Research Set Aside (RSA) Program generate funds to support research?*

   Recipients of RSA grants partner with fishing vessel owners who harvest RSA quota, and they either agree to share the proceeds from the sale of the RSA quota after it has been landed or the vessel owner may purchase the opportunity to harvest RSA quota outright from the grant recipient before it has been harvested. Most of the RSA quota under the Mid-Atlantic RSA program is obtained outright by the vessel owner through the National Fisheries Institute (NFI) RSA auction, although both arrangements occur.

2. *What is the NFI RSA auction and why does NOAA Fisheries allow RSA quota to be auctioned off to the highest bidder?*

   The NFI RSA auction was created as a way to connect grant recipients with vessel owners interested in participating in the RSA program, and has become an established service used by Mid-Atlantic RSA grant recipients to secure the funds needed to support their research. The terms and conditions of the NFI RSA auction are determined by NFI and the RSA grant recipient, and is not a process authorized or directed by NOAA Fisheries. The exchange of RSA quota for money is not unique to the NFI RSA auction; all of the RSA programs depend on this exchange between the grant recipient and the industry partners. The NFI RSA auction is simply a more structured service to facilitate this exchange. Each RSA grant recipient is free to determine the most efficient approach for his/her project, and none are bound to use the NFI RSA auction.

3. *Why does NOAA Fisheries allow vessels harvesting Mid-Atlantic RSA quota to catch more than other vessels, and to fish during closures when other vessels can't?*

   These effort control exemptions provide additional fishing opportunities to participating vessels, which adds value to RSA quota. Without the added value generated by these additional fishing opportunities, there is little incentive to vessels to participate in the program. If the RSA quota is not harvested, funds cannot be generated to support the research projects.

4. *Why does compensation fishing happen independently from the research? Isn't the RSA program supposed to be a cooperative research program that brings the science and fishing communities together? Doesn't this decoupling undermine the intent of the program?*

   The harvest of RSA quota may or may not occur in conjunction with research activities, although typically these activities occur separately. This decoupling of the compensation

fishing from the research is not new, and was anticipated when the Mid-Atlantic RSA Program was created under Framework 1 in 2001. Decoupling these activities allows greater flexibility for the types of research projects that may be supported, particularly for projects that are conducted in a manner that is not conducive to harvesting commercial quantities of fish, such as surveys and tagging studies, or projects targeting species with relatively low value. In keeping with the intent of the program, the selected projects are cooperative research studies that closely involve the fishing industry, research community, and other stakeholders.

5. *Who decides which vessels get to catch Mid-Atlantic RSA quota?*

Vessel participation is largely determined by the grant recipient. RSA grant recipients are responsible for working with the fishing industry to harvest their RSA quota award. In practice, they partner directly with the vessel owner, and/or they use the servide provided by the NFI RSA auction. Although the grant recipient identifies the vessels, NOAA Fisheries reviews vessel histories to ensure they do not conflict with the Greater Atlantic Regional Fisheries Office (GARFO) exempted fishing permit (EFP) sanction policy. If the vessel has previous violations that conflict with this policy, they are not authorized to participate in the program. In addition, state authorities have discretion when considering whether to grant waivers from state regulation.

6. *Can a private angler harvest RSA quota?*

Theoretically, it is possible that a private angler could catch RSA quota. However, without regulation waivers, there is no incentive for a private angler to do so. NOAA Fisheries supports the Council's position that authorizing private anglers would be extremely difficult to monitor and enforce and, therefore, has no intention of providing any exemptions to private anglers for the purpose of harvesting RSA quota.

7. *How many vessels are involved in harvesting Mid-Atlantic RSA quota?*

In recent years, 100-150 vessels annually engage in Mid-Atlantic RSA compensation fishing. This relatively high number of vessels is due to the large volume of fish awarded under this program, the diversity of awarded species, and the diversity of the fleet harvesting the RSA quota. The number of vessels is constrained by the NOAA Fisheries regional vessel cap policy, which restricts the number of vessels that can participate in compensation fishing at any given time.

8. *Why does NOAA Fisheries limit the number of vessels that can harvest Mid-Atlantic RSA quota?*

NOAA Fisheries limits the number of vessels that can participate in the RSA program to improve program oversight and enforcibility. Currently, the number of vessels that can participate in a project is limited to 50 vessels per project. However, flexibility to exceed this cap has been provided at the request of grant recipients, given sufficient justification.

Exempted Fishing Permits and Reporting Requirements

9. What is an exempted fishing permit (EFP)?

An EFP waives Federal fishing regulations. To facilitate RSA compensation fishing, federally permitted vessels harvesting RSA quota are issued EFPs to exceed possession limits and to fish during quota closures. EFPs contain explicit terms and conditions that must be followed. EFPs must be signed by both the vessel owner or operator and the principal investigator to ensure that they agree to the terms and conditions of the EFP. They are subject to fines and/or sanctions if the terms and conditions are not followed.

10. Do EFPs affect state fishing regulations?

No; EFPs only waive Federal fishing regulations. State waivers must be obtained directly through the state. NOAA Fisheries coordinates with the applicable states to ensure they are aware of the EFPs that are issued.

11. What are the requirements that must be followed when a vessel is on a Mid-Atlantic RSA compensation fishing trip?

All vessels harvesting RSA quota have additional reporting requirements. The vessel operator must notify NOAA Fisheries prior to departing on an RSA compensation fishing trip to establish his intent to harvest RSA quota, and to identify when and where the vessel will land. Prior to landing, the vessel operator must report the amount of RSA quota on board, and when and where it is going to be landed. After landing, a final report must be submitted, which includes the exact amount of RSA quota landed, the state where the fish were landed, and the vessel trip report serial number.

12. What does NOAA Fisheries do to make sure a vessel adheres to the RSA reporting requirements?

NOAA Fisheries has recently adopted a set of quality assurance procedures to audit and validate RSA reported data to identify potential reporting errors or cases of non-compliance. All RSA trip reports are processed through these audits. If an aspect of the report conflicts with an audit, it will be flagged and then investigated to determine the appropriate course of action, including vessel outreach, referral to the Office of Law Enforcement, or potential revocation of compensation fishing privileges.

The Office of Law Enforcement also has near-real time access to RSA data, including information on when and where a vessel is landing, and how much RSA quota the vessel has on board. Using this information, they will be able to determine if a vessel has met the reporting requirements.

13. What happens if a vessel does not follow the program reporting requirements?

If a vessel operator does not follow the RSA reporting requirements, the vessel will be removed from the RSA program. We are currently revising the RSA compliance policy to better articulate when compensation fishing privileges will be revoked for failing to follow program requirements, which includes outreach procedures to the vessel operator, owner, and grant recipient notifying them of program compliance problems.

14. Does NOAA Fisheries conduct a background check on vessel compliance history prior to allowing them to harvest RSA quota?

Yes. NOAA Fisheries has an EFP sanction check policy that is used to vet vessels that are put forward by the grant recipient to harvest RSA quota. If a vessel conflicts with the criteria outlined in this policy, the vessel will not be authorized to harvest RSA quota.

Enforcement

15. What is NOAA Fisheries doing to improve RSA program oversight and compliance in light of the recent Mid-Atlantic RSA enforcement actions?

NOAA Fisheries has overhauled RSA program monitoring and oversight procedures in response to these enforcement actions and in response to requests from the Council. This includes more robust trip audit and matching procedures, development of a more explicit policy for revoking compensation fishing privileges, and more advanced data sharing and data analysis capabilities with the Office of Law Enforcement. In addition to more effective vessel oversight, these new procedures will enable more detailed and comprehensive analysis to evaluate program performance and to identify program areas of concern.

16. Would these violations have happened if the new oversight procedures had been in place?

The new reporting requirements, in conjunction with the new oversight procedures, would have made it much more difficult and risky for these violations to be carried out. Specifically, we are now requiring that vessels provide more detailed trip information (e.g., vessel landing time and location, the amount of RSA quota onboard prior to landing) and there are new procedures in place that will enable us to more effectively audit and reconcile vessel trip and dealer reports. All of this information will be available to the Office of Law Enforcement and their state partners to monitor vessel activity, and to intercept vessels to confirm compliance and validate reported data.

17. How does enforcement keep track of RSA vessel activity?

NOAA's Office of Law Enforcement has near-real time access of all RSA trip data via a web-based application. This system allows enforcement to monitor vessel activity. In the near future, audits and reports can also be generated through this new system. In addition, regional office staff will notify the Office of Law Enforcement of vessel reporting compliance issues that are identified through quality assurance procedures.

18. What if a vessel decides to take an RSA compensation fishing trip but does not report at all?

If a vessel does not submit any RSA trip report, they are not considered to be on an RSA compensation fishing trip, and would be subject to all applicable regulation, including the regular possession limit and season closures.

19. What else could be done to increase RSA program oversight and compliance?

The recent program adjustments in response to the RSA enforcement actions and requests from the Council will significantly bolster oversight of RSA compensation fishing activity. There were additional measures considered during the development of these procedures that were not adopted for various reasons, including dealer specific authorizations and reporting requirements, and controls on landing time and location. NOAA Fisheries expects that these adjustments that were made to improve oversight and compliance will be effective. However, NOAA Fisheries will continue to examine all of the RSA programs to improve program performance and oversight, which includes working closely with the Councils, state partners, fishing industry, and the cooperative research community.

RSA Quota Monitoring

20. How does NOAA Fisheries track Mid-Atlantic RSA quota?

Vessel reports, in conjunction with dealer reports, are used to monitor and track RSA quota. Commercial RSA quota landings reported by the vessel are deducted from the commercial landings, by state, to ensure RSA landings are not applied against state commercial quotas. If an RSA or dealer report is flagged through the audit process, the issue will be investigated in accordance with quality assurance procedures to ensure accurate monitoring reports.

21. What does NOAA Fisheries do to make sure a vessel does not catch more than the amount of fish they purchased at the NFI RSA auction?

NOAA Fisheries provides weekly reports to grant recipients and state partners to ensure they are apprised of reported RSA compensation fishing activity. However, NOAA Fisheries does not dictate the specific arrangements between the grant recipient and partnering vessel, and how much RSA quota each vessel is allowed to catch. Consequently, NOAA Fisheries monitors all trips to ensure vessels operate in accordance with the program requirements, and that the overall project award is not exceeded, but not how much fish each vessel is allowed to catch.

22. Does RSA catch count against state quotas?

No. RSA catch is in addition to the state quota, and does not reduce the amount of fish that may be harvested in that state. The RSA quotas are "taken off the top" during the quota setting process so that overall catch is within scientifically sound catch limits. NOAA Fisheries works very closely with the states to ensure RSA catch is accounted for properly,

including sending weekly reports and posting RSA catch data on our regional office website. The recently adopted monitoring procedures will further enhance the ability to properly account for RSA quota landings to ensure they are applied properly.

23. Does NOAA Fisheries allocate Mid-Atlantic RSA quota to vessels?

No. NOAA Fisheries awards RSA quota to successful applicants to carry out a research project. Grant recipients are responsible for arranging which vessels will harvest their grant award and how much quota each vessel gets. NOAA Fisheries does not dictate the agreements between the grant recipient and industry partner.

However, NOAA Fisheries monitors every RSA trip to ensure compliance with program requirements and to ensure that the overall quota award is not exceeded. If the overall RSA quota award is exceeded, it could result in fines and/or sanctions for the vessel and the grant recipient, and could affect future funding decisions.

24. What is the responsibility of the researcher when it comes to the harvest of Mid-Atlantic RSA quota?

The grant recipient is responsible for managing vessels harvesting RSA quota, and to ensure vessels do not exceed the RSA quota award. The RSA Federal Funding Opportunity that solicits research proposals clearly states that the principal investigator must have effective safeguards in place to ensure an RSA quota award is not exceeded.

25. What are the specific requirements for researchers?

The grant recipient must submit a formal request to NOAA Fisheries requesting authorization for the vessels they've partnered with to conduct compensation fishing. The grant recipient must sign all EFPs to acknowledge the terms and conditions of the permit. The grant recipient must also ensure all program requirements are distributed to their partner vessels. Failure to meet these requirements could impact future funding decisions.

26. Why doesn't NOAA Fisheries require dealers to report Mid-Atlantic RSA quota separate from non-RSA catch? Wouldn't this help track RSA quota, and improve program oversight?

NOAA Fisheries considered implementing a regulation that would require a dealer to explicitly identify RSA quota purchases. However, it was decided that this requirement would have marginal benefit, and that there are more effective ways to match RSA vessel reports with dealer reports using RSA trip audit procedures. The primary concern with an RSA dealer regulation is that data quality would likely be poor, and that enforceability would be difficult given the dependency between the vessel and the dealer.

July 25, 2014

Bluefish Monitoring Committee Recommendations for 2015

Attendees:

James Armstrong (MC Chair, Council Staff), John Maniscalco (NY-DEC), Kurt Gottschall (CT-DEEP), Mike Celestino (NJ-F&W), Paul Caruso (MA-DMF), Mike Bednarski (MADMF), Jason McNamee (RI-DFW), Nicole Lengyal (RI-DFW), Beth Egbert (NCDMF), Eric Durell MDDNR, Jim Gartland (VIMS), Ed Hale (DNREC), Kiley Dancy (Council Staff), Kirby Rootes-Murdy(ASMFC), Mike Luisi (Coastal-Demersal Committee Chair)

Discussion: The Committee received an overview of the presentation provided to the SSC and was provided with the SSC recommendations for ABC in 2015. The Committee discussed various sources of management uncertainty in considering an adjustment from ACL to the fishery-specific ACTs.
The Committee discussed the history of fishery landings relative to harvest limits. It was noted that since 2000 the combined commercial and recreational landings exceeded the TAL only once. In 2013, the recreational fishery exceeded the RHL, but if a management uncertainty buffer is applied it would reduce the commercial quota not the RHL. The commercial fishery has never exceeded the coastwide quota. The Committee agreed that there is no need for an additional reduction to "buffer" for management uncertainty.

Calculation of Management Measures for 2015.

The Committee reviewed the calculation of the 2015 commercial quota and recreational harvest limit and agreed with the methods used by staff for those measures. This included calculation of the maximum recreational-to-commercial transfer.

Monitoring Committee Recommendations

The table below identifies the Bluefish Monitoring Committee's recommended management measures for 2015.

2015 Management Measure	mt	lbs	Basis
OFL	15,520	34,215,743	Yield at Fmsy (0.19)
ABC	9,772	21,543,572	Risk Policy (P* = 0.289)
ACL	9,772	21,543,572	= ABC
Mgmt Uncertainty	0	0	per MC
Comm Discards	0	0	from assessment
Rec Discards	1,520	3,351,026	Three Year Average
Comm ACT	1,661	3,662,407	(ACL - Mgmt Uncert) * 17%
Rec ACT	8,111	17,881,165	(ACL - Mgmt Uncert) * 83%
Comm TAL	1,661	3,662,407	Comm ACT - Disc
Rec TAL	6,591	14,530,139	Rec ACT - Disc
TAL (combined)	8,252	18,192,546	Comm + Rec TAL
Expected Recreational Landings	5,930	13,073,412	Three Year Average
Maximum Transfer	477	1,052,394	Calculated
pre-RSA Comm Quota	2,139	4,714,802	Comm TAL + transfer
pre-RSA RHL	6,113	13,477,744	Rec TAL - transfer
Comm RSA Deduction (3%)	64	141,444	3% of Comm Quota
Rec RSA Deduction (3%)	183	404,332	3% of RHL
Adjusted Comm Quota	2,074	4,573,358	Comm Quota - RSA
Adjusted RHL	5,930	13,073,412	RHL - RSA

Additional Recreational Measures

The Bluefish MC supported maintaining the status quo 15 fish recreational bag limit as opposed to reducing the bag limit to 10 fish as recommended by the AP and staff. In addressing the bag limit, several issues were discussed:

1) The reduction is not being proposed in order to achieve a specific, quantified conservation need and, to the extent that it is a policy decision is outside of the Monitoring Committee's charge.

2) Greater detail as to the conservation value of a reduction is needed, specifically as it would affect catch in states that currently have a 15 fish bag limit.

3) A benchmark assessment will be conducted next year which may provide a different perspective on conservation actions needed for the recreational bluefish fishery and that would provide a more informative quantitative basis for an adjustment to the bag limit.

Research Set Aside

The Monitoring Committee recommended RSA up to 3% pending Council action on the RSA program which is expected at the upcoming August meeting.

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Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: 30 July 2014

TO: Richard M. Robins, Jr., MAFMC Chairman

FROM: John Boreman, Ph.D., Chair, MAFMC Scientific and Statistical Committee

SUBJECT: Report of the July 2014 Meeting of the MAFMC SSC

The SSC met in Baltimore, MD, on 23 July 2014 for the main purpose of developing ABC recommendations for Bluefish in response to terms of reference provided by the MAFMC (Attachment 1), and reviewing ABC recommendations made previously for Summer Flounder, Scup, and Black Sea Bass. The SSC also received updates on the white paper on forage species being developed for the Council, progress on developing a research track project on Black Sea Bass, plans for the upcoming National SSC meeting in Honolulu, and progress on refining the MAFMC five-year research plan. The meeting agenda is attached (Attachment 2).

A total of 13 SSC members were in attendance (Attachment 3), which constituted a quorum. Also in attendance were staff from the NMFS Northeast Fisheries Science Center, Council members and staff, ASMFC staff, and representatives from the fishing industry and general public.

All documents cited in this report can be accessed via the MAFMC SSC website (http://www.mafmc.org/ssc-meetings/2014/July-2014).

Bluefish

Below are the SSC's responses to the terms of reference (in italics) provided by the MAFMC for Bluefish.

1) The materials considered in reaching its recommendations:

- Wood, A. D. 2013. Bluefish 2014 Stock Assessment Update: Data and Model Update Through 2013. Coastal Pelagic Working Group, Northeast Fisheries Science Center, NOAA Fisheries. 37 pp.
- Armstrong, J. 2014. Staff memorandum to Chris Moore, dated 17 July 2014, entitled: "Bluefish ABC and Management Measures for 2015." 9 pp.
- MAFMC Staff. 2014. Bluefish AP information document – July 2014. Mid-Atlantic Fishery Management Council. 15 pp.

- MAFMC Staff. 2014. 2013 Bluefish fishery performance report. Mid-Atlantic Fishery Management Council. 2 pp.

2) The level (1-4) that the SSC deems most appropriate for the information content of the most recent stock assessment, based on criteria listed in the Omnibus Amendment:

The SSC designated the assessment as **Level 3** because the structure of the assessment was unchanged from previous specification. There were no new estimates of uncertainties associated with the maximum fishing mortality rate (OFL).

3) If possible, the level of catch (in weight) and the probability of overfishing associated with the overfishing limit (OFL) based on the maximum fishing mortality rate threshold or, if appropriate, an OFL proxy:

The **OFL = 15,522 mt**, based on an F_{msy} of 0.19.

4) The level of catch (in weight) and the probability of overfishing associated with the acceptable biological catch (ABC) for the stock, the number of fishing years for which the ABC specification applies and, if possible, interim metrics that can be examined to determine if multi-year specifications need reconsideration prior to their expiration:

The SSC recommends an **ABC = 9,772 mt** (21.5 million lbs) for the 2015 fishing year, based on the control rule for Level 3 assessments. The SSC used an assumed CV of the OFL with a lognormal distribution of 100%, noting that the ratio of B/B_{MSY}, based on mid-year estimates from 2014, is 0.751, and that Bluefish exhibits a typical life history. The SSC applied the Council's policy of P* = 0.289. The projection is 62.9% of the catch at OFL. Since a benchmark assessment of Bluefish is scheduled for 2015, the SSC does not recommend ABCs for fishing years beyond 2015.

5) The most significant sources of scientific uncertainty associated with determination of OFL and ABC:

- The value of B_{MSY} has been fixed, based on the 2005 Assessment, and has not been changed since then – in contrast, the OFL has been updated annually. This increases uncertainty in the ABC.
- Delay in the timing of the NEFSC fall survey in 2013 by three weeks resulted in an estimated CPUE that was a time series low. This low CPUE may reflect the change in the survey timing and not Bluefish stock abundance *per se.*
- There is a significant amount of missing data involved in constructing the age-length keys (ALKs), which are critical for development of the catch-at-age matrix.
- Concern exists about the application of aggregate trawl calibration coefficients (ALBATROSS IV vs BIGELOW), and their influence on the selectivity pattern and results of the assessment. Also, some near shore areas previously sampled by the ALBATROSS IV are unavailable for sampling by the BIGELOW;
- Commercial discards are assumed to be insignificant, which may not be the case.
- Approximately two-thirds of the population biomass is in the aggregated 6+ age group for which there is relatively little information.

- Questions have been raised about the uncertainty in the historical MRFSS/MRIP estimates in general, and are particularly relevant here given the highly episodic nature of Bluefish catches in the recreational fisheries coast wide.
- The basis for the unusual bimodal selectivity curve used in the ASAP model is not well understood.

6) Ecosystem considerations accounted for in the stock assessment, and any additional ecosystem considerations that the SSC took into account in selecting the ABC, including the basis for those additional considerations:

No additional information pertinent to ecosystem considerations was explicitly included in selecting the ABC.

7) Prioritized research or monitoring recommendations that would reduce the scientific uncertainty in the ABC recommendation and/or improve the assessment level:

- Evaluate the amount and length frequencies of discards from the commercial and recreational fisheries.
- Explore implications of alternative approaches to expand the age-length information in the assessment.
- Low frequency environmental variability may have caused changes in the timing of the movement of juvenile Bluefish through the region that, in turn, may have affected availability. Changes in the selectivity of age-0 Bluefish in the survey relative to temperature and date should be examined.
- Initiate fishery-dependent and fishery-independent sampling of offshore populations of Bluefish during the winter months (consider migration, seasonal fisheries, and unique selectivity patterns resulting in the bimodal partial recruitment pattern, and if the migratory pattern results in several recruitment events).
- Collect data on size and age composition in the fisheries by gear type and statistical area.
- Develop Bluefish index surveys (proof of concept), including abundance/biomass trend estimates for the offshore populations in winter.

8) A certification that the recommendations provided by the SSC represent the best scientific information available.

To the best of the SSC's knowledge, these recommendations are based on the best available scientific information.

Summer Flounder

The SSC reviewed the following information relevant to the status of Summer Flounder:

- MAFMC Staff. 2014. Summer Flounder Advisory Panel information document. Mid-Atlantic Fishery Management Council. 15 pp.

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Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: July 17, 2014

TO: Chris Moore, Executive Director

FROM: Jim Armstrong, Staff Lead, Bluefish FMP

SUBJECT: Bluefish ABC and Management Measures for 2015

Executive Summary

The 2014 bluefish assessment update indicates that the bluefish stock is not overfished and overfishing is not occurring. The estimate of stock biomass (123,716 mt) for 2013 is 84.1 % of B_{MSY} (147,052 mt) and realized F for 2013 (0.118) is below F_{MSY} (0.19). Staff has identified acceptable biological catch (ABC) = 9,772 mt for 2015, consistent with Council risk policy for a tier 3 assessment and a species with a typical life history, a B/B_{MSY} ratio of 0.7506, and OFL = 15,522 mt. According to the FMP, ACL is set equal to ABC. It is recommended that the commercial and recreational Annual Catch Targets (ACTs) sum to ACL and ABC (no buffer for management uncertainty). After adjusting the ACTs for discards (1,520 mt), the commercial and recreational total allowable landings (TALs) sum to (8,252 mt). The maximum allowable transfer of landings to the commercial fishery would result in a recreational harvest limit (RHL) of 6,113 mt and a commercial quota of 2,139 mt before adjusting for RSA. Staff recommends that up to 3% of the TALs (248 mt) be made available to the Research Set-Aside (RSA) Program. Staff also recommends reducing the current recreational bag limit to 10 fish.

Introduction

Specification of bluefish management measures is a joint process conducted annually by the Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission's Bluefish Management Board (Board) with information and recommendations coming from their associated committees. The Commission's Bluefish Stock Assessment Sub-Committee (SASC) updates the bluefish assessment and conducts short term projections. The Council's Scientific and Statistical Committee (SSC) reviews assessment results and determines the acceptable biological catch (ABC) for the upcoming year. ABC is a reduction from the overfishing limit (OFL) based on the SSC's consideration of scientific uncertainty and serves as an upper limit on the catch target that management measures attempt to achieve. The Council's Bluefish Monitoring Committee (MC) develops and recommends specific coastwide (Maine – E. Coast Florida) management measures and allocations that will achieve target catch and make further adjustments to total catch as needed based on management uncertainty. Finally, the Council and Board meet jointly to develop recommendations to be submitted to the National Marine Fisheries Service.

In this memorandum, information is presented to assist the SSC and MC in their roles in the specification process. Assessment update results are presented briefly, and a more detailed summary prepared by the SASC is distributed under separate cover.

Catch and Landings

As shown in Figure 1, from the early 1980s to the early 1990s, recreational landings estimates declined dramatically (avg. 1981-1983 = 40,433 mt; avg. 1991-1993 = 11,727 mt). Recreational landings estimates continued to decline at a somewhat slower rate until reaching a low of 3,744 mt in 1999. A rebuilding plan was implemented in 2000 and the stock was declared rebuilt in 2009. Since 2000, recreational landings estimates grew to a peak of 9,608 mt in 2007, and then declined to an all-time low of 4,846 mt in 2012. In 2013, recreational landings increased to 6,980 mt. Estimated recreational discards increased from less than 10% of the rec catch in the 1980s to an average of 22% of the rec catch in the 2000s. Commercial landings have declined at a slower rate over the landings history, from around 7,000 mt in the early 1980s to around 3,000 mt in the 2000s. The 2013 commercial landings at 1,961 mt is the lowest on record. Commercial discards are treated as insignificant and are not estimated in the current assessment.

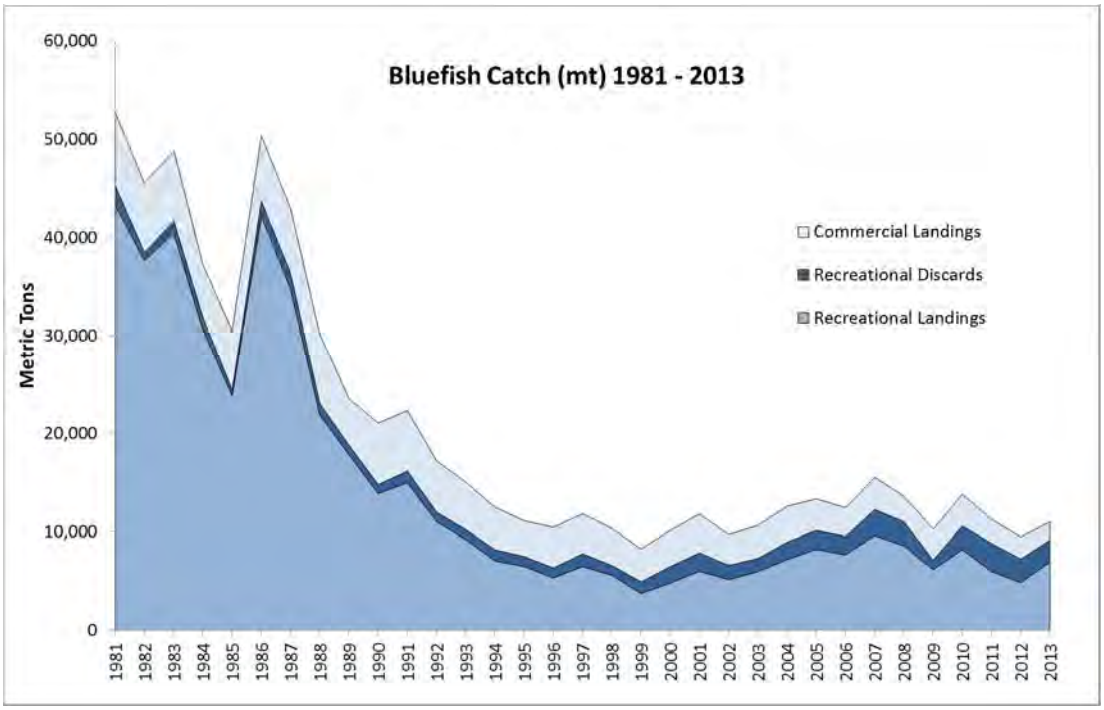

Figure 1. Time series of bluefish recreational and commercial landings and discards (Data Source: 2014 Assessment Update).

Regulatory Review (Current Management Measures)

For the current 2014 fishing year, bluefish ABC (12,461 mt) was based on P* = 0.341 which was calculated using OFL_{2014} = 16,506 mt, B_{2013}/B_{MSY} =0.8113, CV for OFL = 100%, and life history = "typical".

Specific sources of uncertainty in the assessment that have been noted by the SSC include:

- Missing data in the age-length keys (ALKs)
- Calibration of Albatross vs. Bigelow trawl catches
- Previously sampled near shore areas unavailable to the BIGELOW.

- Commercial discards assumed insignificant
- Significant population biomass (~40%) aggregated in the 6+ age group
- Uncertainty in the MRFSS estimates, in general

According to the FMP, ACL is set equivalent to ABC and, given the historic underharvest of landings allowances by the fishery the Monitoring Committee concluded that no deduction to accommodate management uncertainty was needed, so ABC = ACL = ACT. Specifically, the recreational ACT (83%) is 9,198 mt and the commercial ACT (17%) is 1,884 mt. Estimated discards for the 2014 fishery are the average observed discards for the past three years and were 1,520 mt for the recreational fishery and zero for the commercial fishery. The resulting recreational TAL for 2014 is 7,678 mt and the commercial TAL is 1,884 mt. The FMP stipulates that if 17% of the TAL is less than 4,763 mt (10.5 M lb), then a transfer of landings could be made to increase the commercial quota to a limit of 4,763 mt as long as the combined commercial and recreational landings would not exceed the TAL.

In the specification of management measures for 2014, an estimate of recreational harvest for 2014 (5,978 mt) was reported. Accordingly, a transfer of 1,515 mt to the commercial fishery was made resulting in an initial commercial quota of 3,399 mt and an initial RHL of 6,163 mt. An adjustment for research set aside resulted in a final commercial quota of 3,297 mt and a final RHL of 5,978 mt.

Biological Reference Points

Bluefish biological reference points were established in the most recent benchmark assessment (41st SARC; NEFSC 2005). The reference points are based on output from the ASAP model, a forward projecting statistical catch-at-age model that is used to estimate current and historic population size and fishing mortality (Legault and Restrepo 1998).

Overfishing is defined as occurring above F_{MSY} is 0.19, which was determined internally to the ASAP model. Overfishing is prevented by setting management measures based on ABC which is calculated using the Council's risk policy for a Tier 3 assessment (P* method).

The estimate of B_{MSY} is 147,051 mt, and the level at which the stock is determined to be overfished (½ B_{MSY}) is 73,525.5 mt. B_{MSY} was estimated in the 2005 assessment using SSB and recruit estimates from ASAP, fit externally to a Beverton-Holt stock-recruit model and subsequently using Thompson-Bell Yield and SSB/R.

Stock Status and Projections

The current update uses MRIP instead of MRFSS data as recreational inputs for 2004 forward. The effect is that of minor shifts, but no significant change in recreational estimates.

The ASAP estimate of fishing mortality for 2013 is 0.118, below the F threshold (F_{MSY} = 0.19). This outcome supports the statement that for 2012 *overfishing was not occurring*. Model estimates of annual F have been below threshold levels since 1995 (see Figure 2), consistent with catches that support growth in population biomass.

Within the past 20 years, estimated population abundance peaked in 2006 at 90.369 million fish, but has declined since to 59.543 million fish in 2013 (Table 9 in the Assessment Update). The current low is due largely to model estimates of weak year class strength rather than high fishing mortality. The 2012 year class is the lowest in the time series. Retrospective analysis of recruitment estimates showed underestimation of terminal year classes in the previous assessment update, but in the current update, the

retrospective pattern is less evident (Figure 10 in the Assessment Update). Recreational catches of age zero fish have been lower in recent years (about 3% of the rec catch in 2009-2011) than the long term average (around 18% in 1982-2008).

The time series of estimated stock biomass has increased by about 158% since 1996 (See Figure 3 below and Table 10 in the Assessment Update). The estimate of total biomass for 2013 is 123,716 mt which is 84% of B_{MSY} (147,052 mt) and 168% of the ½ B_{MSY} threshold (73,526). As such, *the stock is not overfished*.

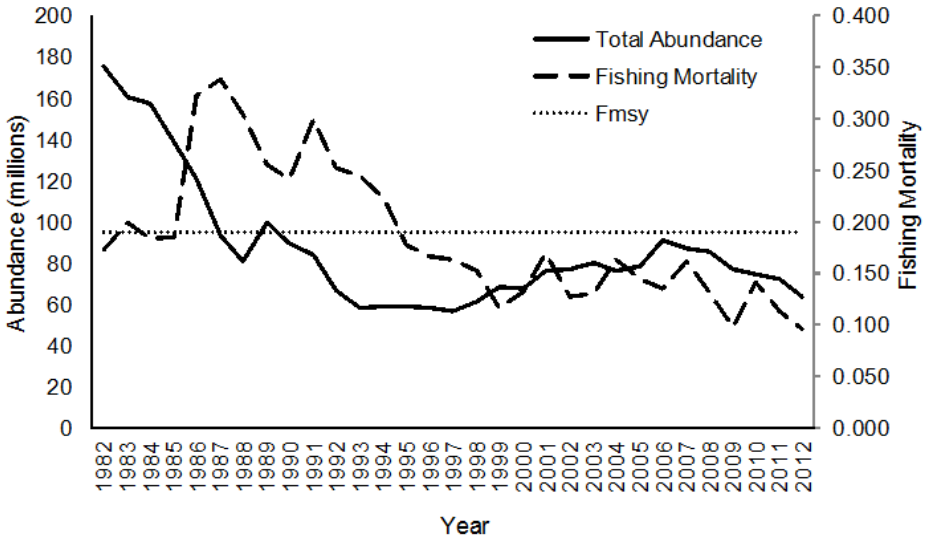

Figure 2. Total bluefish abundance and fishing mortality as estimated in ASAP model. FMSY is indicated by the solid horizontal line. (Source: 2014 Assessment Update)

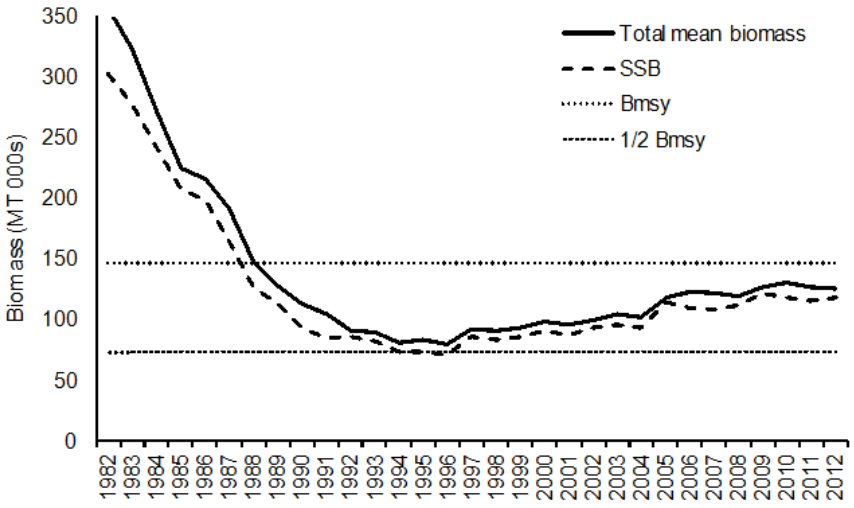

Figure 3. Time series of bluefish total mean biomass (000s mt) and spawning stock biomass (000s mt) relative to Bmsy target and threshold. (Source: 2014 Assessment Update)

ABC Recommendation

Since the implementation of the Omnibus ACL/AM Amendment (Bluefish Amendment 3) in 2012, ABC for bluefish has been calculated using the Council's Risk Policy for a tier-3 assessment and a species with a typical life history. Consistent with that approach, the needed inputs include OFL (projected catch at F_{MSY}) and $B_{CURRENT}/B_{MSY}$. For 2015, OFL is projected to be 15,520 mt and B_{2014}/B_{MSY} is 0.7506 which results in ABC = 9,772 mt. This corresponds to an estimated probability of overfishing (P*) = 0.289 and ABC = 62.95% of OFL.

It may be noted that if the above ABC is adopted it continues a decline in ABC of approximately 12% annually (33% total) since the 2012 specification year even though catches have not achieved specified limits and biomass appears to be stable (i.e., Figure 3). The driver for the annual declines in ABC is serial reductions in terminal year estimates of biomass (retrospective pattern) which has resulted in declining B/B_{MSY}. Figure 4 provides the biomass time series for the last four assessment updates.

Table 1. Changes in OFL, ABC, B/B_{MSY} for 2012-2015 specification years. (Metric Tons)

Specif. Year	OFL	ABC	Change	Mean Biomass		$B_{Proj}/Bmsy$
				Term Year	Proj Year	
2012	18,572	14,535		145,455	141,833	96.50%
2013	17,521	12,461	-14.3%	132,890	127,577	86.80%
2014	16,506	11,082	-11.1%	125,808	119,311	81.10%
2015	15,522	9,772	-11.8%	123,716	110,378	75.10%

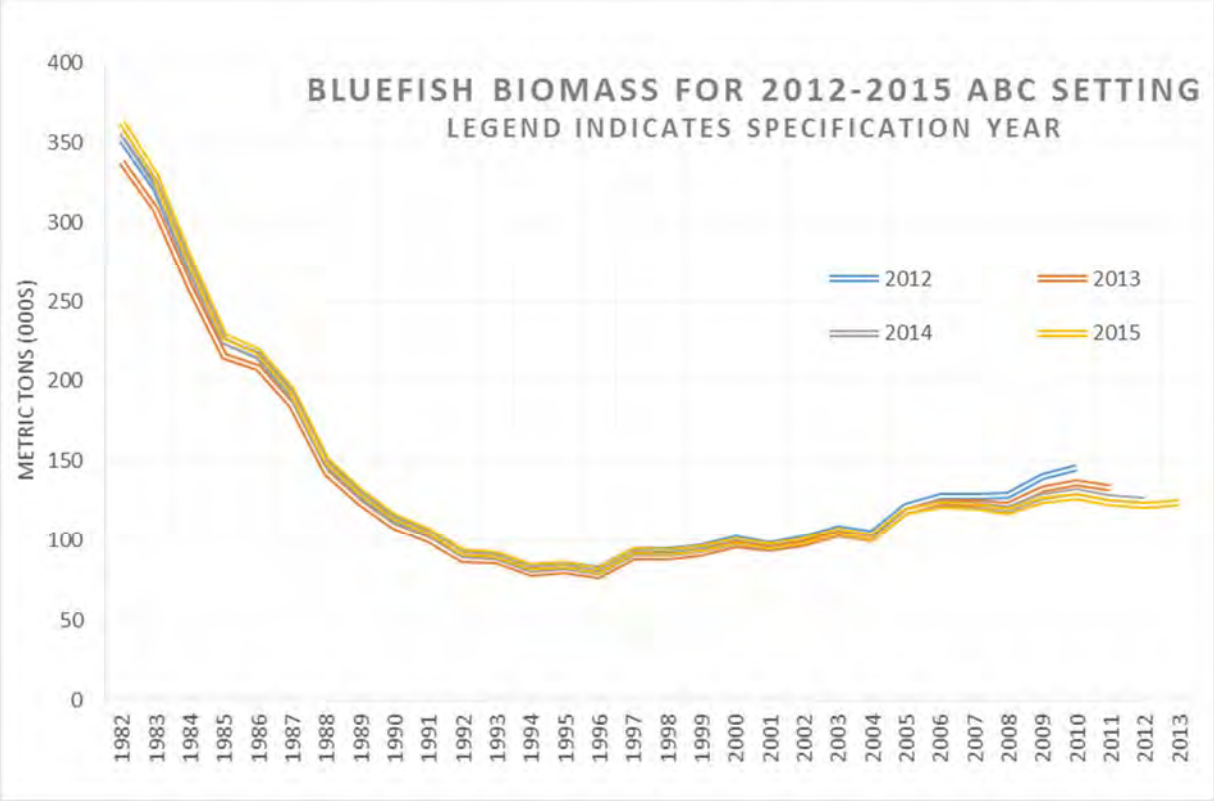

Figure 4. Time series of bluefish total biomass (000s mt) from the assessment updates used for the 2012-2015 specification years. (Source: 2011-2014 Assessment Updates)

Other Management Measures

Derivation of the management measures discussed in this section is provided in Table1.

Annual Catch Limit

Under the Omnibus Amendment, an annual catch limit (ACL) is set equal to ABC. Accordingly, the recommended ACL for bluefish for 2015 is 9,772 mt.

Table 2. Bluefish management measures for 2015 based on ABC = 9,772 mt.

2014 Management Measure	Basis	mt	M lb
OFL		15,520	34,215,743
ABC	Constant F (0.132)	9,772	21,543,572
ACL	= ABC	9,772	21,543,572
Mgmt Uncertainty	per MC	0	0
Comm Discards	from assessment	0	0
Rec Discards	Three Year Average	1,520	3,351,026
Comm ACT	(ACL - Mgmt Uncert) * 17%	1,661	3,662,407
Rec ACT	(ACL - Mgmt Uncert) * 83%	8,111	17,881,165
Comm TAL	Comm ACT - Disc	1,661	3,662,407
Rec TAL	Rec ACT - Disc	6,591	14,530,139
TAL (combined)	Comm + Rec TAL	8,252	18,192,546
Expected Recreational Landings	Three Year Average	5,930	13,073,412
Maximum Transfer	Calculated	477	1,052,394
pre-RSA Comm Quota	Comm TAL + transfer	2,139	4,714,802
pre-RSA RHL	Rec TAL - transfer	6,113	13,477,744
Comm RSA Deduction (3%)	3% of Comm Quota	64	141,444
Rec RSA Deduction (3%)	3% of RHL	183	404,332
Adjusted Comm Quota	Comm Quota - RSA	2,074	4,573,358
Adjusted RHL	RHL - RSA	5,930	13,073,412

ACT and TAL

The FMP prescribes an initial allocation of 17% of the ACL to the commercial ACT and 83% to the recreational ACT (Table 2) which is based on the historic proportion of commercial and recreational landings for the period 1981-1989. Prior to this initial split, however, a reduction from ACL can be made in order to accommodate management uncertainty. As an initial proposal and in order to avoid impinging further on the commercial fishery given the reductions in ABC (Tables 1 and 2), staff recommend no reduction from ACL for management uncertainty.

A reduction of the commercial and recreational ACTs to their respective TALs is mandatory and is calculated as ACT – discards for each fishery. No adjustment is made in calculating the commercial TAL since commercial discards are not currently estimated in the assessment and are assumed to be

negligible. The adjustment to the Rec ACT for discards accommodates the updated discard estimate of 1,520 mt (average of the last three years). The combined TAL is 8,252 mt; Table 2).

Quota Transfer and Initial RHL and Commercial Quota

The FMP stipulates that if 17% of the combined TAL is less than 10.5 M lb (4,763 mt) then the commercial quota could be increased to as much as 10.5 M lb as long as the recreational fishery is projected to land less than 83% of the TAL in the specification year. The recreational fishery is expected to land 5,930 mt (72% of the TAL) and as such a transfer of 477 mt to the commercial fishery is possible which results in an initial commercial quota of 2,139 mt and an initial recreational harvest limit of 6,113 mt (Table 2).

RSA deduction and Adjusted RHL and Commercial Quota

An adjustment allowing for research projects to utilize up to 3% of bluefish TAL may be specified for 2015. The reduction from the TALs (total = 247 mt) for RSA results in an adjusted commercial quota of 2,074 mt and an adjusted recreational harvest limit of 5,930 mt. Note the marked reduction in the commercial quota for 2015 compared to previous years (Table 3a and 3b). This quota is the maximum that can be achieved given continued reductions in B/BMSY.

Gear Regulations and Minimum Fish Size

There was unanimous support among Advisors who participated in the July 11, 2014 Bluefish Advisory Panel meeting for reduction of the current 15 fish recreational bag limit. Catch and landings frequencies (Figure 5) suggest minimal impact on anglers if the recreational bag limit were to be reduced to 10 fish and a reduced bag limit would be more in keeping with state-specified bag limits. Staff recommends a 10 fish recreational bag limit for 2015.

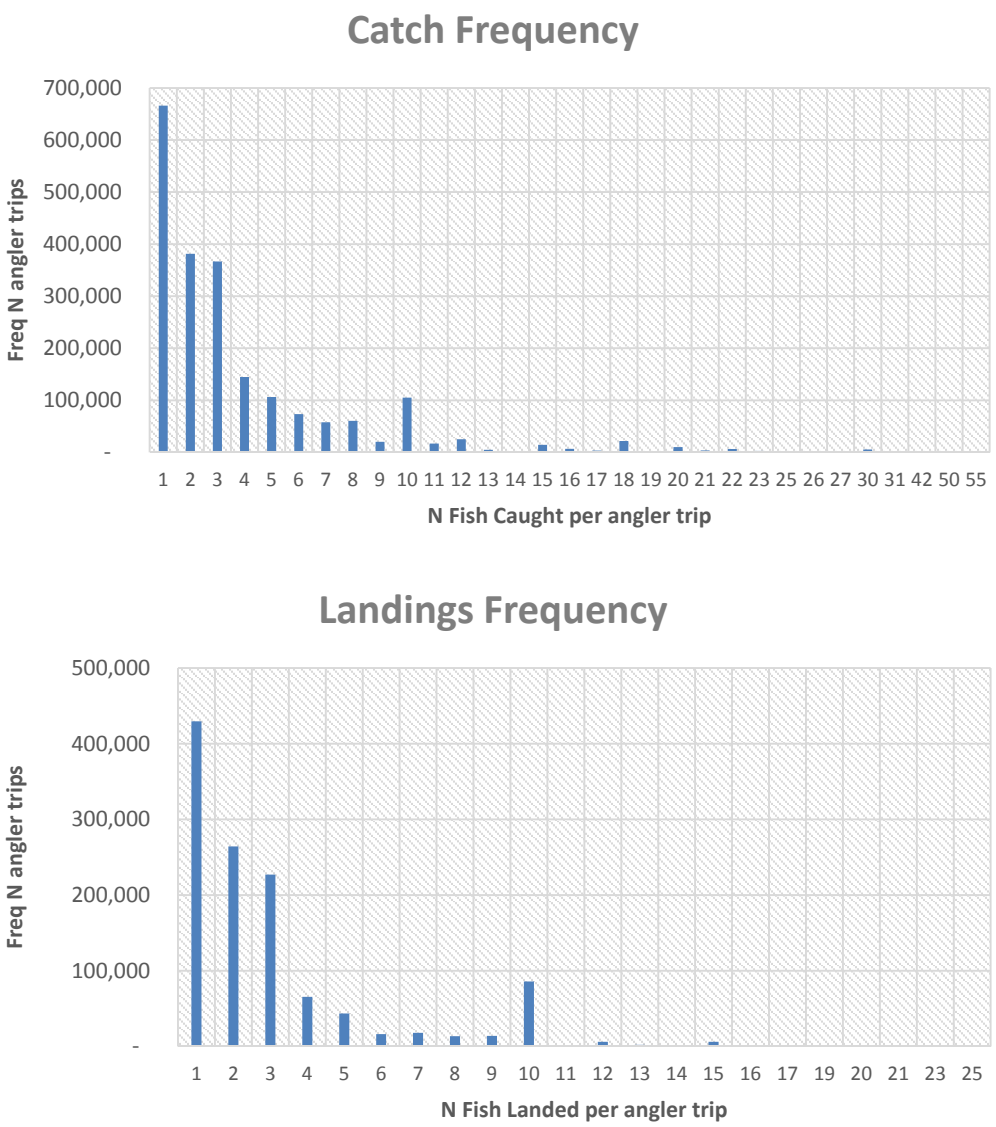

Figure 5. Catch (top) and landings (bottom) frequencies for recreationally caught bluefish in 2013. (Source: Scott Steinback NEFSC; MRIP)

Table 3a. Summary of bluefish management measures, 2000 – 2014 and proposed 2015. (Values are in mt)

Management Measures	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
TAC[1]/ **ABC**[2]	n/a	n/a	13,200	17,917	15,520	15,520	13,222	14,530	14,464	15,459	15,593	14,399	14,535	12,461	11,082	*9,772*
TAL [3]	16,025	17,164	12,186	16,916	14,447	13,995	11,248	12,593	12,771	13,316	13,274	12,380	12,822	10,823	9,562	*8,252*
Comm. Quota[4]	4,347	4,347	4,763	4,763	4,763	4,763	3,665	3,941	3,495	4,458	4,633	4,252	4,680	4,117	3,297	*2,074*
Comm. Landings	3,647	3,945	3,116	3,358	3,647	3,187	2,926	3,267	2,585	3,151	3,206	2,455	2,236	1,961	-	-
Rec. Harvest Limit[4]	11,678	12,818	7,423	12,153	9,684	9,232	7,583	8,651	9,276	8,858	8,451	8,080	7,918	6,382	5,978	*5,930*
Rec. Landings	4,811	6,001	5,158	5,958	7,179	8,225	7,663	9,608	8,573	6,161	8,184	5,965	4,846	6,980	-	
Rec. Possession Limit	10	15	15	15	15	15	15	15	15	15	15	15	15	15	15	*10*
Total Landings	8,458	9,946	8,274	9,316	10,826	11,412	10,589	12,874	11,158	9,312	11,390	8,420	7,082	8,941	-	-
Overage/Underage	-7,567	-7,218	-3,912	-7,600	-3,621	-2,583	-659	282	-1,613	-4,003	-1,884	-3,960	-5,739	-1,882	-	-
Total Catch	10,132	11,803	9,721	10,647	12,587	13,327	12,449	15,527	13,601	10,273	13,799	11,276	9,465	11,222	-	-
Overage/Underage			-3,478	-7,270	-2,933	-2,192	-773	997	-863	-5,186	-1,793	-3,123	-5,070	-1,239	-	-
ASAP F estimate	0.133	0.17	0.127	0.131	0.164	0.145	0.136	0.163	0.132	0.097	0.141	0.114	0.097	0.118	-	-

[1] through 2011
[2] 2012 fwd.
[3] not adjusted for RSA
[4] adjusted downward for RSA

Table 3b. Summary of bluefish management measures, 2000 – 2014 and proposed 2015. (Values are in M lb)

Management Measures	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
TAC[1]/ **ABC**[2]	n/a	n/a	29.1	39.5	34.215	34.215	29.15	32.033	31.887	34.081	34.376	31.744	**32.044**	**27.472**	**24.432**	***21.543***
TAL [3]	35.328	37.841	26.866	37.293	31.85	30.853	24.797	27.762	28.156	29.356	29.264	27.293	28.267	23.861	21.081	*18.193*
Comm. Quota[4]	9.583	9.583	10.5	10.5	10.5	10.5	8.081	8.689	7.705	9.828	10.213	9.375	10.317	9.076	7.269	*4.573*
Comm. Landings	8.041	8.688	6.863	7.401	7.994	7.045	6.955	7.499	5.968	6.99	7.069	5.082	4.93	4.114	-	-
Rec. Harvest Limit[4]	25.745	28.258	16.365	26.793	21.35	20.353	16.718	19.073	20.451	19.528	18.631	17.813	17.457	14.069	13.179	*13.073*
Rec. Landings	10.606	13.23	11.371	13.136	15.203	16.162	16.894	21.163	18.9	13.583	18.042	11.499	10.684	15.281	-	
Rec. Possession Limit	10	15	15	15	15	15	15	15	15	15	15	15	15	15	15	*10*
Total Landings	18.647	21.918	18.234	20.537	23.197	23.207	23.849	28.662	24.868	20.573	25.111	16.581	15.614	19.395	-	-
Overage/Underage	-16.681	-15.923	-8.632	-16.756	-8.653	-7.646	-0.948	0.9	-3.288	-8.826	-4.153	-10.712	-12.653	-4.466	-	-
Total Catch	22.338	26.022	21.432	23.473	27.749	29.382	27.445	34.232	29.985	22.647	30.422	24.859	20.868	24.74	-	-
Overage/Underage			-7.668	-16.027	-6.466	-4.833	-1.705	2.199	-1.902	-11.434	-3.954	-6.885	-11.176	-2.732	-	-
ASAP F estimate	0.133	0.170	0.127	0.131	0.164	0.145	0.136	0.163	0.132	0.097	0.141	0.114	0.097	0.118	-	-

[1] through 2011
[2] 2012 fwd.
[3] not adjusted for RSA
[4] adjusted downward for RSA

2014 MAFMC Bluefish

Fishery Performance Report

The Mid-Atlantic Council's Bluefish Advisory Panel (AP) met from 9:00 AM – 10:20 AM July 11, 2014 via webinar to develop a Fishery Performance Report (FPR) for consideration during the upcoming bluefish specification cycle. After the meeting, the AP reviewed and approved the summary below as the FPR.

Attendance

MAFMC Bluefish Advisers: Fred Akers (NJ recreational), Noel Angelucci (NJ recreational), Paul Eidman (NJ recreational charter), Arnold Leo (NY commercial), Patrick Paquette (MA recreational charter) Kevin Wark (NJ commercial).
ASMFC Bluefish Advisors: George Geiger (FL recreational) and Don Swanson (NH recreational).
MAFMC SSC members: John Boreman (Chair), Brian Rothschild, Cynthia Jones, Doug Vaughan, Mike Frisk, Sunny Jardine.
Staff and Other Participants: Jim Armstrong (MAFMC staff), Kirby Rootes-Murdy (ASMFC staff), Greg DiDomenico (Garden State Seafood Association)

Because of the localized nature of AP members' observations, remarks under each heading are attributed to the states represented on the AP. Additionally, the remarks are not necessarily confined to the subject heading, but rather, reflect the affiliation of the AP members who made them. A general trend from the discussion was an increase in the abundance of bluefish in the northern part of the range and a reduction in abundance in the southern part of the range.

Recreational Fishery Issues

NH – Bluefish are being targeted much more heavily. This is likely a consequence of the reduced abundance of groundfish.
MA – Availability to the recreational fishery appeared to be down at the start of the year in 2013 but as time went on, it turned out that the fish were being encountered in different than usual places and under different patterns. The abundance was high and a very broad range of sizes was caught including very large fish.
NY – Currently bluefish appear to be very abundant across all sizes. "You can walk on them from Montauk to Riverhead". A lot of 4-5 inch school snappers have been observed in the estuaries.
NJ – Bluefish are becoming a primary target for recreational fishermen. They are currently (2014) replacing striped bass on party boats. Many large fish have been encountered on party boats. Nearshore and in the bays, the fish are mostly small. The number of schools does

appear to be reduced compared to previous years. They have been reported to be consuming grass shrimp instead of the usual finfish.
FL – Extreme cold water events occurred in 2009 and 2010 and virtually everything is reduced, presumably through the cascading effect on seagrass beds, forage fish and bluefish. Large schools of bluefish do occur, but the number of schools is much less along the coast. The fish are generally smaller, although a brief period occurred this year with large (15lb) fish being available. High levels of mercury have been reported in fish from the lagoon and in people eating fish from the lagoon.

Market / Economic Issues

MA – The price for hook caught fish was very much improved in 2013 compared to previous years ($1.00/lb compared to $0.50/lb).
NY – Prices are very low, the worst people have seen in a very long time ($0.10/lb) which is attributed to the very high abundance locally.
NJ – There are reports of large schools but they appear to be a fairly rare event making it difficult to rationalize pursuing them given the offsetting costs associated with a trip. They used to be fairly dependable to the east of Barnegat, and less so to the south around Cape May. Currently, the fish are concentrated more to the east and offshore. When you get a large catch, the payoff can be good, but a lot depends on the market which is unpredictable due to highly variable demand. In the past the fish have come in in two pulses, but the second pulse of summer fish appears to be staying offshore and going north. Barnegat Light has become what Cape May used to be like in terms of availability of bluefish.

Environmental Issues

MA – The distribution of forage may have shifted and pulled bluefish into areas where they are not typically caught.
NJ – Currently, water temperatures are a lot lower than normal offshore, but not in the bays. One commercial advisor observed that there are a lot of forage fish – menhaden and sand eels
FL – The low abundance of bluefish and many other fish is likely related to severe cold water events in 2009 and 2010.

Management Issues

NJ – High discard rates for bluefish are the norm.

ALL – The current 15 fish bag limit was considered to be excessive by all of the recreational advisors on the call.

Bluefish AP Information Document - July 2014

The information in this document provides a brief overview of the management system, biology, stock conditions, and fishery performance for the Atlantic Bluefish fishery with an emphasis on the most recent complete fishing year (2013). Please review this information in preparation for the upcoming Advisory Panel meeting and in the context of your experience with the fishery.

Management System

The Bluefish Fishery Management Plan was implemented in 1990 and established the Mid-Atlantic Fishery Management Council's management authority over the fishery in federal waters. Amendment 1, implemented in 2000, addressed stock rebuilding and created the Bluefish Monitoring Committee which meets annually make management measure recommendations to the Council. Amendment 3 (effective 1/1/2012) incorporated the development of annual catch limits (ACLs) and accountability measures (AMs) into the specification process, and Amendment 4 (effective 1/21/2014) modified recreational accountability measures to accommodate uncertainty in recreational management and catch estimation.

Specifying bluefish management measures is a joint process conducted by the Council and the Atlantic States Marine Fisheries Commission's Bluefish Management Board. The Council's Scientific and Statistical Committee (SSC) reviews assessment results and the Advisory Panel's fishery performance report, and determines the allowable biological catch (ABC) for the upcoming year. The Council's Bluefish Monitoring Committee develops and recommends specific coastwide management measures (commercial quota, recreational harvest limit) that will achieve the catch target and makes further adjustments to total catch as needed based on management uncertainty. Finally, the Council and Board meet jointly to develop recommendations to be submitted to the National Marine Fisheries Service. Table 1 below illustrates how the management measures for 2014 were calculated.

Table 1. Bluefish management measures for 2014.

2014 Management Measure	Lbs	Basis
Overfishing Limit (OFL)	36,389,501	Determined by SSC
Acceptable Biological Catch (ABC)	24,431,628	Determined by SSC
Annual Catch Limit (ACL)	24,431,628	Defined in FMP as equal to ABC
Management Uncertainty	0	Determined by Monitoring Committee
Commercial Discards	0	Value used in assessment
Recreational Discards	3,351,026	2010-2012 average from MRIP
Annual Catch Target (ACT)	24,431,628	ACL - Mgmt Uncertainty
Commercial ACT	4,153,377	17% of ACT
Recreational ACT	20,278,251	83% of ACT
Commercial Total Allowable Landings (Comm TAL)	4,153,377	Comm ACT – Comm Discards
Recreational Total Allowable Landings (Rec TAL)	16,927,225	Rec ACT – Rec Discards
TAL (combined)	21,080,602	Comm TAL + Rec TAL
Expected Recreational Landings	13,179,234	2010-2012 average from MRIP
Maximum Transfer	3,340,386	Calculated so that the Adjusted RHL will equal expected Rec Landings
Initial (pre-Research Set Aside) Comm Quota	7,493,762	Comm TAL + transfer
Initial (pre-Research Set Aside) Rec Harvest Limit	13,586,839	Rec TAL - transfer
Commercial Research Set Aside Deduction (3%)	224,813	3% of Comm Quota
Recreational Research Set Aside Deduction (3%)	407,605	3% of RHL
Adjusted Commercial Quota	7,268,949	Comm Quota - RSA
Adjusted RHL	13,179,234	RHL - RSA

Bluefish Biology

Bluefish, *Pomatomus saltatrix*, are found worldwide in tropical and subtropical waters, but in the western North Atlantic range from Nova Scotia and Bermuda to Argentina. Bluefish travel in schools of like-sized individuals and undertake seasonal migrations, moving into the Middle Atlantic Bight (MAB) during spring and then south or farther offshore during fall. Within the MAB they occur in large bays and estuaries as well as across the entire continental shelf. Juvenile stages have been recorded in all estuaries within the MAB, but eggs and larvae occur in oceanic waters (Able and Fahay 1998). Growth rates are fast and they may reach a length of 3.5 ft and a weight of 27 lbs (Bigelow and Schroeder 1953). Bluefish live to age 12 and greater (Salerno et al. 2001).

Bluefish eat a wide variety of prey items. The species has been described by Bigelow and Schroeder (1953) as “perhaps the most ferocious and bloodthirsty fish in the sea, leaving in its wake a trail of dead and mangled mackerel, menhaden, herring, alewives, and other species on which it preys."

Bluefish born in a given year (young of the year) typically fall into two distinct size classes suggesting that there are two spawning events along the east coast. Studies suggest, however, that spawning is a single, continuous event, but that young are lost from the middle portion resulting in the appearance of a split season (Smith et al. 1994). As a result of the bimodal size

distribution, young are referred to as spring-spawned or summer-spawned. In the MAB, spring-spawned bluefish appear to be the dominant component of the stock.

Status of the Stock

Bluefish stock status and biological reference points are based on the maximum sustainable yield (MSY) concept and are determined from a stock assessment model called ASAP that was accepted by scientific peer-review in 2005. Overfishing is defined as occurring when the fishing mortality rate (F) is above its threshold level (defined as F_{MSY} = 0.19). The target stock size in weight (biomass or B), and B_{MSY} is currently estimated to be 324 M lb. The level below which the stock is defined as being overfished is ½ B_{MSY} which is 162 M lb.

The bluefish stock assessment is updated annually and is in the process of being updated for the 2013 fishing year, so assessment results as of this writing are from the 2012 fishing year. For 2012, the estimate of fishing mortality (F_{2012} = 0.10) was below the overfishing level (F_{MSY} = 0.19), so overfishing was not occurring. Model estimates of fishing mortality have been below the F_{MSY} threshold since 1995 (dashed line in Figure 1), consistent with catches that support growth in population biomass.

Apparent Declines in Abundance

Declines in model estimates of abundance (solid line in Figure 1) since around 2006 appear to be driven by weak year classes estimated by the model for that timeframe. A retrospective pattern is evident for model estimates of recruitment through 2012, meaning that the model had a tendency to underestimate the number of fish born in the most recent years, and model estimates of year class size increased as the model was updated over time. It is unknown whether that pattern will continue until the updated assessment is available.

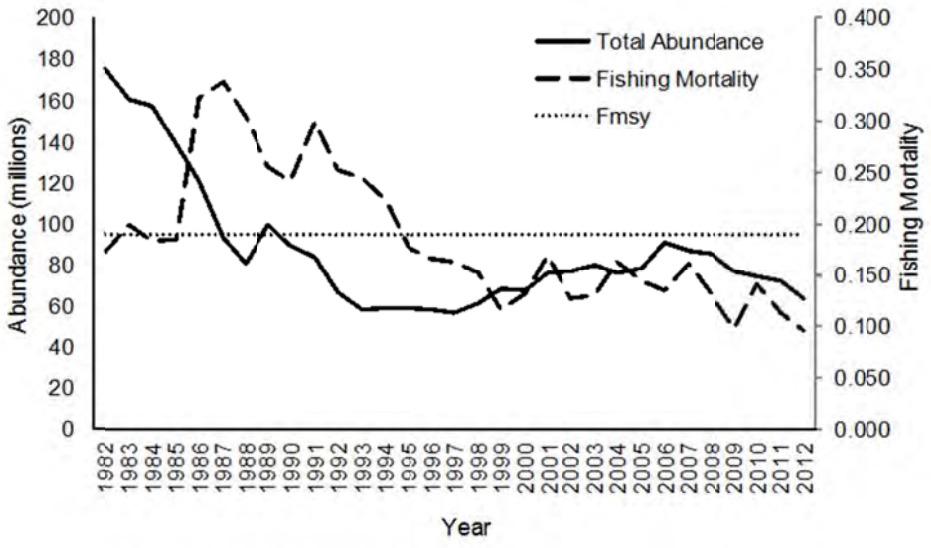

Figure 1. Total bluefish abundance and fishing mortality as estimated in ASAP model in 2012. F_{MSY} is indicated by the solid horizontal line. (Source: 2012 Assessment Update)

The time series of estimated total stock biomass and spawning stock biomass have both generally increased since a low in the nid-1990s (Figure 2). The estimate of total biomass for 2012 is below B_{MSY} but above the ½ B_{MSY} threshold. This supports the statement that for 2012 the stock was not overfished. A rebuilding plan was implemented in 2000 when the assessment model at the time indicated that biomass was below ½ B_{MSY}. Note that the current assessment shows that the biomass of bluefish never dropped below the ½ B_{MSY} threshold, although it was very close in the mid-1990s. Additionally, according to the model, biomass has not been above the B_{MSY} target since the late 1980s. A benchmark assessment, that is a complete re-examination of the appropriate population model and its configuration, will be done in 2015 and may result in a different interpretation of population trends.

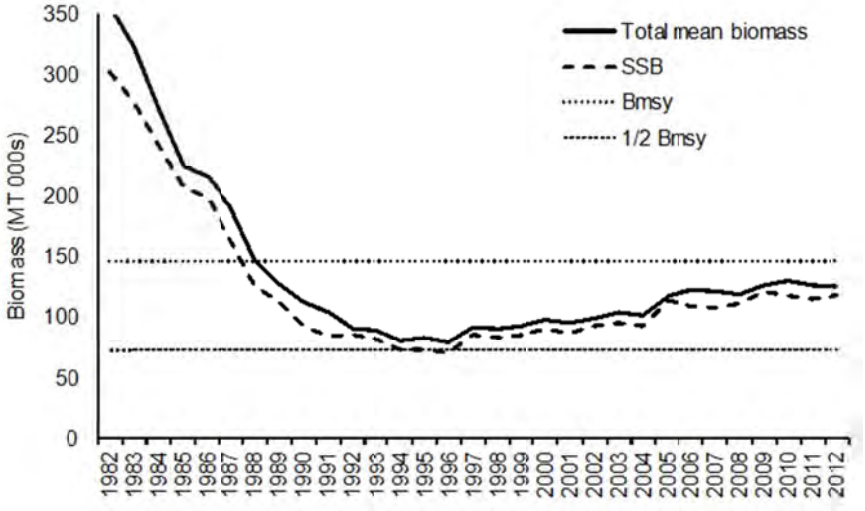

Figure 2. Time series of bluefish total mean biomass (000s mt) and spawning stock biomass (000s mt) relative to Bmsy target and threshold. (Source: 2012 Assessment Update)

Fishery Performance Relative to Management Measures

The performance of the fishery, that is, the recreational and commercial catches relative to specified management measures, is provided in Table 2. Except for 2007, the bluefish fishery has never exceeded the TAL. In 2007, the recreational fishery exceeded the recreational harvest limit by about 2 M lb, and although the commercial fishery underperformed by 1.1 M lb, the combined catches were above the specified TAL. In 2013, the combined fisheries under-harvested the combined bluefish TAL even though the recreational fishery exceeded the RHL. The recreational fishery landed 15.281 M lb compared to the 14.069 M lb RHL (a 1.2 M lb overage), and the commercial fishery landed 4.114 M lb compared to a quota of 9.076 M lb (a 5 M lb underage). Commercial fishery landings in 2014 are on the same track as in 2013 (Figure 3). Only preliminary Wave 1 (Jan-Feb) recreational landings for 2014 are available at this time.

Table 2. Summary of bluefish management measures, 2000 - 2014.

Management Measures	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
TAL (M lb)*	35.328	37.841	26.866	37.293	31.85	30.853	24.797	27.762	28.156	29.356	29.264	27.293	28.267	23.861	21.081
Comm. Quota (M lb)†	9.583	9.583	10.5	10.5	10.5	10.5	8.081	8.689	7.705	9.828	10.213	9.375	10.317	9.076	7.269
Comm. Landings (M lb)	8.041	8.688	6.863	7.401	7.994	7.045	6.955	7.499	5.968	6.99	7.069	5.082	4.93	4.114	
Rec. Harvest Limit†	25.745	28.258	16.365	26.793	21.35	20.353	16.718	19.073	20.451	19.528	18.631	17.813	17.457	14.069	13.179
Rec. Landings (M lb)	10.606	13.23	11.371	13.136	15.203	16.162	16.894	21.163	18.9	13.583	18.042	11.499	10.684	15.281	
Rec. Possession Limit	10	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Total Landings	18.647	21.918	18.234	20.537	23.197	23.207	23.849	28.662	24.868	20.573	25.111	16.581	15.614	19.395	N/A
Overage/Underage (M lb)	-16.681	-15.923	-8.632	-16.756	-8.653	-7.646	-0.948	0.9	-3.288	-8.826	-4.153	-10.712	-12.653	-4.466	N/A
Target F	N/A	N/A	N/A	N/A	N/A	0.15	0.15	0.15	0.15	0.15	0.15	0.15	N/A	0.132	0.132
ASAP F estimate	0.13	0.15	0.13	0.14	0.15	0.15	0.14	0.16	0.12	0.10	0.14	0.11	0.10	-	-

*Includes RSA
† RSA deducted

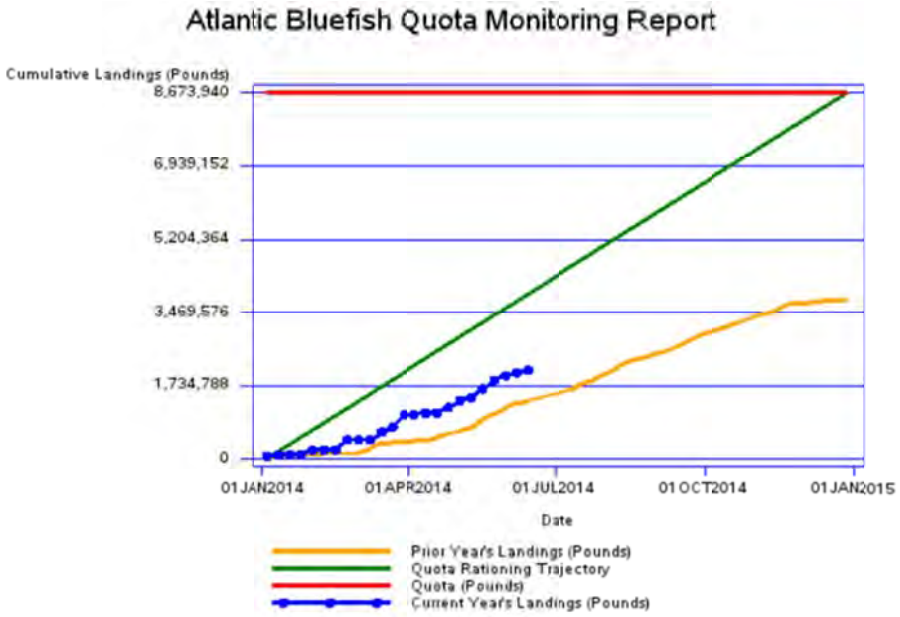

Figure 3. Comparison of 2013(yellow line) and 2014 (blue line) commercial landings from the NMFS quota monitoring website: http://www.nero.noaa.gov/ro/fso/reports/reports_frame.htm

Landings History

Given the predominance of the recreational component of the bluefish fishery, the history of bluefish catches begins with the implementation of data collection via the Marine Recreational Fisheries Statistic Survey (MRFSS) in 1981 (Figure 4). From the early 1980s to the early 1990s, recreational landings declined by factor of about 70% (avg. 1981-1983 = 89.140 M lb; avg. 1991-1993 = 25.824 M lb). Recreational landings continued to decline at a somewhat slower rate until reaching their lowest level at 8.254 M lb in 1999, but since have grown to a peak of 21 M lb in 2007. There has been an overall decline of about 10 M lb in recreational landings since 2007 to roughly 11-12 M lb in 2011 and 2012. According to MRIP, recreational landings increased to a little over 15 M lb in 2013 even though total catch in numbers was stable. Recreational discards have increased from less than 10% of the catch in the 1980s to more than 20% of the catch in the early 2000s.

Commercial landings have been relatively stable throughout the landings history (Figure 4). Commercial discards are treated as insignificant and are not estimated in the current assessment.

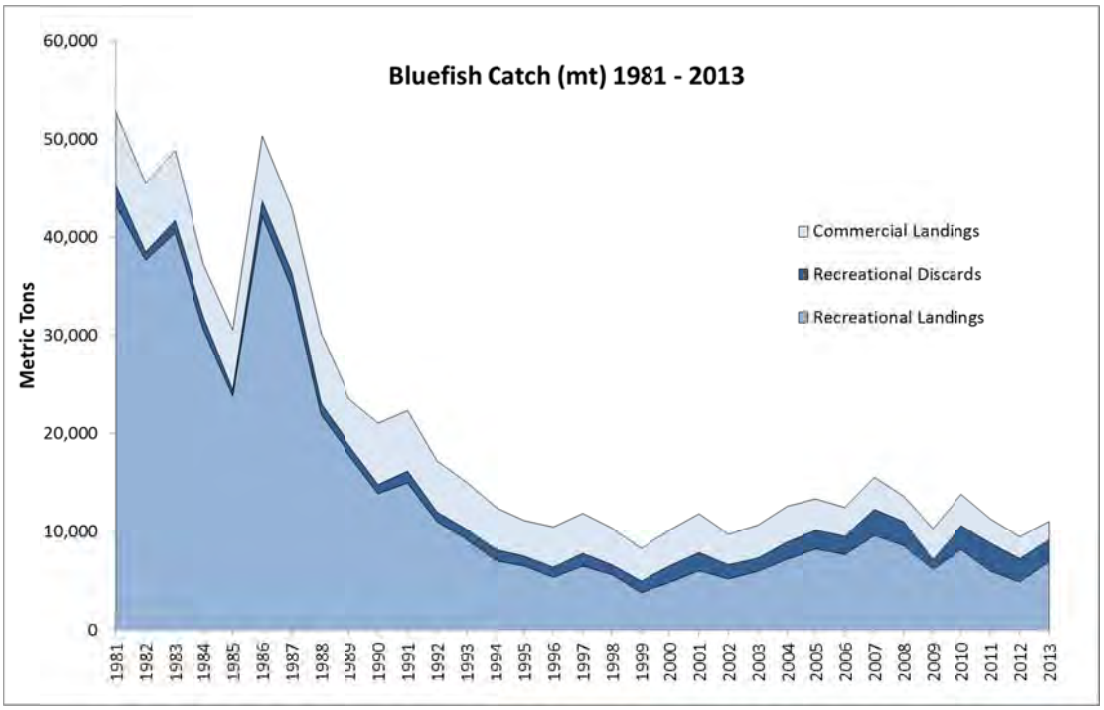

Figure 4. Time series of bluefish recreational and commercial landings and discards (Source: 2013 Assessment Update and current MRIP data).

Recreational Fishery

Trends in recreational trips associated with targeting or harvesting bluefish from 1991 to 2013 are provided in Table 3. The lowest annual estimate of bluefish trips was 1.727 million trips in 1999, but last year (2013) was also very low with 1.733 million trips. The highest annual estimate of bluefish trips in this timeframe was 5.9 million trips in 1991. Relative to total angler effort in 2013, bluefish were the primary target of recreational trips only about 4.7% of the time.

Table 31. Number of bluefish recreational fishing trips, recreational harvest limit, and recreational landings from 1991 to 2013.

Year	Number of Bluefish Trips[a]	Recreational Landings (N)	Recreational Landings per "Bluefish" Trip
1991	5,948,808	11,942,608	2.0
1992	4,549,536	7,157,754	1.6
1993	4,269,162	5,725,355	1.3
1994	3,587,131	5,767,953	1.6
1995	3,608,325	5,167,979	1.4
1996	2,820,059	4,205,103	1.5
1997	2,384,133	5,413,036	2.3
1998	2,180,471	4,202,111	1.9
1999	1,727,175	3,681,841	2.1
2000	2,041,450	4,897,008	2.4
2001	2,661,032	6,663,237	2.5
2002	2,324,253	5,300,189	2.3
2003	2,647,840	6,045,062	2.3
2004	2,898,679	7,250,407	2.5
2005	3,233,133	7,949,179	2.5
2006	2,781,357	7,035,179	2.5
2007	3,620,374	8,373,899	2.3
2008	3,024,787	6,664,150	2.2
2009	2,088,857	5,194,242	2.5
2010	2,468,273	6,090,830	2.5
2011	2,128,166	5,061,391	2.4
2012	2,394,988	5,523,282	2.3
2013	1,733,408	5,464,623	3.2

[a]Estimated number of recreational fishing trips where the primary target was bluefish or bluefish were harvested regardless of target, Maine – Florida's East Coast. Source: MRFSS (1991-2003)/MRIP (2004 fwd).

Recreational Landings by State

Recreational catch and landings by state for 2013 are provided in Table 4. The greatest overall catches (includes discards) were in North Carolina with 3 million fish and New York and Florida with about 2 million fish each. The greatest harvest (retained catch) of bluefish by weight occurred in Connecticut and New York with 3.7 and 4.2 million pounds, respectively. According to MRIP only 85 bluefish were caught in New Hampshire. Average weights, based on dividing MRIP landings in weight by landings in number for each state, suggest that bluefish size tends to increase toward the north along the Atlantic coast.

Table 4. MRIP estimates of 2013 recreational harvest and total catch for bluefish.

State	Harvest			Catch
	Pounds of Fish	Number of Fish	Average wt of fish (lbs)	Number of Fish
ME	62,654	19,542	3.2	41,726
NH	0	0	-	85
MA	2,141,185	371,734	5.8	829,473
RI	1,382,072	312,040	4.4	934,810
CT	4,192,558	875,068	4.8	1,599,615
NY	3,684,907	983,041	3.7	1,990,952
NJ	1,833,248	740,335	2.5	1,617,134
DE	26,230	24,391	1.1	94,726
MD	65,389	55,544	1.2	316,501
VA	274,713	188,367	1.5	408,435
NC	988,664	1,183,627	0.8	3,055,543
SC	109,218	298,451	0.4	607,472
GA	3,645	3,408	1.1	10,783
FL (East Coast)	516,404	409,076	1.3	1,901,087
Total	15,280,887	5,464,624	2.8	13,408,342

Figure 5 reflects MRFSS/MRIP-based estimates of catch and landings by mode (1991 through 2012) and indicates that the primary catch modes for bluefish are private boats and shore-based fishing. Less than 10 % of the catch came from for hire boats over the same time period. A remarkable increase (more than double the 2012 landings in weight) from shore-based fishing is shown in 2013.

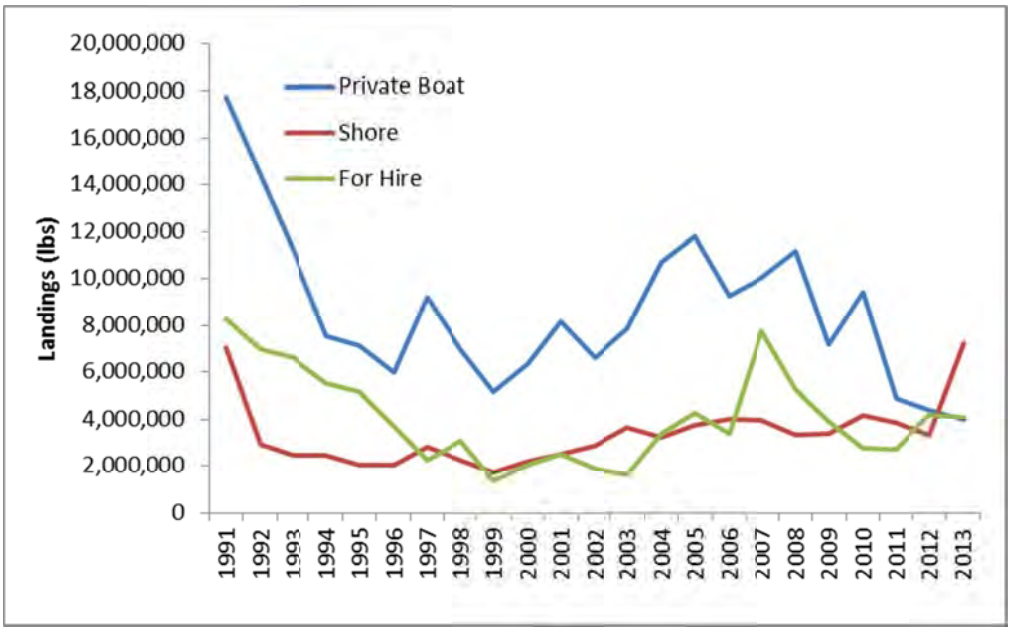

Figure 5. Bluefish landings (lbs) by recreational fishermen by mode, Atlantic Coast, 1991-2013.

Recreational Catches by Area

MRIP classifies catch into three fishing areas, inland, nearshore ocean (< 3 mi), and offshore ocean (> 3 mi). About 54% of the catch of bluefish on a coastwide basis came from inland waters, followed by nearshore ocean (39%) (Figure 4). Offshore ocean is only about 7% of the total catch. The very large increase in shore-based landings is reflected in the increase for inland waters for 2013.

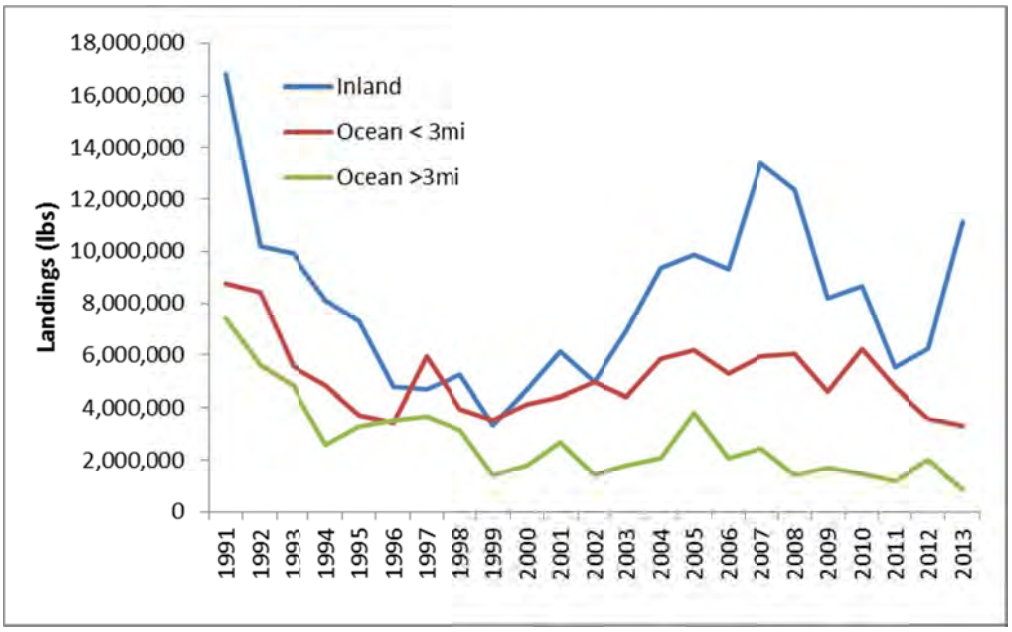

Figure 4. Bluefish recreational catch by area, Atlantic Coast, 1991-2013.

Commercial Fishery

Vessel and Dealer Activity

Federal permit data indicate that 2,954 commercial bluefish permits were issued in 2013 (Table 5). A subset of federally-permitted vessels was active in 2013 with dealer reports identifying 602 vessels with commercial bluefish permits that actually landed bluefish.

Of the 394 federally-permitted bluefish dealers, there were 167 dealers who actually bought bluefish in 2013 (Table 5).

Table 5. Permitted and active bluefish vessels and dealers by state for 2013.

STATE	PERM VESSELS	ACTIVE VESSELS	PERM DEALERS	ACTIVE DEALERS
MA	1,040	154	113	44
NJ	460	83	58	9
NY	320	124	89	45
ME	258	-	12	-
RI	212	101	41	26
NC	153	71	26	19
VA	133	33	19	11
NH	131	7	8	-
CT	66	10	4	-
MD	60	12	10	3
FL	52	-	6	5
DE	49	-	-	-
PA	13	-	3	
OTHER	7	7	5	5
TOTAL	2,954	602	394	167

Source: NMFS Permit Database and Dealer Weighout Data.

Effort/Landings by Gear

NMFS VTR data indicate that a total of 1,444 commercial trips targeted bluefish (bluefish ≥ 50 % of total catch) in 2013 (Table 6). Landings from directed trips (996 k lb) are approximately 24.2 % of coastwide commercial bluefish landings for 2013 (4.114 M lb). Gillnets accounted for 83.0 % of the directed catch while hook gear accounted for 12.0 %.

Table 6. Commercial gear types associated with bluefish harvest in 2013.

Commercial Gear Type	Trips	Landings (lbs)	Pct Total
GILL NET	716	826,502	83%
HOOK AND LINE	699	119,069	12%
OTHER	29	50,457	5%
TOTAL	1,444	996,028	100%

Effort/Landings by Area

The Northeast Region is divided into 46 statistical areas for Federal fisheries management. According to VTR data, bluefish were commercially harvest in 36 statistical areas in 2011 (Figure 5). Six statistical areas, however, collectively accounted for more than 75 % of VTR-reported landings in 2013, with individual areas contributing 6% to 18% of the total. These areas also represented 70% of the trips that landed bluefish suggesting that resource availability as expressed by catch per trip is fairly consistent through the range where harvest occurs.

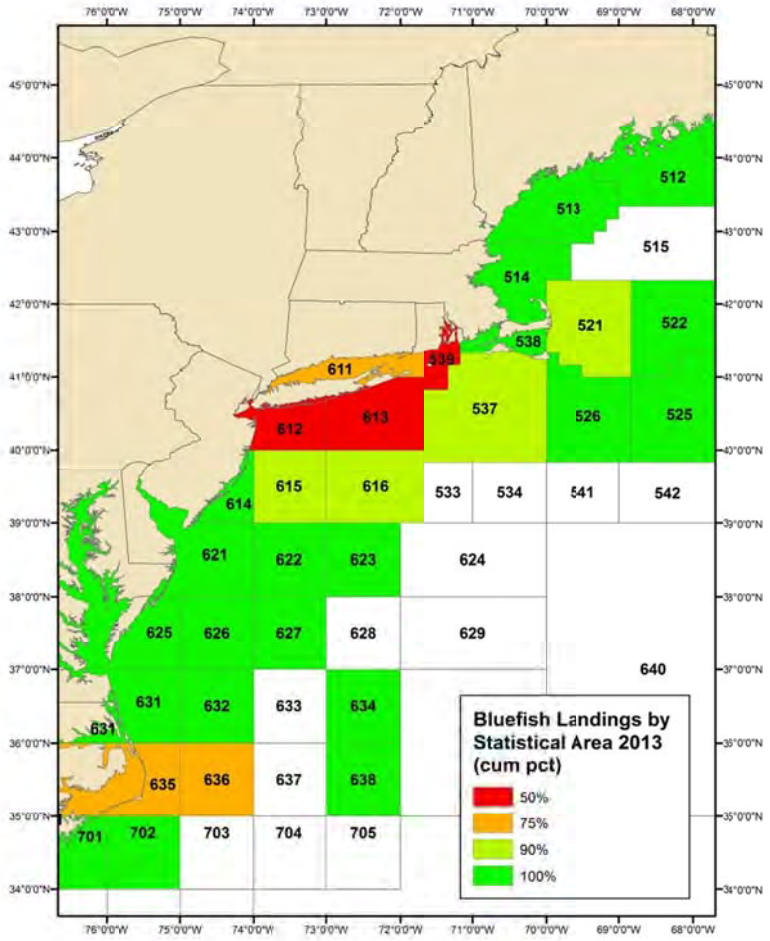

Figure 5. NMFS Statistical Areas. Shading reflects the cumulative percentage of landings with red and orange being the primary areas where the commercial landings are taken.

The top commercial landings ports for bluefish in 2013 are shown in Table 7. Ten ports qualified as "top bluefish ports", i.e., those ports where 100,000 pounds or more of bluefish were landed. Wanchese, NC was the most important commercial bluefish port with over 600,000 lb landed.

Table 7. Top ports of bluefish landings (in pounds), based on NMFS 2013 dealer data. Since this table includes only the "top ports" (ports where landings of bluefish were > 100,000 lb), it does not include all of the landings for the year.

Port[a]	Pounds	# Vessels
WANCHESE, NC	612,147	15
POINT JUDITH, RI	400,572	90
MONTAUK, NY	354,559	84
HAMPTON BAYS, NY	345,573	30
HATTERAS, NC	174,150	13
AMAGANSETT, NY	152,111	4
POINT PLEASANT, NJ	124,769	67
CHATHAM, MA	124,578	24
BELFORD, NJ	115,374	13
SHINNECOCK, NY	107,809	-

[a]Ports with less than 3 vessels not reported for confidentiality issues.
Source: Dealer Weighout Data, as of June 26, 2014.

Revenue

In 2013, commercial vessels landed about 4.114 M lb of bluefish valued at approximately $2.94 million. Average coastwide ex-vessel price of bluefish was $0.67/lb in 2013, a 6 % increase from the previous year (2011 price = $0.67/lb). The relative value of bluefish is very low among commercially landed species, approximately 0.17 % of the total value, respectively of all finfish and shellfish landed along the U.S. Atlantic coast in 2013. A timeseries of bluefish revenue and price is provided in Figure 6.

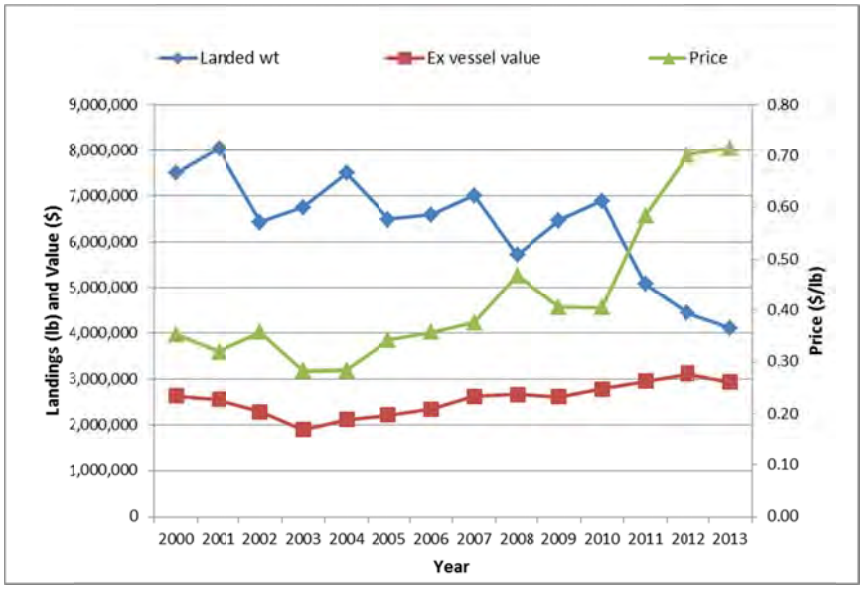

Figure 6. Landings, ex-vessel value, and price for bluefish, 2000-2013. Source: NMFS unpublished dealer data. Prices are unadjusted.

Bycatch

The commercial fishery for bluefish is primarily prosecuted with gillnets, otter trawls, and handlines. This fishery often harvests mixed species, including bonito, Atlantic croaker, weakfish, spiny dogfish, and other species. Among these species, weakfish are considered to be depleted; however, natural mortality rather than fishing mortality is implicated as constraining stock size. Atlantic croaker and spiny dogfish are not overfished, nor is overfishing occurring. Bonito are unregulated and stock status is unknown. Given the mixed-species nature of the bluefish fishery, incidental catch of non-target species is not directly attributable to the bluefish fishery.

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Salerno, D.J., J.Burnett, and R.M. Ibara. 2001. Age, growth, maturity and spatial distribution of bluefish, *Pomatomus saltatrix* (Linnaeus), off the northeast coast of the United States, 1985-96. J.Northwest Atl. Fish. Sci., 29: 31-39.

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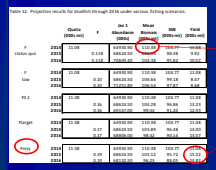
Bluefish Management Measures for 2015

Stock Status

- Overfishing not occurring, Not overfished
- F_{2013}: 0.118 (F_{MSY}: 0.19)
- Weak 2009-2011 year classes
  - Very weak 2012 year class
- B_{2013}: 123,716 mt (B_{MSY}: 147,052 mt)
  - B/BMSY ~ 0.8413

Calculating ABC for 2015



ABC Calculation based on "typical" life history and CV input		
Parameter	Value	Basis
OFL	15,522	Assessment Update
B/Bmsy	*0.7506	Assessment Update
CV	100%	Risk Policy
Sigma	0.8326	Definition
P*	0.2892	Calculated
ABC	9,772	Calculated
ABC/OFL	0.6295	Calculated

Calculating ABC for 2015

ABC Calculation based on "typical" life history and CV input		
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OFL	15,522	Assessment Update
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CV	100%	Risk Policy
sigma	0.8326	Definition
P*	0.2892	Calculated
ABC	9,772	Calculated
ABC/OFL	0.6295	Calculated

ABC Trends

Table 1. Changes in OFL, ABC, B/B_{MSY} for 2012-2015 specification years. (Metric Tons)

Specif. Year	OFL	ABC	Change	Mean Biomass Term Year	Mean Biomass Proj Year	B_{Proj}/B_{MSY}
2012	18,572	14,535		145,455	141,833	96.50%
2013	17,521	12,461	-14.3%	132,890	127,577	86.80%
2014	16,506	11,082	-11.1%	125,808	119,311	81.10%
2015	15,522	9,772	-11.8%	123,716	110,378	75.10%

Biomass

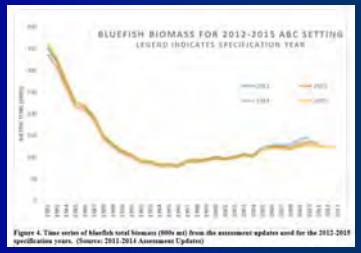

Figure 4. Time series of bluefish total biomass (000s mt) from the assessment updates used for the 2012-2015 specification years. (Source: 2011-2014 Assessment Updates)

Fishery Performance

Management Measures	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
TAC/ ABC[1]	n/a	n/a	29.1	39.5	34.215	34.215	29.15	32.033	31.887	34.081	34.376	31.744	32.044	27.472	24.432	21.543
TAL[3]	35.328	37.841	26.866	37.293	31.85	30.853	24.797	27.762	28.156	29.356	29.264	27.293	28.267	23.861	21.081	18.193
Comm. Quota[4]	9.583	9.583	10.5	10.5	10.5	10.5	8.081	8.689	7.705	9.828	10.213	9.375	10.317	9.076	7.269	4.575
Comm. Landings	8.041	8.688	6.863	7.401	7.994	7.045	6.955	7.499	5.968	6.99	7.069	5.082	4.93	4.114	-	-
Rec. Harvest Limit[4]	25.745	28.258	16.365	26.793	21.35	20.353	16.718	19.073	20.451	19.528	18.631	17.813	17.457	14.069	13.179	13.073
Rec. Landings	10.606	13.23	11.371	13.136	15.203	16.162	16.894	21.163	18.9	13.583	18.042	11.499	10.684	15.281	-	
Rec. Possession Limit	10	15	15	15	15	15	15	15	15	15	15	15	15	15	15	10
Total Landings	18.647	21.918	18.234	20.537	23.197	23.207	23.849	28.662	24.868	20.573	25.111	16.581	15.614	19.395	-	-
Overage/Underage	-16.681	-15.923	-8.632	-16.756	-8.653	-7.646	-0.948	0.9	-3.288	-8.826	-4.153	-10.712	-12.653	-4.466	-	-
Total Catch	22.338	26.022	21.432	23.473	27.749	29.382	27.445	34.232	29.985	22.647	30.422	24.859	20.868	24.74	-	-
Overage/Underage			-7.668	-16.027	-6.466	-4.833	-1.705	2.199	-1.902	-11.434	-3.954	-6.885	-11.176	-2.732	-	-
ASAP F estimate	0.135	0.170	0.127	0.131	0.164	0.145	0.136	0.163	0.132	0.097	0.141	0.114	0.097	0.118	-	-

[1] through 2011
[2] 2012 fwd.
[3] not adjusted for RSA
[4] adjusted downward for RSA

Fishery Performance

Management Measures	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
TAC/ ABC[1]	n/a	n/a	29.1	39.5	34.215	34.215	29.15	32.033	31.887	34.081	34.376	31.744	32.044	27.472	24.432	21.543
TAL[3]	35.328	37.841	26.866	37.293	31.85	30.853	24.797	27.762	28.156	29.356	29.264	27.293	28.267	23.861	21.081	18.193
Comm. Quota[4]	9.583	9.583	10.5	10.5	10.5	10.5	8.081	8.689	7.705	9.828	10.213	9.375	10.317	9.076	7.269	4.575
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Overage/Underage	-16.681	-15.923	-8.632	-16.756	-8.653	-7.646	-0.948	0.9	-3.288	-8.826	-4.153	-10.712	-12.653	-4.466	-	-
Total Catch	22.338	26.022	21.432	23.473	27.749	29.382	27.445	34.232	29.985	22.647	30.422	24.859	20.868	24.74	-	-
Overage/Underage			-7.668	-16.027	-6.466	-4.833	-1.705	2.199	-1.902	-11.434	-3.954	-6.885	-11.176	-2.732	-	-
ASAP F estimate	0.135	0.170	0.127	0.131	0.164	0.145	0.136	0.163	0.132	0.097	0.141	0.114	0.097	0.118	-	-

[1] through 2011
[2] 2012 fwd.
[3] not adjusted for RSA
[4] adjusted downward for RSA

Fishery Performance

Management Measures	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
TAC/ ABC[1]	n/a	n/a	29.1	39.5	34.215	34.215	29.15	32.033	31.887	34.081	34.376	31.744	32.044	27.472	24.432	21.543
TAL[3]	35.328	37.841	26.866	37.293	31.85	30.853	24.797	27.762	28.156	29.356	29.264	27.293	28.267	23.861	21.081	18.193
Comm. Quota[4]	9.583	9.583	10.5	10.5	10.5	10.5	8.081	8.689	7.705	9.828	10.213	9.375	10.317	9.076	7.269	4.575
Comm. Landings	8.041	8.688	6.863	7.401	7.994	7.045	6.955	7.499	5.968	6.99	7.069	5.082	4.93	4.114	-	-
Rec. Harvest Limit[4]	25.745	28.258	16.365	26.793	21.35	20.353	16.718	19.073	20.451	19.528	18.631	17.813	17.457	14.069	13.179	13.073
Rec. Landings	10.606	13.23	11.371	13.136	15.203	16.162	16.894	21.163	18.9	13.583	18.042	11.499	10.684	15.281	-	
Rec. Possession Limit	10	15	15	15	15	15	15	15	15	15	15	15	15	15	15	10
Total Landings	18.647	21.918	18.234	20.537	23.197	23.207	23.849	28.662	24.868	20.573	25.111	16.581	15.614	19.395	-	-
Overage/Underage	-16.681	-15.923	-8.632	-16.756	-8.653	-7.646	-0.948	0.9	-3.288	-8.826	-4.153	-10.712	-12.653	-4.466	-	-
Total Catch	22.338	26.022	21.432	23.473	27.749	29.382	27.445	34.232	29.985	22.647	30.422	24.859	20.868	24.74	-	-
Overage/Underage			-7.668	-16.027	-6.466	-4.833	-1.705	2.199	-1.902	-11.434	-3.954	-6.885	-11.176	-2.732	-	-
ASAP F estimate	0.135	0.170	0.127	0.131	0.164	0.145	0.136	0.163	0.132	0.097	0.141	0.114	0.097	0.118	-	-

[1] through 2011
[2] 2012 fwd.
[3] not adjusted for RSA
[4] adjusted downward for RSA

Fishery Performance

Management Measures	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
TAC/ ABC[1]	n/a	n/a	29.1	39.5	34.215	34.215	29.15	32.033	31.887	34.081	34.376	31.744	32.044	27.472	24.432	21.543
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Overage/Underage	-16.681	-15.923	-8.632	-16.756	-8.653	-7.646	-0.948	0.9	-3.288	-8.826	-4.153	-10.712	-12.653	-4.466	-	-
Total Catch	22.338	26.022	21.432	23.473	27.749	29.382	27.445	34.232	29.985	22.647	30.422	24.859	20.868	24.74	-	-
Overage/Underage			-7.668	-16.027	-6.466	-4.833	-1.705	2.199	-1.902	-11.434	-3.954	-6.885	-11.176	-2.732	-	-
ASAP F estimate	0.135	0.170	0.127	0.131	0.164	0.145	0.136	0.163	0.132	0.097	0.141	0.114	0.097	0.118	-	-

[1] through 2011
[2] 2012 fwd.
[3] not adjusted for RSA
[4] adjusted downward for RSA

Fishery Performance Report

- Reduced abundance/availability toward south
- High abundance/availability toward north (variable)
- Lots of large bluefish
- Schools with abundant fish, but fewer schools
- Becoming a primary target for charter vessels
- Greater than usual baitfish (bunker and sandeels)
- Offshore temps are lower than normal
- Bag limit (15 fish) too high

Management Measures

2014 Management Measure	Basis	mt	M lb
OFL		15,520	34,215,743
ABC	Constant F (0.132)	9,772	21,543,572
ACL	= ABC	9,772	21,543,572
Mgmt Uncertainty	per MC	0	0
Comm Discards	from assessment	0	0
Rec Discards	Three Year Average	1,520	3,351,026
Comm ACT	(ACL - Mgmt Uncert) * 17%	1,661	3,662,407
Rec ACT	(ACL - Mgmt Uncert) * 83%	8,111	17,881,165
Comm TAL	Comm ACT - Disc	1,661	3,662,407
Rec TAL	Rec ACT - Disc	6,591	14,530,139
TAL (combined)	Comm + Rec TAL	8,252	18,192,546
Expected Recreational Landings	Three Year Average	5,930	13,073,412
Maximum Transfer	Calculated	477	1,052,394
pre-RSA Comm Quota	Comm TAL + transfer	2,139	4,714,802
pre-RSA RHL	Rec TAL - transfer	6,113	13,477,744
Comm RSA Deduction (3%)	3% of Comm Quota	64	141,444
Rec RSA Deduction (3%)	3% of RHL	183	404,332
Adjusted Comm Quota	Comm Quota - RSA	2,074	4,573,358
Adjusted RHL	RHL - RSA	5,930	13,073,412

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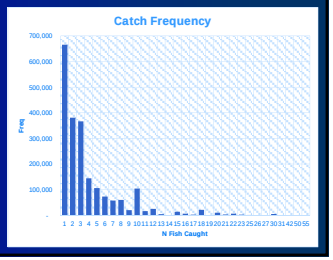
Adjusted RHL	RHL - RSA	5,930	13,073,412

Management Measures

State	Allocation	2015 Quota	2013 Landings	2014 Quota	2015 Quota vs 2013 Landings	2015 vs 2014 Quotas
ME	0.0067	30,573	280	57,985	30,293	(27,412)
NH	0.0041	18,957	161	35,953	18,796	(16,997)
MA	0.0672	307,179	591,743	582,602	(284,564)	(275,423)
RI	0.0681	311,359	457,382	590,530	(146,023)	(279,171)
CT	0.0127	57,912	31,755	109,838	26,157	(51,926)
NY	0.1039	474,948	1,261,364	900,796	(786,416)	(425,849)
NJ	0.1482	677,598	346,251	1,285,147	331,346	(607,549)
DE	0.0188	85,897	10,073	162,914	75,824	(77,017)
MD	0.0300	137,283	45,726	260,374	91,557	(123,091)
VA	0.1188	543,292	300,314	1,030,420	242,978	(487,128)
NC	0.3206	1,466,255	1,135,480	2,780,932	330,775	(1,314,677)
SC	0.0004	1,610	4	3,053	1,605	(1,443)
GA	0.0001	434	0	824	434	(390)
FL	0.1006	460,066	142,198	872,571	317,868	(412,505)
Total	1.0000	4,573,362	4,322,731	8,673,931	250,631	(4,100,569)

Recreational fishery

State	Bag Limit
ME	3
NH	10
MA	10
RI	15
CT	10
NY	15
NJ	15
DE	10
MD	10
VA	10
NC	15
SC	15
GA	15
FL	10



Recreational fishery

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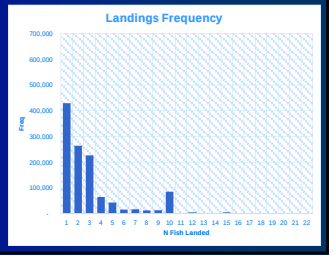

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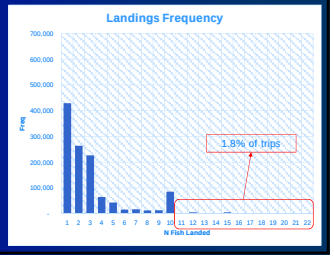
GA	15
FL	10



Summary / Staff Recommendations

- No overfishing / Not overfished
- OFL = 15,522 mt B_{2014}/B_{MSY} = 0.7506
- ABC_{2015} = ACL = 9,772 mt (21.544 M lb) ACT = ACL
- Max Transfer = 1.052 M lb Final Comm Quota = 4.573 M lb
  - 5.8% increase in landings compared to 2013
  - 47.3% decrease in quota compared to 2014
- Final RHL = 13.073 M lb
- 10 Fish Bag Limit
- RSA up to 3% pending Coucil decision on RSA program
- Benchmark Assessment in 2015

MC Recommendations

- ACT = ACL
- Max Transfer = 1.052 M lb Final Comm Quota = 4.573 M lb
- Final RHL = 13.073 M lb
- Maintain 15 Fish Rec Bag Limit
- RSA up to 3% pending Coucil decision on RSA program

Questions?

Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201, Dover, DE 19901-3910
Phone: 302-674-2331 | Toll Free: 877-446-2362 | FAX: 302-674-5399 | www.mafmc.org
Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: July 30, 2014

TO: Council

FROM: Kiley Dancy, Staff

SUBJECT: Review of Black Sea Bass Management Measures for 2015

The following materials are enclosed for Council consideration of the above subject:

1) Black Sea Bass Advisory Panel Information Document (June 2014)
2) Black Sea Bass Fishery Performance Report (July 2014)
3) Black Sea Bass Data Update for 2014 (July 2014)
4) Staff Memo (July 2014)
5) Scientific and Statistical Committee Meeting Report (July 2014)
6) Monitoring Committee meeting summary (July 2014)

Black Sea Bass Advisory Panel Information Document[1]

June 2014

Management System

The Fishery Management Plan (FMP) for black sea bass became effective in 1997 when it was incorporated into the Summer Flounder and Scup FMP. The FMP established the management unit for black sea bass (*Centropristis striata*) as the U.S. waters in the western Atlantic Ocean from Cape Hatteras, North Carolina to the U.S.-Canadian border. The FMP additionally included measures to ensure effective management of the black sea bass resource. Two management entities work cooperatively to develop fishery regulations for black sea bass: the Atlantic States Marine Fisheries Commission (ASMFC), and the Mid-Atlantic Fishery Management Council (MAFMC). The National Marine Fisheries Service (NMFS) works in conjunction with the MAFMC as the federal implementation and enforcement entity. This cooperative management endeavor was developed because significant portions of black sea bass catch are taken from both state (0-3 miles offshore) and Federal waters (3-200 miles offshore).

The commercial and recreational black sea bass fisheries are managed using catch and landings limits, commercial quotas, recreational harvest limits, minimum fish sizes, gear regulations, permit requirements, and other provisions as prescribed by the FMP. Black sea bass was under a stock rebuilding strategy beginning in 2000 until it was declared rebuilt in 2009. The FMP, including subsequent Amendments and Frameworks, is available on the Council website at: http://www.mafmc.org/fisheries/fmp/sf-s-bsb.

Basic Biology

Detailed information on black sea bass life history and habitat requirements can be found in the documents titled "Essential Fish Habitat Source Document: Black Sea Bass, *Centropristis striata*, Life History and Habitat Characteristics" (Steimle et al. 1999) as well as in an update of that document, "Essential Fish Habitat Source Document: Black Sea Bass, *Centropristis striata*, Life History and Habitat Characteristics (2nd Edition)" (Drohan et al. 2007). Electronic versions are available at the following website: http://www.nefsc.noaa.gov/nefsc/habitat/efh/. Information contained in these documents is summarized here.

The northern population of black sea bass spawns in the Middle Atlantic Bight over the continental shelf during the spring through fall, primarily between Virginia and Cape Cod, Massachusetts. Spawning begins in the spring in the southern portion of the population range, i.e., off North Carolina and Virginia, and progresses north into southern New England waters in the summer and fall. Collections of ripe fish and egg distributions indicate that the species

[1] Data employed in the preparation of this document are from unpublished National Marine Fisheries Service (NMFS) Dealer, Vessel Trip Reports (VTRs), Permit, and Marine Recreational Statistics (MRFSS/MRIP) databases, as of May 2014, unless otherwise noted.

spawns primarily on the inner continental shelf between Chesapeake Bay and Montauk Pt., Long Island. The duration of the larval stage and habitat-related settlement cues are unknown; therefore, distribution and habitat use of this pelagic stage may only partially overlap with that of the egg stage. Adult black sea bass are also very structure oriented, especially during their summer coastal residency. Unlike juveniles, they tend to enter only larger estuaries and are most abundant along the coast. Larger fish tend to be found in deeper water than smaller fish. A variety of coastal structures are known to be attractive to black sea bass, including shipwrecks, rocky and artificial reefs, mussel beds and any other object or source of shelter on the bottom. In the warmer months, inshore, resident adult black sea bass are usually found associated with structured habitats. During the summer, adult black sea bass share complex coastal habitats with other fishes including tautog, hakes, conger eel, sea robins and other transient species. Essential Fish Habitat for black sea bass consists of pelagic waters, structured habitat (e.g., sponge beds), rough bottom shellfish, and sand and shell, from the Gulf of Maine through Cape Hatteras, North Carolina.

Black sea bass attain a maximum size of around 60 cm (23.6 in) and 4 kg (8.8 lb), with a maximum age for females of 8 and age 12 for males (DPSWG 2009). Maturity data is routinely collected on Northeast Fisheries Science Center (NEFSC) survey cruises and model estimates for length suggest 50 percent maturity occurs at 20.4 cm (8.0 inches) with 95 percent maturity attained by 28 cm (11.0 inches).

Adult black sea bass are generalist carnivores that feed on a variety of infaunal and epibenthic invertebrates, especially crustaceans (including juvenile lobster, crabs, and shrimp), small fish, and squid. The NEFSC food habits database lists the spiny dogfish, Atlantic angel shark, skates, spotted hake, summer flounder, windowpane, and goosefish as predators of black sea bass.

Status of the Stock

The most recent accepted benchmark assessment on black sea bass, which used a statistical catch at length (SCALE) model, was peer-reviewed and accepted in December 2008 by the Data Poor Stock Working Group (DPSWG) Peer Review Panel (DPSWG 2009). Reports on "Stock Status," including annual assessment and reference point update reports, Stock Assessment Workshop (SAW) reports, Stock Assessment Review Committee (SARC) panelist reports, and DPSWG reports and peer-review panelist reports are available online at the NEFSC website: http://www.nefsc.noaa.gov/saw/.

The latest assessment update was completed in July 2012, and concluded that the stock was not overfished and overfishing was not occurring in 2011, relative to the DPSWG biological reference points. The 2011 stock was at 102% of the spawning stock biomass at maximum sustainable yield (SSB_{MSY}). Fishing mortality (F_{MULT}) in 2011 was F = 0.21, a decrease from F=0.41 in 2010 (Figure 1). This point estimate of F in 2011 is below the fishing mortality threshold of F=0.44. Estimates for 2011 total biomass were at 28.0 million lb (12,700 mt), above the value for B_{MSY}. Spawning stock biomass (SSB) in 2011 was estimated at 24.6 million lb (11,145 mt). 2011 SSB was 102% of SSB_{MSY} (24.0 million lb, 10,880 mt; Figure 2). Recruitment estimated by the model was relatively constant through the time series with the exception of the 1999 and 2001 year classes. These cohorts appeared to be the driving force behind the increase in biomass and SSB. The estimated average recruitment (age one) in 2011 (2010 cohort) was 21.0 million fish.

The DPSWG Panel noted that despite acceptance of the assessment model there was *"considerable uncertainty with respect to stock status*." The review Panel also recommended that the SSC *"recognize and allow for the sizeable uncertainty in stock status when establishing catch limits."*

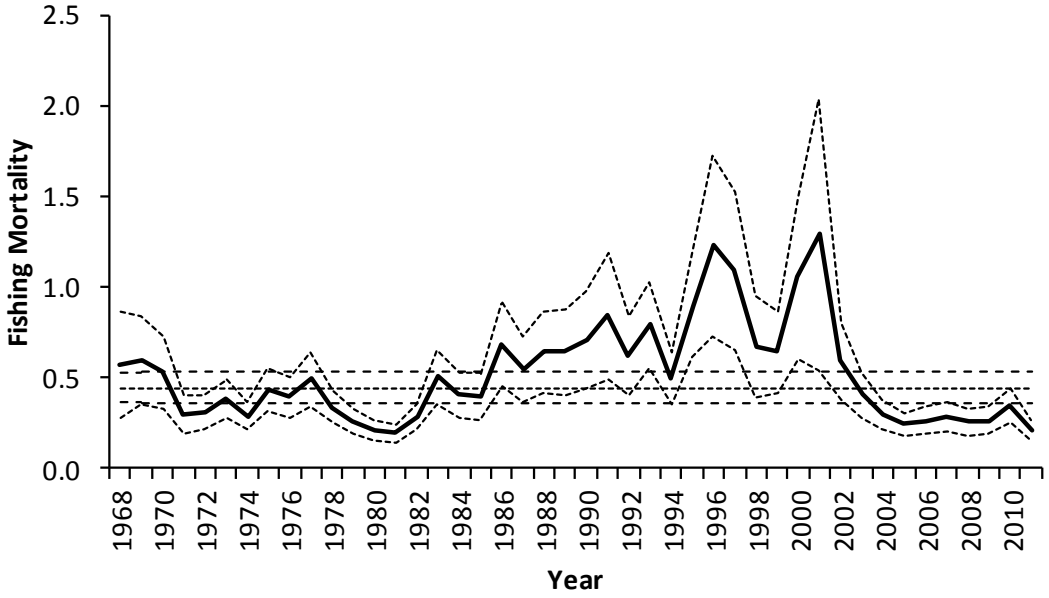


Figure 1: Estimated fishing mortality (+/- 2 standard deviations) of black sea bass from 1968-2011. Horizontal lines are $F_{MSY} \pm 80\%$ confidence interval. Source: Shepherd 2012.

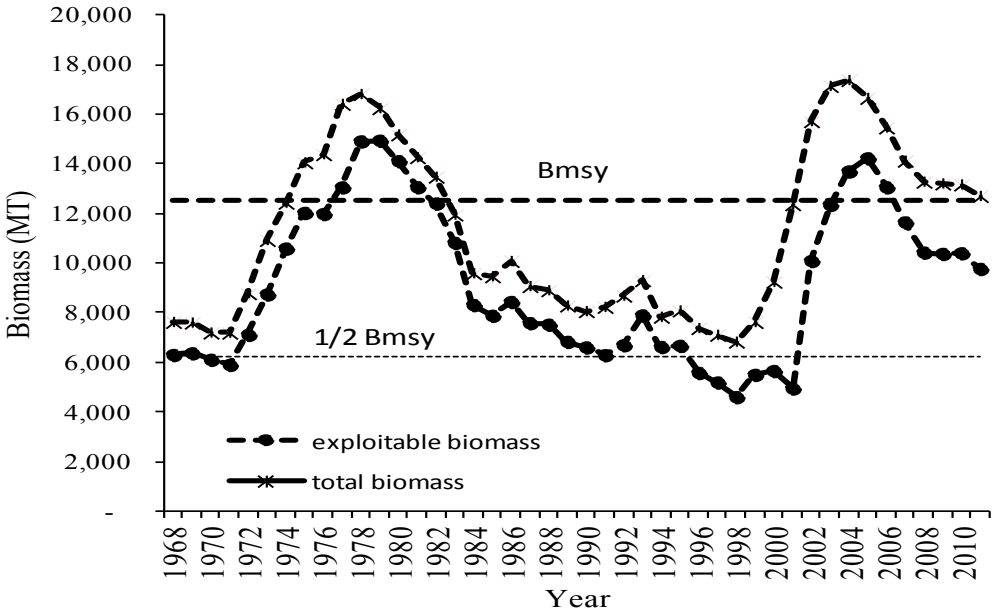


Figure 2: Estimated black sea bass total and exploitable biomass (mt) from SCALE model update, 1968-2011. Also shown are the biological reference points associated with total biomass. Source: Shepherd 2012.

Fishery Performance

There are significant commercial and recreational fisheries for black sea bass. Black sea bass is managed primarily using output controls (catch and landings limits), with 49 percent of the landings being allocated to the commercial fishery as a commercial quota and 51 percent allocated to the recreational fishery as a recreational harvest limit.

Table 1 summarizes the black sea bass management measures for the 2004-2015 fishing years. Acceptable biological catch (ABC) levels have been identified for this stock since 2010, and recreational and commercial annual catch limits (ACLs), with a system of overage accountability for each ACL, were first implemented in 2012. It should be noted that catch limits include both projected landings and discards, whereas the commercial quotas and recreational harvest limits are landings based (i.e., harvest).

Total landings (commercial and recreational) peaked in the late 1980's at 15.8 million lb, and in 2013 were about 4.7 million lb total (Figure 3).

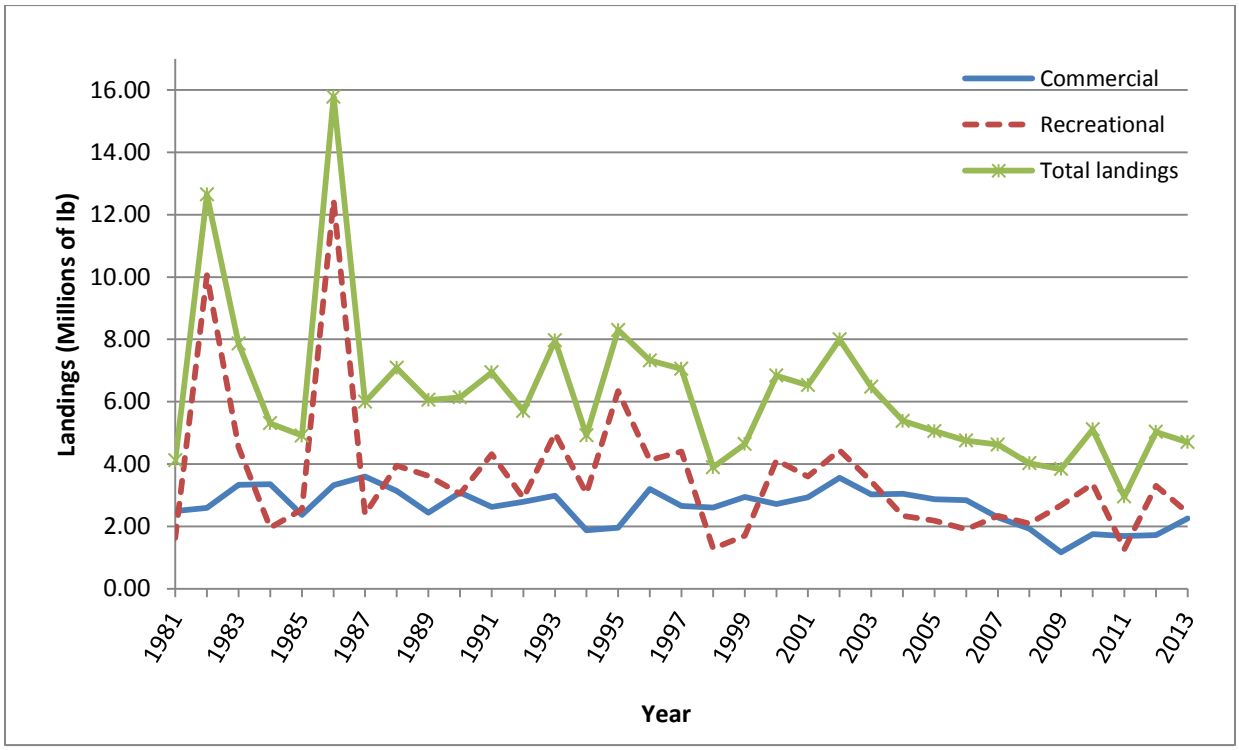


Figure 3: Commercial and Recreational U.S. Black Sea Bass Landings (Pounds) from Maine-North Carolina, 1981-2013.

Table 1: Summary of management measures and landings for 2004 through 2015.

Management measures	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015[a]
ABC (m lb)	NA	NA	NA	NA	NA	NA	4.500	4.500	4.500	5.50	5.50	5.50
TAC (m lb)	NA	NA	NA	NA	NA	2.300	4.500	4.500	4.500	5.50	5.50	5.50
Commercial ACL (m lb)	NA	NA	NA	NA	NA	NA	NA	NA	1.980	2.60	2.60	2.60
Com. quota–adjusted (m lb)[b]	3.77	3.95	3.83	2.38	2.03	1.09	1.76	1.71	1.71	2.17	2.17	2.17
Commercial landings (m lb)	3.04	2.87	2.84	2.29	1.93	1.17	1.75	1.69	1.72	2.26	NA	NA
Recreational ACL (m lb)	NA	NA	NA	NA	NA	NA	NA	NA	1.860	2.90	2.90	2.90
Rec. harvest limit-adjusted (m lb)[b]	4.01	4.13	3.99	2.47	2.11	1.14	1.83	1.78	1.32	2.26	2.26	2.26
Recreational landings (m lb)[c]	2.34	2.18	1.91	2.34	2.09	2.67	3.36	1.27	3.31	2.44	NA	NA
Com. fish size (in)	11	11	11	11	11	11	11	11	11	11	11	11
Com. min. mesh size (in, diamond)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Threshold (lb)	500/100	500/100	500/100	500/100	500/100	500/100	500/100	500/100	500/100	500/100	500/100	500/100
Vent size (in)	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8
Recreational measures (minimum fish size (total length), possession limit, and open season)	12-in TL, 25 fish, 1/1-9/7 and 9/22-11/30	12-in TL, 25 fish, 1/1-12/31	12-in TL, 25 fish, 1/1-12/31	12-in TL, 25 fish, 1/1-12/31	12-in TL, 25 fish, 1/1-12/31	12.5-in TL, 25 fish, 1/1-10/5	12.5-in TL, 25 fish, 5/22-10/11 and 11/1-12/31	12.5-in TL, 25 fish, 5/22-10/11 and 11/1-12/31	12.5-in TL, 25 fish, 5/19-10/14 and 11/1-12/31	12.5-in TL, 20 fish, 5/19-10/14 and 11/1-12/31	12.5-in TL, 15 fish, 5/19-9/18 and 10/18-12/31	NA

[a]These reflect the regulations currently set for black sea bass in 2015, however, the Council and ASFMC will review these catch limits and management measures in August 2014 and may revise as necessary. [b]Adjusted for RSA and projected discards. [c]Includes landings from all of North Carolina. NA=Not applicable or not yet available.

Commercial Fishery

In Federal waters, commercial fishermen holding a moratorium permit may fish for black sea bass. Permit data for 2013 indicate that 736 vessels held commercial permits for black sea bass. The ASMFC divides the black sea bass commercial quota among the states based on the allocation percentages given in Table 2, and states set measures to achieve their state-specific commercial quotas.

Table 2: The ASFMC black sea bass allocation formula for the commercial fisheries in each state.

State	Allocation (percent)
ME	0.5
NH	0.5
MA	13.0
RI	11.0
CT	1.0
NY	7.0
NJ	20.0
DE	5.0
MD	11.0
VA	20.0
NC	11.0
Totals	100

National Marine Fisheries Service statistical areas are shown in Figure 4, with areas that accounted for more than 5 percent of the black sea bass catch in 2013 highlighted. Vessel trip report (VTR) data suggest that statistical areas 615, 616 (includes Hudson canyon), and 621 were responsible for the largest percentage of the catch. Statistical area 537 had the majority of trips that caught black sea bass (Table 3).

Table 3: Statistical areas that accounted for at least 5 percent of the commercial black sea bass catch in 2013, with associated number of trips. Source: NMFS VTR data.

Statistical Area	Black Sea Bass Catch (percent)	Black Sea Bass Trips (N)
615	16.18	173
616	14.78	351
621	13.69	261
537	7.07	741
622	6.26	103
631	5.13	69

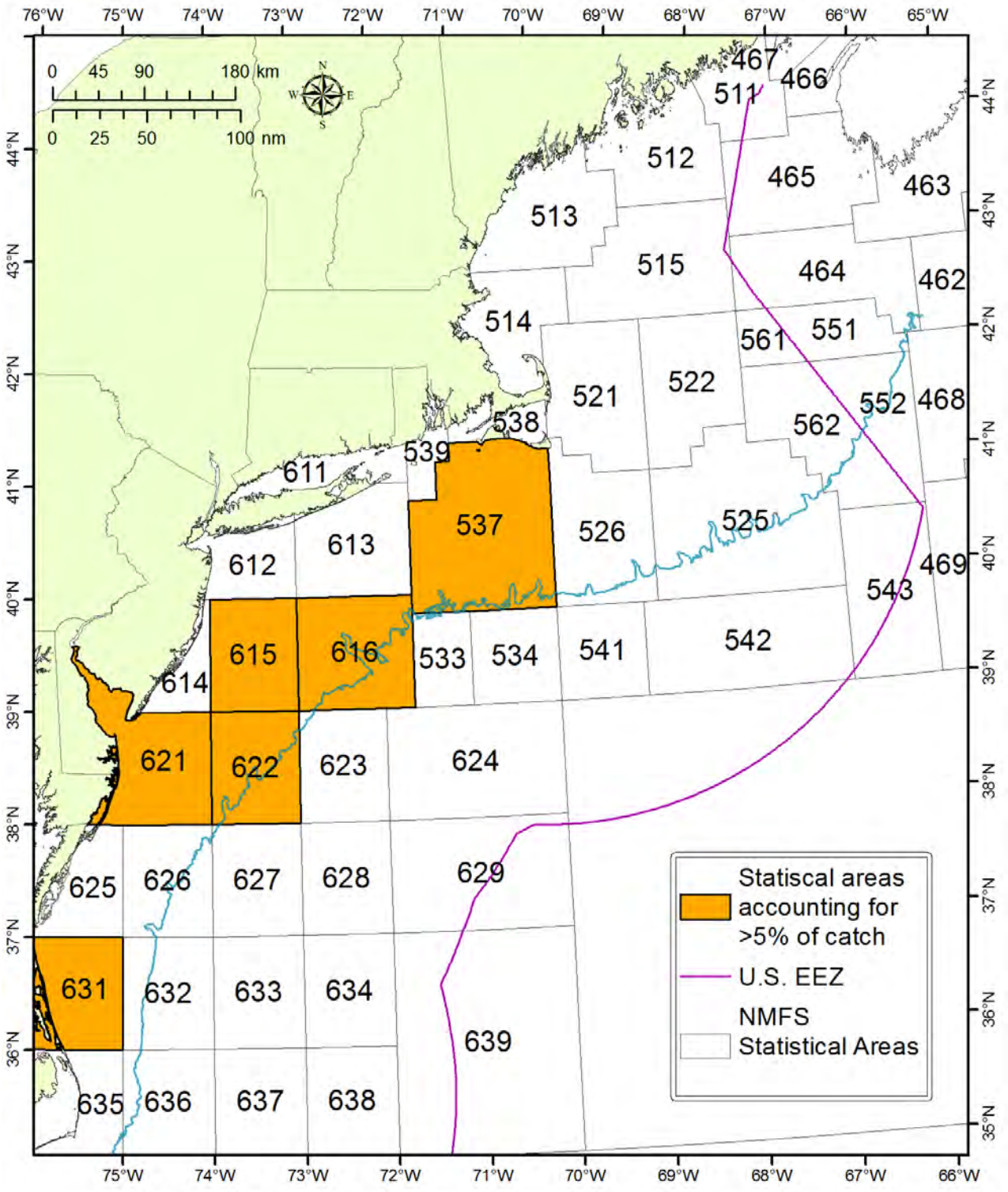


Figure 4: National Marine Fisheries Service Statistical Areas, showing areas accounting for more than 5% of the commercial black sea bass catch in 2013.

Based on VTR data for 2013, the majority of black sea bass landings were reported to be taken by bottom otter trawls (61 percent), followed by pots and traps (26 percent), offshore lobster pots (7 percent), and hand lines (5 percent). Other gear types each accounted for less than 1 percent of landings. Current regulations state that large trawl nets are required to possess a minimum of 75 meshes of 4.5 inch diamond mesh in the codend, or the entire net must have a minimum mesh size of 4.5 inch throughout. The threshold level used to trigger the minimum mesh requirement size is 500 lb from January through March and 100 lb from April through December (Table 1). In addition, the minimum vent size requirements for black sea bass pots/traps are 2.5 inches for circle vents, 2 inches for square vents, or 1.375 by 5.75 inches for rectangular vents. Two vents are required in the parlor portion of the pot/trap.

Black sea bass ex-vessel revenues, based on dealer data, have ranged from $2.2 to $7.7 million for the 1994 through 2013 period. The mean price for black sea bass (unadjusted) has ranged from a low of $1.14/lb in 1996 to a high of $3.33/lb in 2012 (Figure 5). In 2013, 2.26 million pounds of black sea bass were landed in the commercial fishery, generating $7.36 million in revenues ($3.26/lb).

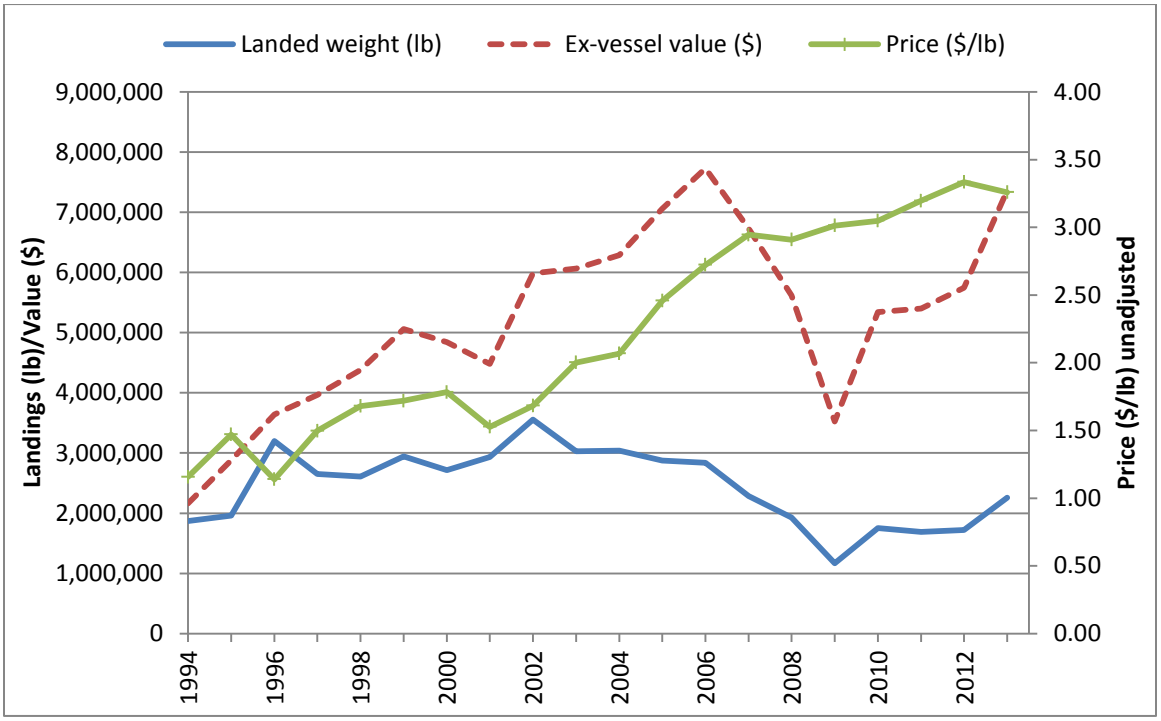


Figure 5: Landings, ex-vessel value, and price (unadjusted) for black sea bass, Maine through North Carolina, 1994-2013.

2013 NMFS dealer data were used to examine recent landings patterns among ports. The top commercial landings ports for black sea bass by pounds landed are shown in Table 4. A “top port” is defined as any port that landed at least 100,000 lb of black sea bass. Related data for the recreational fisheries are shown in subsequent sections. However, due to the nature of the recreational database, it is inappropriate to desegregate to less than state levels. The ports and communities that are dependent on black sea bass are fully described in Amendment 13 to the FMP. Additional information on "Community Profiles for the Northeast US Fisheries" can be found at: http://www.nefsc.noaa.gov/read/socialsci/community_profiles/.

Table 4: Top ports of landing (in lb) for black sea bass (BSB), based on NMFS 2013 dealer data. Since this table includes only the “top ports,” it may not include all of the landings for the year.

Port	Landings of BSB (lb)	# BSB Vessels
OCEAN CITY, MD	219,321	13
PT. PLEASANT, NJ	205,324	40
CAPE MAY, NJ	193,623	38
PT. JUDITH, RI	183,922	135
HAMPTON, VA	151,484	30
CHINCOTEAGUE, VA	143,567	23
NEWPORT NEWS, VA	142,957	29
INDIAN RIVER, DE	C	C
VIRGINIA BEACH, VA	101,806	4

Among the states from Maine through North Carolina, New York had the highest number of Federally permitted dealers (54) who bought black sea bass in 2013 (Table 5). All dealers bought approximately $7.36 million of black sea bass in 2013.

Table 5: Dealers reporting buying black sea bass, by state in 2013.

Number of Dealers	MA	RI	CT	NY	NJ	DE	MD	VA	NC
	38	38	13	54	26	3	5	17	24

Recreational Fishery

There is a significant recreational fishery for black sea bass in state waters, which occurs seasonally when the fish migrate inshore during the warm summer months. In Federal waters, the recreational black sea bass fishery is managed on a coastwide basis. For the past four years (2011-2014), state waters measures have been set on a state or regional basis, as the result of ASMFC FMP Addendums that have been passed in each of these years. The 2014 recreational fishing measures in Federal waters are given in Table 1, and the 2014 state-specific measures are given in Table 6.

Table 6: Black sea bass recreational fishing measures in 2014, by state.

State	Minimum Size (inches)	Possession Limit	Open Season
New Hampshire	13	10 fish	January 1-December 31
Massachusetts (Private and For-hire)	14	8 fish	May 17- September 15
Massachusetts (For-hire with Letter of Authorization from MA DMF)	14	8 fish	May 17- May 31
		20 fish	September 1- September 30
Rhode Island	13	3 fish	June 29- August 31
		7 fish	September 1- December 31
Connecticut (Private and Shore)	13	3 fish	June 21- August 31
		8 fish	September 1- December 31
CT Authorized Party/Charter Monitoring Program Vessels		8 fish	June 21-December 31
New York	13	8 fish	July 15- December 31
New Jersey	12.5	3 fish	July 1- August 31
		15 fish	May 19- June 30; September 1- September 6; October 18- December 31
Delaware	12.5	15 fish	May 19 - September 18 and October 18 - December 31
Maryland	12.5	15 fish	May 19 - September 18 and October 18 - December 31
PRFC	12.5	15 fish	May 19 - September 18 and October 18 - December 31
Virginia	12.5	15 fish	May 19 - September 18 and October 18 - December 31
North Carolina (North of Cape Hatteras 35° 15'N Latitude)	12.5	15 fish	May 19 - September 18 and October 18 - December 31

Recreational data have been available through the Marine Recreational Information Program (MRIP) since 2004, and prior to 2004 were available through the Marine Recreational Fishery Statistics Survey (MRFSS). Recreational catch and landings peaked in 1986 with landings in numbers and weight at the lowest levels in 2011 (Table 7). When anglers are intercepted through the surveys conducted for the recreational statistics programs, they are asked about where the majority of their fish were caught (i.e., inland, state waters (<=3 miles), exclusive economic zone (EEZ; > 3 miles)). While these data are somewhat imprecise, they do provide a general indication of where the majority of black sea bass are landed recreationally, and indicate that a majority of the landings are now occurring in state waters (Table 8).

Table 7: Recreational black sea bass landings and data from the NMFS recreational statistics databases, 1981-2013, Maine through North Carolina.

Year	Catch ('000 of fish)	Landings ('000 of fish)	Landings ('000 lb)
1981	5,301	2,734	1,628
1982	11,615	10,249	10,054
1983	8,707	5,631	4,530
1984	4,330	2,491	1,961
1985	7,131	4,216	2,540
1986	29,167	21,904	12,461
1987	5,912	3,467	2,392
1988	9,363	4,060	3,945
1989	7,000	4,649	3,621
1990	9,622	4,269	3,047
1991	11,224	5,458	4,316
1992	8,296	3,869	2,914
1993	9,451	6,197	4,985
1994	7,688	3,571	3,054
1995	14,481	6,887	6,339
1996	8,437	3,764	4,125
1997	11,088	4,868	4,399
1998	5,699	1,259	1,290
1999	7,758	1,412	1,697
2000	17,667	3,755	4,122
2001	14,626	3,006	3,596
2002	15,080	3,421	4,442
2003	12,649	3,392	3,449
2004	8,884	1,925	2,340
2005	8,358	1,489	2,181
2006	8,729	1,392	1,911
2007	9,601	1,630	2,338
2008	11,102	1,342	2,092
2009	9,875	1,909	2,672
2010	11,133	2,335	3,361
2011	5,794	881	1,267
2012	14,553	1,946	3,305
2013	10,912	1,276	2,441

Table 8: Percentage of black sea bass recreational landings (MRIP Type A+B1 in number of fish) by area (state vs. Federal waters), Maine through North Carolina, 2004-2013. Area information is self-reported based on the area where the majority of fishing activity occurred per angler trip.

Year	State <= 3 mi	EEZ > 3 mi
2004	25.6%	74.4%
2005	29.9%	70.1%
2006	34.9%	65.1%
2007	34.8%	65.2%
2008	60.3%	39.7%
2009	67.5%	32.5%
2010	72.1%	27.9%
2011	63.8%	36.2%
2012	72.6%	27.4%
2013	68.8%	31.2%
Avg. 2004 - 2013	53.0%	47.0%
Avg. 2011 - 2013	68.4%	31.6%

Table 9: State contribution (as a percentage) to total recreational landings of black sea bass, (MRIP Type A+B1 in number of fish), from Maine through North Carolina, 2012 and 2013.

State	2012	2013
Maine	0.0	0.0
New Hampshire	0.2	1.0
Massachusetts	26.7	23.8
Rhode Island	5.3	6.0
Connecticut	5.7	8.3
New York	16.5	26.4
New Jersey	37.8	25.8
Delaware	2.1	2.0
Maryland	1.7	0.6
Virginia	0.2	1.7
North Carolina	3.9	4.5
Total	**100%**	**100%**

In 2013, there were 773 recreational vessels (i.e., party and charter vessels) that held black sea bass Federal recreational permits. Many of these vessels also hold recreational permits for summer flounder and scup. Landings by mode indicate that although party/charter fishermen have historically been responsible for the majority of black sea bass landings, the private/rental fishery has accounted for the majority of landings in recent years (Table 10).

Table 10: The number of black sea bass landed from Maine through North Carolina by mode, 1981-2013.

Year	Shore	Party/Charter	Private/Rental
1981	452,103	1,440,169	841,478
1982	81,445	8,104,204	2,063,334
1983	222,012	4,005,707	1,403,508
1984	98,227	1,128,294	1,264,897
1985	163,448	2,393,049	1,659,700
1986	1,021,525	16,695,387	4,187,084
1987	71,956	1,157,243	2,238,159
1988	140,754	1,691,300	2,227,901
1989	237,970	1,991,672	2,419,654
1990	289,378	2,268,915	1,710,455
1991	250,675	2,586,145	2,621,271
1992	45,369	2,043,190	1,780,224
1993	54,676	4,579,662	1,562,227
1994	243,347	2,005,883	1,321,629
1995	275,982	5,197,231	1,413,571
1996	70,523	2,631,733	1,062,027
1997	8,337	3,950,336	908,836
1998	7,073	777,874	474,069
1999	19,231	621,354	771,260
2000	177,489	1,797,702	1,780,240
2001	14,035	1,826,852	1,164,977
2002	16,618	2,066,232	1,338,448
2003	10,760	2,073,132	1,308,493
2004	9,462	698,453	1,217,160
2005	13,110	605,932	869,467
2006	49,080	730,749	612,618
2007	9,865	909,869	709,901
2008	9,447	479,682	852,619
2009	23,992	442,107	1,442,842
2010	6,096	519,529	1,809,046
2011	8,177	310,760	561,730
2012	6,443	701,777	1,237,668
2013	12,205	228,574	1,035,530
% of total, 1981 - 2013	3%	60%	37%
% of total, 2009 - 2013	1%	26%	73%

The NMFS angler expenditure survey summarizes a variety of costs associated with recreational fishing in the Northeast (Table 11). In addition, Steinback et al., 2009 summarized the reasons for fishing, with a majority of anglers (about 85 percent) fishing either mostly or fully for recreational purposes (Table 12).

Table 11: Average daily trip expenditures by recreational fishermen in the Northeast region by mode, in 2011. Source: Lovell et al. 2013.

Expenditures	$		
	Party/Charter	Private/Rental	Shore
Auto Fuel	24.92	13.50	13.25
Auto Rental	0.43	0.00	0.09
Bait	0.47	4.98	5.09
Boat Rental	0.52	18.40	0.00
Charter Fees	113.44	0.05	0.00
Crew Tips	9.95	0.00	0.00
Fish Processing	0.01	0.00	0.00
Food from Grocery Stores	12.09	6.11	6.22
Food from Restaurants	11.25	2.28	4.07
Gifts & Souvenirs	3.57	0.03	0.57
Ice	0.56	1.04	0.57
Lodging	17.42	1.35	7.69
Parking & Site Access	0.67	0.82	1.27
Public Transportation	1.56	0.05	0.15
Tournament Fees	3.77	0.00	0.00
Total	**200.63**	**48.62**	**38.96**

Table 12: Purpose of Marine Recreational Fishing in the Northeast**.** Source: Steinback et al., 2009.

	Percent	Number of anglers in 2005 (thousands)
All for food or income	2.1	92.4
Mostly for food or income	<1.0	34.3
Both for recreation and for food or income	11.7	514.8
Mostly for recreation	13.2	580.8
All for recreation	72.2	3,176.8

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Summer Flounder, Scup, and Black Sea Bass Fishery Performance Reports
July 2014

The Mid-Atlantic Fishery Management Council's (Council's) Summer Flounder, Scup, and Black Sea Bass Advisory Panel met jointly with the Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass Advisory Panels on July 1, 2014 to review fishery information documents for all three species and develop Fishery Performance Reports (FPRs) based on advisor perspectives on catch and landings patterns and other trends in these fisheries. **Please note:** Advisor comments described below reflect the broader discussion and are not necessarily consensus statements.

Council Advisory Panel members present: Greg DiDomencio* (NJ), Skip Feller* (VA), Harry Doernte (VA), James Fletcher (NC)

Commission Advisory Panel members present: James Tietje (MA), Robert Busby (NY), Marc Hoffman (NY), Paul Risi (NY), Paul Forsberg (NY), Skip Feller* (VA), Bill Shillingford (NJ), Bob Meimbresse (NJ), Greg DiDomencio* (NJ), Mike Fedosh (NJ)

Others present: Kiley Dancy (MAFMC Staff), Kirby Rootes-Murdy (ASMFC Staff), Mike Luisi (MAFMC/ASMFC), John Boreman (MAFMC SSC)

*Serve on both Council and Commission Advisory Panels.

Black sea bass

Environmental and Ecological Issues

Advisors commented that sea bass are wiping out other species, in particular feeding on juvenile lobsters. Some advisors noted concern about black sea bass biomass movement northward in search of food and potential impact on the lobster industry throughout New England. Increased biomass has led to increased predation on other species.

Advisors noted that there's such a high biomass of fish in the north that they are becoming nearly invasive in some areas. The biomass needs to be regulated to control impacts on other species. One advisor noted that the NEAMAP survey shows that sea bass indices are off the chart, similar to scup. The NEAMAP survey has never been wrong, and there is no reason to have the restrictions that we currently have.

Management Issues & Management Induced Effort Shifts

Advisors agreed that black sea bass is facing a critical management situation that needs to be addressed immediately. Despite Magnuson Act restrictions, the Council and Commission need to approach these issues with more common sense. Waiting until a potential 2016 benchmark assessment will be too late. The current quota is punitive and based on bad information. Faith in

the management system is being lost, and now is the time to break the rules and experiment with different solutions.

Southern states need different recreational regulations than northern states. The recreational season in Virginia has been closed when they most need it open. The highest landings for Virginia are reported in July according to MRIP, however, one advisor noted that they catch far more in the winter. Wave 1 has been closed due to lack of catch accounting, but the wave 1 fishery is primarily larger party/charter boats who file VTRs. VTR data should be used in general (not just in wave 1), as this is good data going unused in favor of lower quality estimates. Mangers should also consider also requiring and using state VTR data. Advisors also noted that many people are being shut out of most or all of the sea bass season in some areas (e.g., shore based fishermen). The sea bass fishery can withstand an extended season and increased bag limit, and a limited winter fishery should be open with VTR requirements. One advisor suggested looking at reducing size limits, or going to total (cumulative) length.

Advisors commented that current recreational data collection under MRIP is no different from MRFSS. Similar to last year, advisors noted that the MRIP survey has not advanced to the point where it can adequately capture reductions in effort. One advisor described an effort reduction of about 30% in New York and New Jersey, which is not reflected in the MRIP estimates and will result in estimated landings which could be inflated. All components of the new MRIP methodology need to be implemented.

The average size of black sea bass is increasing, but as the result of harvest limits that are in pounds, fishermen can catch fewer total numbers of fish.

Advisors are frustrated with high discards of black sea bass. Boats need to go farther offshore to catch bigger fish, but this means fishing in deeper waters, where discard mortality is higher. Many participants don't know how to vent and properly release. FishSmart[1] should be disseminated to a greater degree among recreational fishermen. There are ongoing efforts to reduce mortality from barotrauma, and hopefully in the future, mortality estimates and resulting catch limits will give anglers credit for this reduced discard mortality.

In Nantucket Sound (part of which is nursery habitat for sea bass), there used to be big pot fishery that was significantly restricted. If managers are able to increase catch limits, they should let pot fishermen get back to fishing.

Research Recommendations

Research suggestions proposed by advisors included:

- Exploring the feasibility of a slot limit in the recreational fishery and research into finding an appropriate range of a potential slot limit.
- Quantifying shifts in distribution and abundance resulting from climate change.
- Effects of chemicals to increase growth rate and influence sex change, and aquaculture research on stock enhancement potential.

[1] http://www.fishsmart.org/

Black Sea Bass 2012-2013 Catch and Survey information

Northeast Fisheries Science Center

June 27, 2014

Commercial Fishery

Landings in 2013 were 1027 mt, predominately from otter trawls and fish pots, an increase from 782 mt in 2012. The majority of landings were reported from the Mid-Atlantic statistical areas between New York and Delaware.

Table 1. Commercial black sea bass landings (kg) by region, market category and year.

By Statistical Area

Market Category

2013 kg

area	uncl	large	jumbo	medium	small	total	Pct
512-539	14,355	76,359	87,402	45,056	12,400	235572	23%
611-623	22,733	220,399	223,245	167,130	16,603	650111	63%
625-636	91	41,136	26,321	54,594	19,148	141291	14%
	37,179	337,894	336,968	266,780	48,151		
	4%	33%	33%	26%	5%	1,026,974	

2012

area	uncl	large	jumbo	medium	small	total	Pct
512-539	7,758	50,177	75,563	19,428	8,065	160,991	21%
611-623	20,597	161,640	155,255	165,155	13,497	516,143	66%
625-636	1,037	26,400	23,527	38,357	15,611	104,933	13%
	29,392	238,217	254,344	222,940	37,173		
	4%	30%	33%	29%	5%	782,067	

Table 2. Commercial black sea bass landings (kg) by gear type, market category and year.

By Gear

2013 kg

	uncl	large	jumbo	medium	small	total	
POTS + TRAPS,FISH	9,939	60,909	49,832	91,365	28,065	240,110	23%
TRAWL,OTTER,BOTTOM,FISH	5,566	222,814	260,773	90,128	14,799	594,079	58%
HANDLINE	4,170	34,232	20,680	28,385	2,159	89,625	9%
OTHER	4,433	23,791	23,823	47,386	3,727	103,159	10%

2012 kg

	uncl	large	jumbo	medium	small	total	
POTS + TRAPS,FISH	10,042	55,871	49,434	114,524	23,518	253,390	32%
TRAWL,OTTER,BOTTOM,FISH	7,342	144,943	146,224	58,220	9,073	365,801	47%
HANDLINE	7,767	24,956	46,460	13,062	2,637	94,881	12%
OTHER	4,241	12,448	12,227	37,134	1,944	67,995	9%

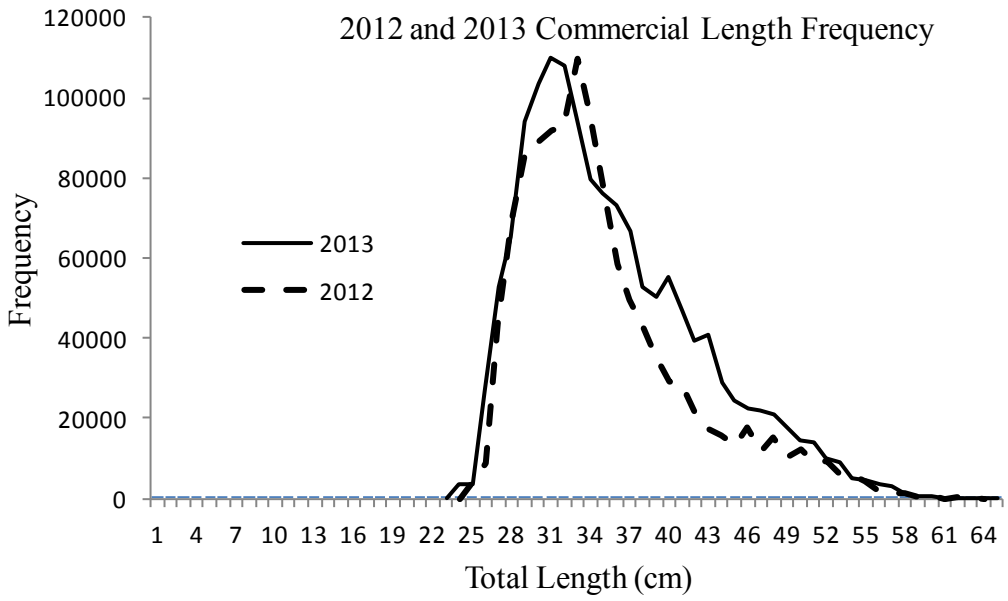

Figure 1. Length frequency of 2012 and 2013 black sea bass commercial landings.

Commercial discards from otter trawls were estimated from Northeast Fisheries Observer trips discard to kept all ratios. All other gears were estimated from discard to kept sea bass recorded in Vessel Trip Reports expanded to total sea bass landings by gear. Mortality rates as used in previous assessment.

Table 3. Commercial black sea bass discards (mt) by gear and year.

2013	mt	mortality rate	losses (mt)
Bottom otter trawl	148.4	1.00	148.4
handline	11.1	0.15	1.7
fish pot	31.1	0.15	4.7
lobster pot-offshore	1.7	0.15	0.3
other	2.9	1.00	2.9
total discard mt	195.2		
total discard loss mt			157.9

2012	mt	mortality rate	losses (mt)
Bottom otter trawl	91.8	1.00	91.8
handline	12.9	0.15	1.9
fish pot	21.2	0.15	3.2
lobster pot-offshore	21.6	0.15	3.2
other	11.2	1.00	11.2
total discard mt	158.8		
total discard loss mt			111.4

Recreational Fishery

Recreational landings in 2013 for Maine through Cape Hatteras, NC were 1.221 million fish equal to 1.054 mt. Associated discards (B2 only) were 8.283 million fish. Assuming a discard mortality rate of 15%, discard losses equal 1.232 million fish. Landings in 2012 equaled 1.874 million with discards of 10.606 million. 2012 discard losses equaled 1.590 million fish.

Table 4. Recreational black sea bass catch (number) by year. A mortality rate of 15% applied to live discards (B2).

Number

	AB1	B2	B2 mortality
2012	1,874,267	10,606,249	1,590,937
2013	1,220,958	8,282,715	1,242,407

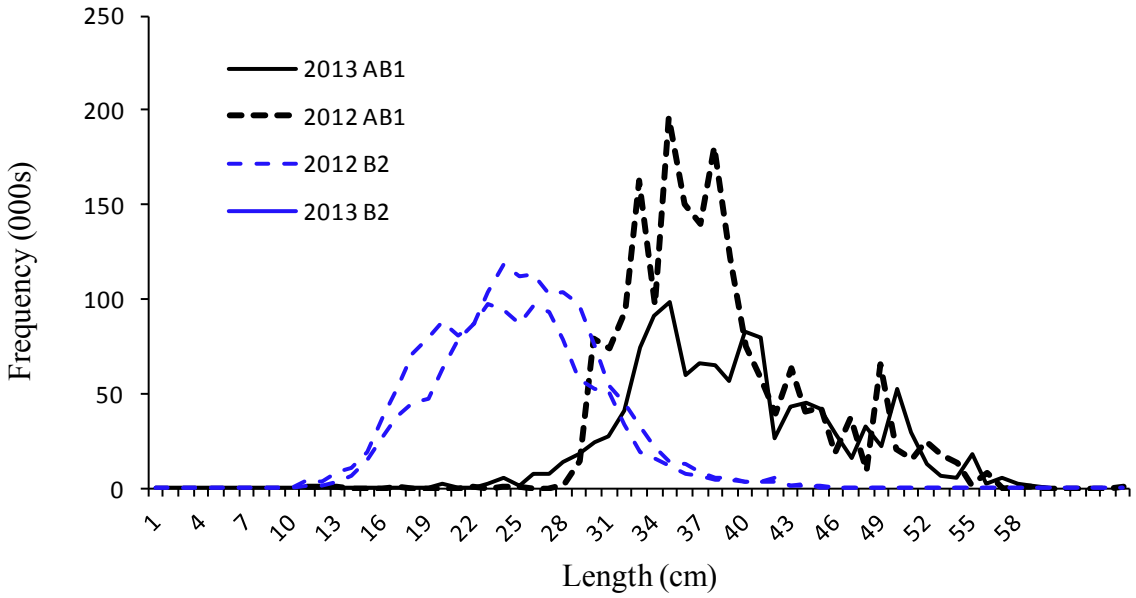

Figure 2. Length frequency (TL cm) of 2012 and 2013 black sea bass recreational landings and discards, ME- NC (Cape Hatteras).

Table 5. Total black sea bass catch (MT, landings plus discard mortalities) , 1981-2013 for northern stock.

Year	Landings Com	Discard losses Com	Landings Rec (AB1)	Discard losses Rec (B2*15%)	Total
1981	1129	67	625	35	1,857
1982	1177	70	1243	40	2,530
1983	1513	90	1860	114	3,577
1984	1519	105	666	36	2,326
1985	1075	89	1002	45	2,210
1986	1508	101	1824	95	3,528
1987	1635	98	929	36	2,698
1988	1424	102	1324	90	2,940
1989	1105	82	1502	39	2,727
1990	1402	53	1283	92	2,830
1991	1190	19	1876	92	3,176
1992	1264	91	1219	82	2,657
1993	1353	179	2167	64	3,762
1994	848	34	1355	80	2,318
1995	889	36	2753	124	3,802
1996	1448	483	1804	91	3,826
1997	1198	31	1920	112	3,261
1998	1171	136	588	86	1,981
1999	1305	36	802	112	2,255
2000	1205	42	1800	263	3,310
2001	1299	187	1556	295	3,336
2002	1587	24	1968	372	3,952
2003	1359	58	1512	301	3,230
2004	1405	370	817	140	2,733
2005	1298	29	902	153	2,383
2006	1285	16	945	166	2,413
2007	1037	57	1052	192	2,338
2008	875	37	771	242	1,925
2009	523	165	1088	226	2,002
2010	751	110	1373	251	2,485
2011	765	135	512	133	1,546
2012	782	111	1444	387	2,724
2013	1027	158	1054	300	2,539

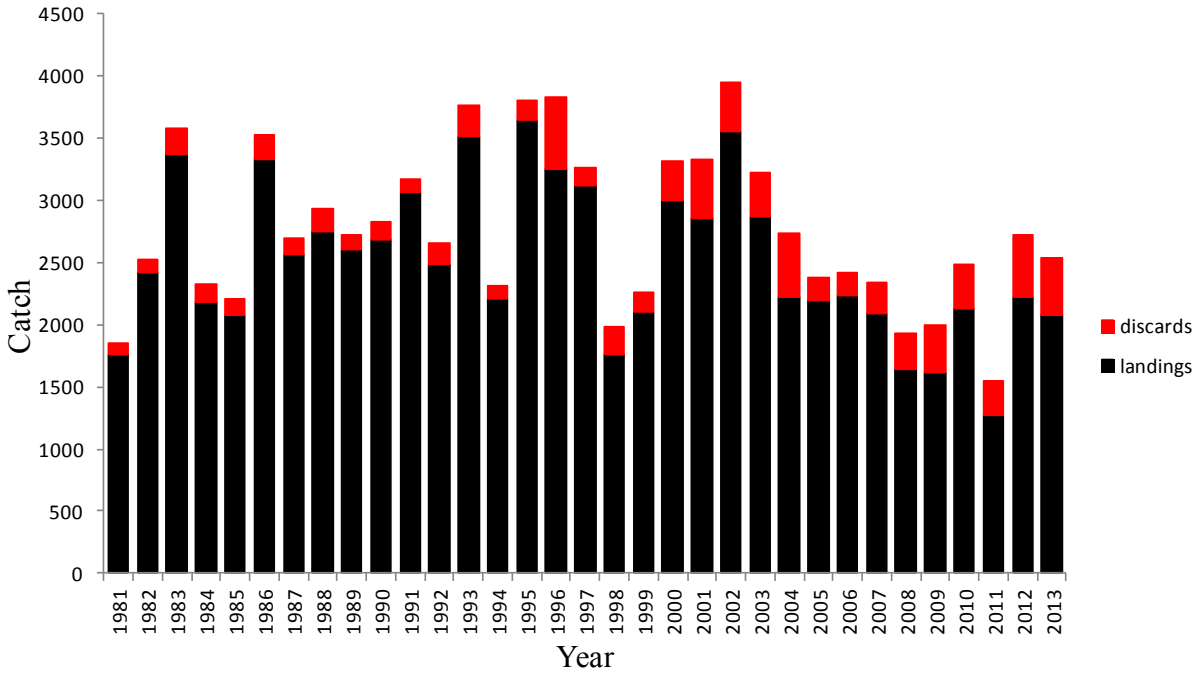

Figure 3. Black sea bass catch, 1981-2013.

Survey

Northeast Fisheries Science Center spring offshore index increased in 2013 to 4.531 fish per tow, compared to 1.613 per tow in 2012 (Bigelow indices calibrated to Albatross units). The large 2011 year class was evident as age 1 in spring of 2012 and age 2 in 2013.

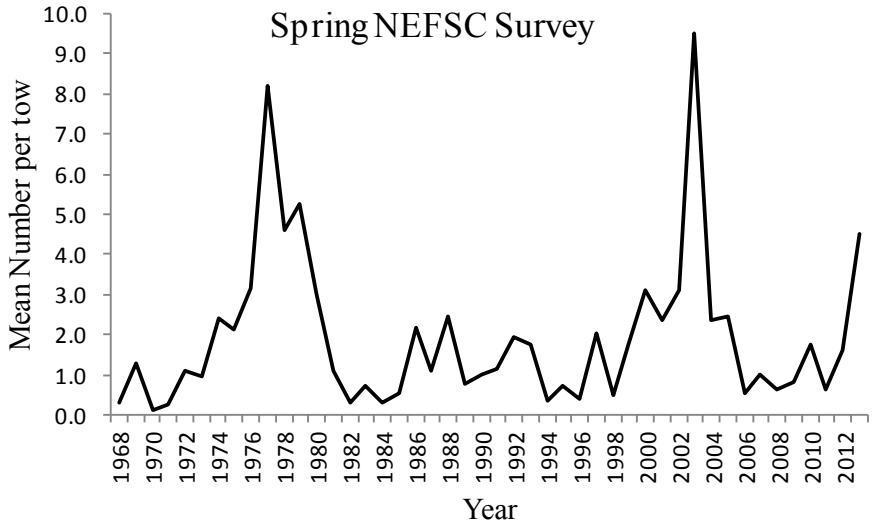

Figure 4. NEFSC spring offshore stratified mean number per tow of black sea bass, 1968-2013. 2009-2013 Bigelow data calibrated to Albatross units.

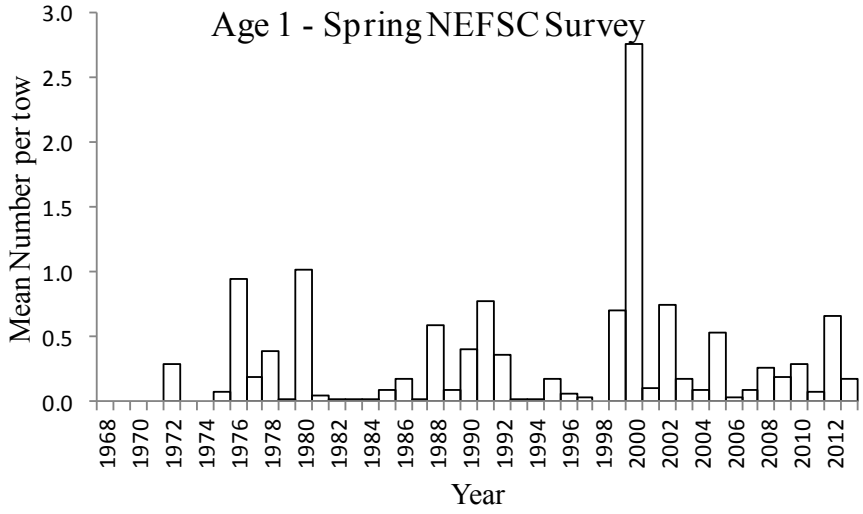

Figure 5. Indices of black sea bass recruitment (mean #/tow, age 1) from NEFSC spring offshore survey.

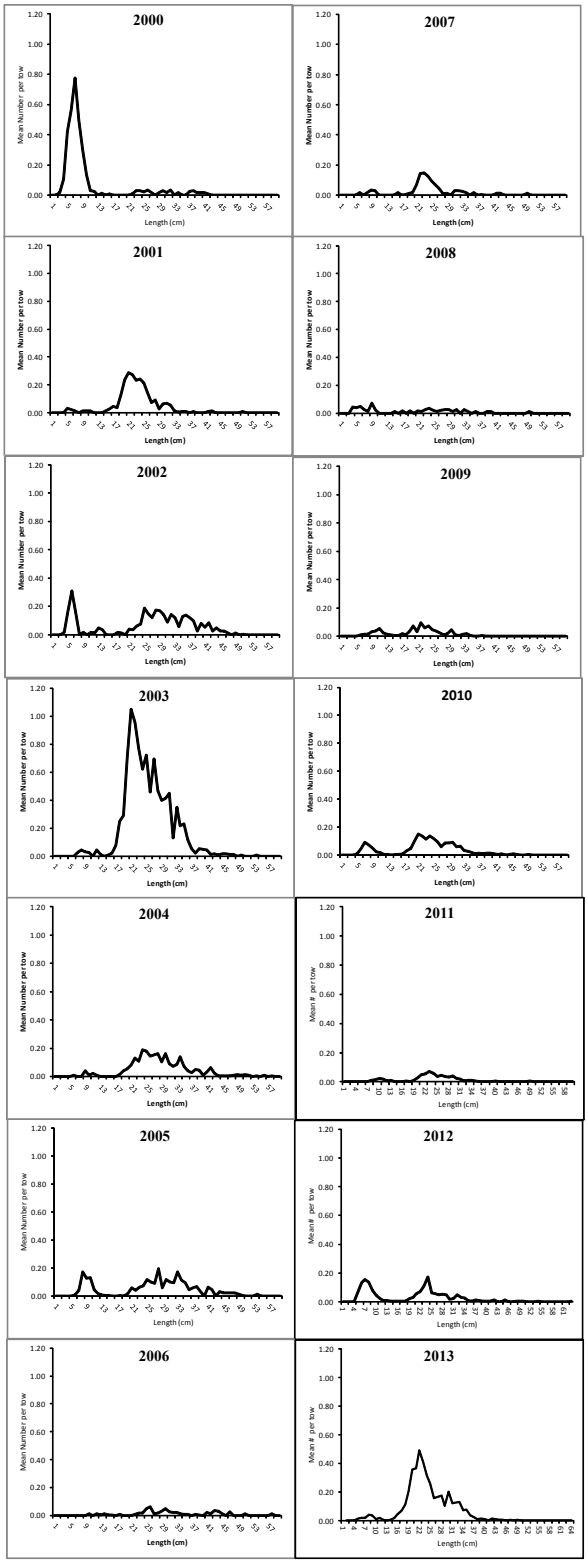

Figure 6. Length frequency distributions of black sea bass from NEFSC spring offshore survey, 2000-2013

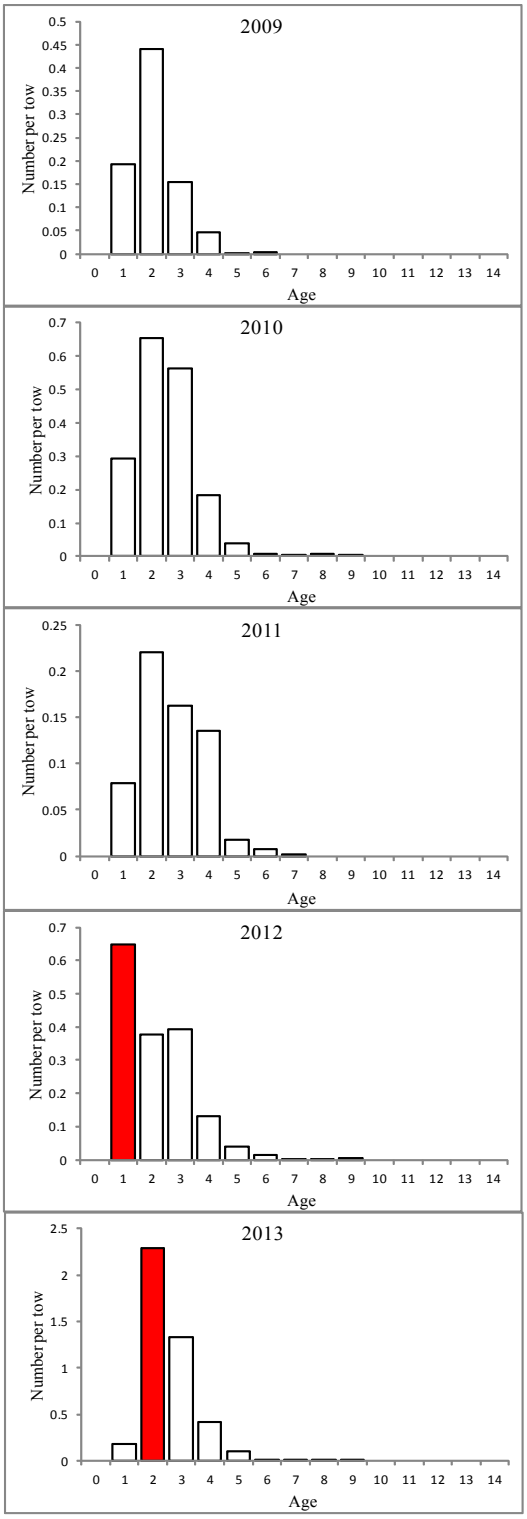

Figure 7. Mean number per tow at age of black sea bass from NEFSC spring offshore survey, 2009-2013. 2011 year class highlighted in red.

Table 6. Survey indices for black sea bass at age 1 (or equal length bin) from state and federal surveys. 2011 cohort indices highlighted in yellow. Indices have been standardized to the individual series means.

age 1 ***relative to series average***

	VA	spring MD age	NJ	<=14cm CT	RI	MA	<= 14 cm NEFSC spring	NEFSC winter	NEAMAP
1984					0.00	0.00	0.02		
1985					0.00	1.05	0.30		
1986					0.90	1.03	0.56		
1987					0.00	0.00	0.08		
1988				0.15	0.00	0.00	1.82		
1989	1.17	0.12	0.15	0.00	0.00	0.00	0.26		
1990	3.29	1.31	0.00	0.15	0.00	0.49	1.24		
1991	1.56	1.27	0.92	0.59	0.77	0.00	2.38		
1992	1.79	0.96	0.26	0.00	0.00	0.00	1.13	0.33	
1993	0.31	0.14	0.26	0.00	0.00	0.00	0.02	0.06	
1994	1.47	0.75	0.25	0.00	0.00	0.00	0.05	0.19	
1995	1.48	1.86	1.79	0.00	0.00	0.61	0.57	0.32	
1996	0.70	0.06	0.05	0.00	0.00	0.54	0.18	1.17	
1997	0.50	0.99	0.19	0.00	0.77	0.51	0.09	0.12	
1998	0.64	0.32	0.01	0.00	0.00	0.00	0.00	0.06	
1999	0.80	1.55	0.34	0.15	0.78	0.00	2.17	0.50	
2000	0.81	1.79	1.62	2.52	8.24	5.65	8.52	3.04	
2001	1.03	1.18	0.79	0.00	0.00	0.00	0.30	0.60	
2002	1.80	2.18	8.33	7.27	1.96	2.44	2.31	3.50	
2003	0.89	0.89	0.46	0.00	0.00	0.00	0.53	2.35	
2004	0.17	0.29	0.05	0.00	0.00	0.00	0.28	0.24	
2005	0.08	0.26	1.56	0.00	0.00	0.00	1.67	0.58	
2006	0.27	1.17	0.20	0.15	2.01	2.30	0.11	0.68	
2007	0.61	1.39	1.65	1.93	0.78	0.00	0.28	2.27	
2008	1.16	2.93	0.29	2.08	3.22	2.47	0.81		0.34
2009	0.57	0.60	1.26	1.34	0.45	1.29	0.60		0.89
2010	0.45	0.85	0.41	0.00	0.00	1.07	0.90		0.11
2011	1.55	0.44	0.54	0.30	0.38	0.00	0.24		0.86
2012	0.91	0.98	2.32	9.35	8.62	9.62	2.03		1.71
2013		0.70	1.32	1.04	1.12	0.94	0.56		2.09

Table 7. Mean number per tow of black sea bass from NEAMAP survey series. Ages provided by VIMS.

NEAMAP

	Age					
fall	0	1	2	3	4+	all
2007	0.35	0.39	0.26	0.17	0.06	0.85
2008	0.21	0.15	0.08	0.06	0.06	0.45
2009	0.27	0.3	0.2	0.15	0.07	0.66
2010	0.13	0.12	0.08	0.05	0.07	0.36
2011	0.2	0.22	0.16	0.08	0.16	0.69
2012	0.28	0.51	0.36	0.09	0.2	1.05
2013	0.2	0.22	0.33	0.18	0.3	0.89

	Age				
spring	1	2	3	4+	all
2007					
2008	0.09	0.48	0.67	0.7	1.68
2009	0.24	0.46	0.55	0.49	1.64
2010	0.03	0.44	0.55	0.58	1.3
2011	0.23	0.45	0.54	0.78	1.99
2012	0.46	0.72	0.62	0.69	2.36
2013	0.56	2.71	1.08	1.54	5.66
2014					

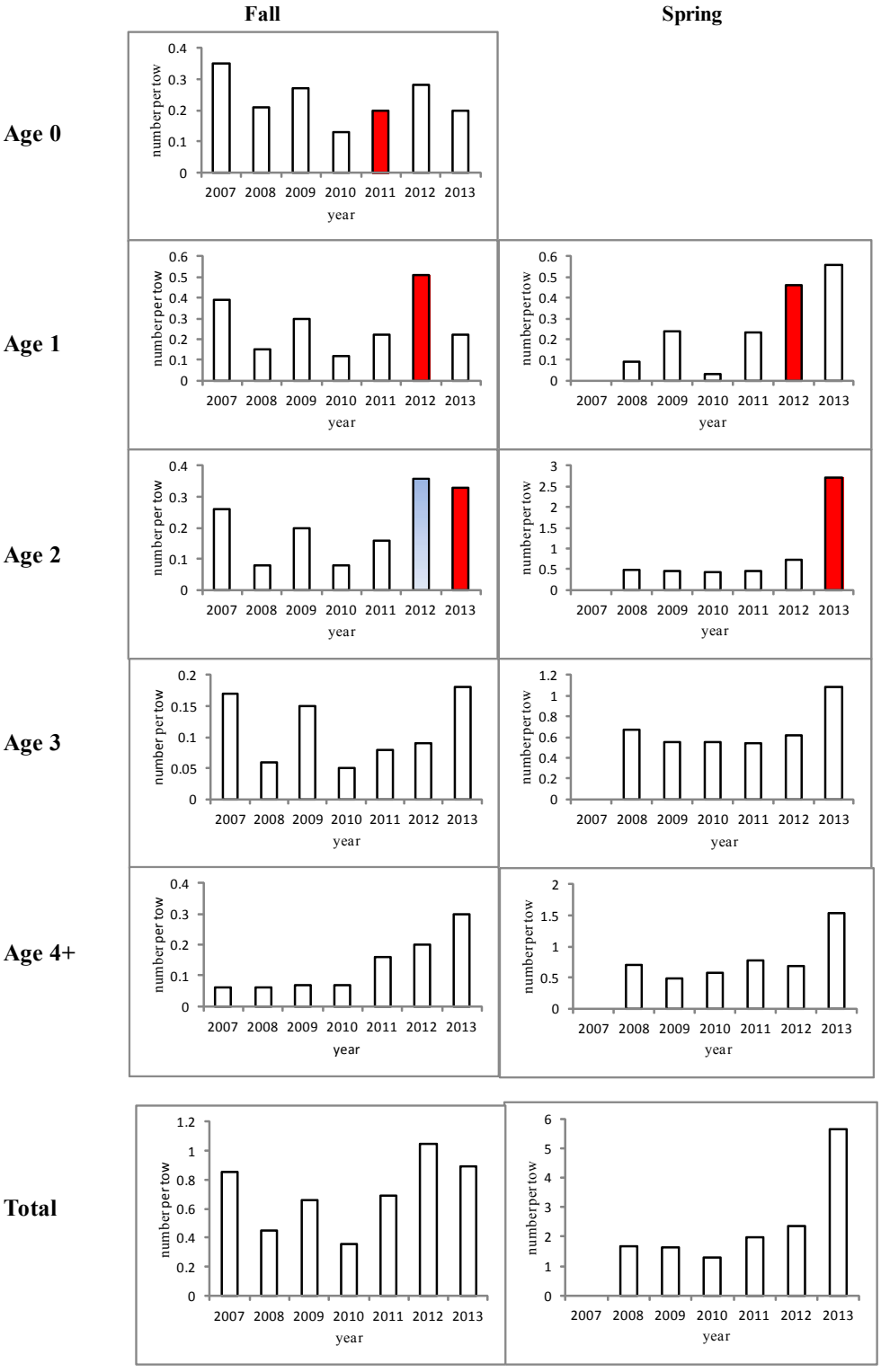

Figure 8. Mean number per tow at age from NEAMAP survey.

Mid-Atlantic Fishery Management Council
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Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: July 30, 2014

TO: Council

FROM: Kiley Dancy, Staff

SUBJECT: Review of Black Sea Bass Management Measures for 2015

The following materials are enclosed for Council consideration of the above subject:

1) Black Sea Bass Advisory Panel Information Document (June 2014)
2) Black Sea Bass Fishery Performance Report (July 2014)
3) Black Sea Bass Data Update for 2014 (July 2014)
4) Staff Memo (July 2014)

Two additional documents can be found behind the summer flounder tab:

5) Scientific and Statistical Committee Meeting Report (July 2014)
6) Monitoring Committee meeting summary (July 2014)

To summarize the recommendations contained in these two documents, neither the SSC nor the Monitoring Committee found any compelling evidence to recommend any changes to the implemented 2015 specifications for black sea bass.

Black Sea Bass Advisory Panel Information Document[1]

June 2014

Management System

The Fishery Management Plan (FMP) for black sea bass became effective in 1997 when it was incorporated into the Summer Flounder and Scup FMP. The FMP established the management unit for black sea bass (*Centropristis striata*) as the U.S. waters in the western Atlantic Ocean from Cape Hatteras, North Carolina to the U.S.-Canadian border. The FMP additionally included measures to ensure effective management of the black sea bass resource. Two management entities work cooperatively to develop fishery regulations for black sea bass: the Atlantic States Marine Fisheries Commission (ASMFC), and the Mid-Atlantic Fishery Management Council (MAFMC). The National Marine Fisheries Service (NMFS) works in conjunction with the MAFMC as the federal implementation and enforcement entity. This cooperative management endeavor was developed because significant portions of black sea bass catch are taken from both state (0-3 miles offshore) and Federal waters (3-200 miles offshore).

The commercial and recreational black sea bass fisheries are managed using catch and landings limits, commercial quotas, recreational harvest limits, minimum fish sizes, gear regulations, permit requirements, and other provisions as prescribed by the FMP. Black sea bass was under a stock rebuilding strategy beginning in 2000 until it was declared rebuilt in 2009. The FMP, including subsequent Amendments and Frameworks, is available on the Council website at: http://www.mafmc.org/fisheries/fmp/sf-s-bsb.

Basic Biology

Detailed information on black sea bass life history and habitat requirements can be found in the documents titled "Essential Fish Habitat Source Document: Black Sea Bass, *Centropristis striata*, Life History and Habitat Characteristics" (Steimle et al. 1999) as well as in an update of that document, "Essential Fish Habitat Source Document: Black Sea Bass, *Centropristis striata*, Life History and Habitat Characteristics (2nd Edition)" (Drohan et al. 2007). Electronic versions are available at the following website: http://www.nefsc.noaa.gov/nefsc/habitat/efh/. Information contained in these documents is summarized here.

The northern population of black sea bass spawns in the Middle Atlantic Bight over the continental shelf during the spring through fall, primarily between Virginia and Cape Cod, Massachusetts. Spawning begins in the spring in the southern portion of the population range, i.e., off North Carolina and Virginia, and progresses north into southern New England waters in the summer and fall. Collections of ripe fish and egg distributions indicate that the species

[1] Data employed in the preparation of this document are from unpublished National Marine Fisheries Service (NMFS) Dealer, Vessel Trip Reports (VTRs), Permit, and Marine Recreational Statistics (MRFSS/MRIP) databases, as of May 2014, unless otherwise noted.

spawns primarily on the inner continental shelf between Chesapeake Bay and Montauk Pt., Long Island. The duration of the larval stage and habitat-related settlement cues are unknown; therefore, distribution and habitat use of this pelagic stage may only partially overlap with that of the egg stage. Adult black sea bass are also very structure oriented, especially during their summer coastal residency. Unlike juveniles, they tend to enter only larger estuaries and are most abundant along the coast. Larger fish tend to be found in deeper water than smaller fish. A variety of coastal structures are known to be attractive to black sea bass, including shipwrecks, rocky and artificial reefs, mussel beds and any other object or source of shelter on the bottom. In the warmer months, inshore, resident adult black sea bass are usually found associated with structured habitats. During the summer, adult black sea bass share complex coastal habitats with other fishes including tautog, hakes, conger eel, sea robins and other transient species. Essential Fish Habitat for black sea bass consists of pelagic waters, structured habitat (e.g., sponge beds), rough bottom shellfish, and sand and shell, from the Gulf of Maine through Cape Hatteras, North Carolina.

Black sea bass attain a maximum size of around 60 cm (23.6 in) and 4 kg (8.8 lb), with a maximum age for females of 8 and age 12 for males (DPSWG 2009). Maturity data is routinely collected on Northeast Fisheries Science Center (NEFSC) survey cruises and model estimates for length suggest 50 percent maturity occurs at 20.4 cm (8.0 inches) with 95 percent maturity attained by 28 cm (11.0 inches).

Adult black sea bass are generalist carnivores that feed on a variety of infaunal and epibenthic invertebrates, especially crustaceans (including juvenile lobster, crabs, and shrimp), small fish, and squid. The NEFSC food habits database lists the spiny dogfish, Atlantic angel shark, skates, spotted hake, summer flounder, windowpane, and goosefish as predators of black sea bass.

Status of the Stock

The most recent accepted benchmark assessment on black sea bass, which used a statistical catch at length (SCALE) model, was peer-reviewed and accepted in December 2008 by the Data Poor Stock Working Group (DPSWG) Peer Review Panel (DPSWG 2009). Reports on "Stock Status," including annual assessment and reference point update reports, Stock Assessment Workshop (SAW) reports, Stock Assessment Review Committee (SARC) panelist reports, and DPSWG reports and peer-review panelist reports are available online at the NEFSC website: http://www.nefsc.noaa.gov/saw/.

The latest assessment update was completed in July 2012, and concluded that the stock was not overfished and overfishing was not occurring in 2011, relative to the DPSWG biological reference points. The 2011 stock was at 102% of the spawning stock biomass at maximum sustainable yield (SSB_{MSY}). Fishing mortality (F_{MULT}) in 2011 was F = 0.21, a decrease from F=0.41 in 2010 (Figure 1). This point estimate of F in 2011 is below the fishing mortality threshold of F=0.44. Estimates for 2011 total biomass were at 28.0 million lb (12,700 mt), above the value for B_{MSY}. Spawning stock biomass (SSB) in 2011 was estimated at 24.6 million lb (11,145 mt). 2011 SSB was 102% of SSB_{MSY} (24.0 million lb, 10,880 mt; Figure 2). Recruitment estimated by the model was relatively constant through the time series with the exception of the 1999 and 2001 year classes. These cohorts appeared to be the driving force behind the increase in biomass and SSB. The estimated average recruitment (age one) in 2011 (2010 cohort) was 21.0 million fish.

The DPSWG Panel noted that despite acceptance of the assessment model there was *"considerable uncertainty with respect to stock status*." The review Panel also recommended that the SSC *"recognize and allow for the sizeable uncertainty in stock status when establishing catch limits."*

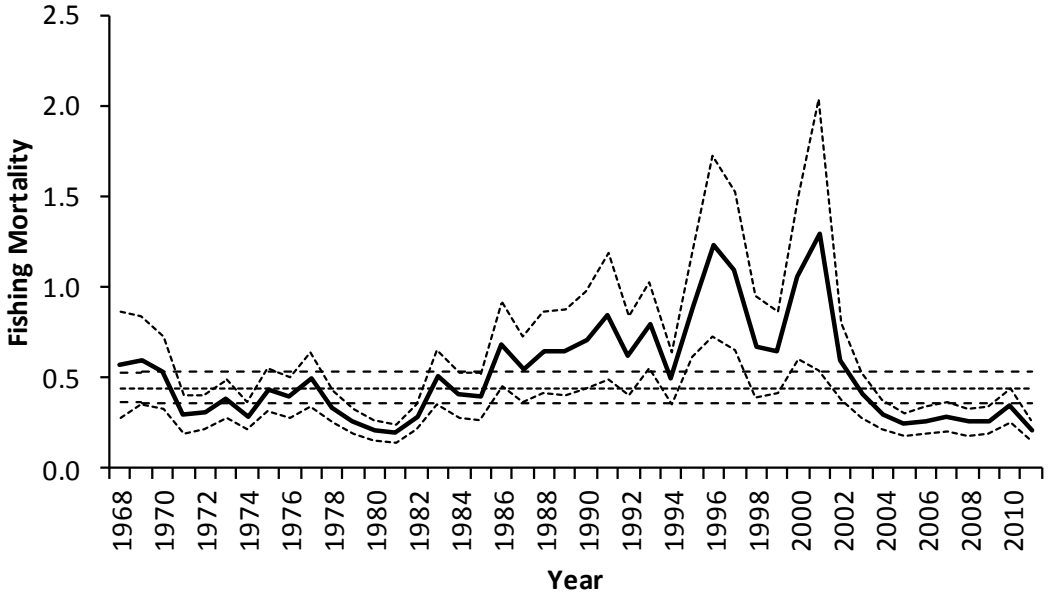

Figure 1: Estimated fishing mortality (+/- 2 standard deviations) of black sea bass from 1968-2011. Horizontal lines are $F_{MSY} \pm 80\%$ confidence interval. Source: Shepherd 2012.

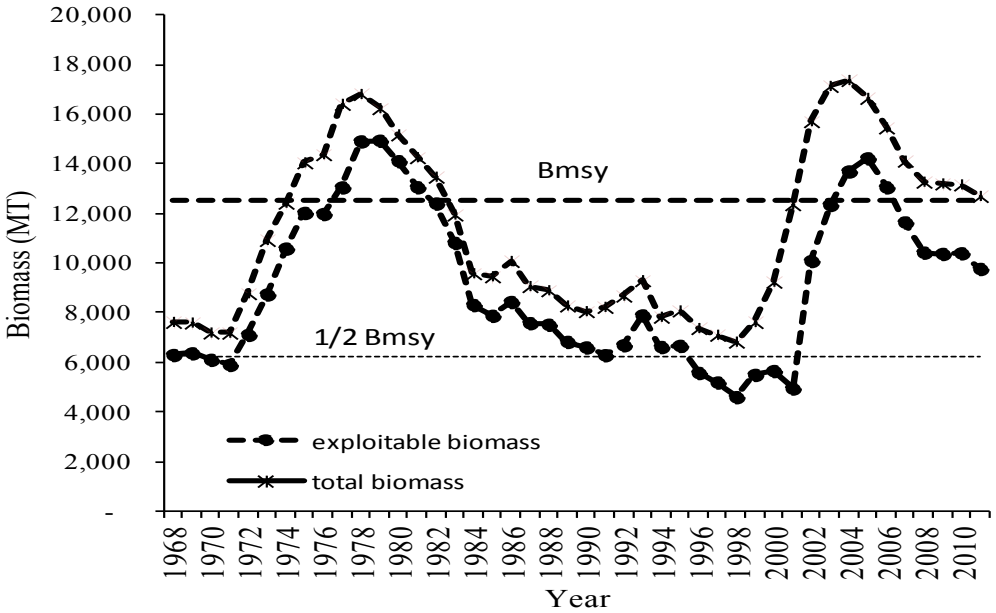

Figure 2: Estimated black sea bass total and exploitable biomass (mt) from SCALE model update, 1968-2011. Also shown are the biological reference points associated with total biomass. Source: Shepherd 2012.

Fishery Performance

There are significant commercial and recreational fisheries for black sea bass. Black sea bass is managed primarily using output controls (catch and landings limits), with 49 percent of the landings being allocated to the commercial fishery as a commercial quota and 51 percent allocated to the recreational fishery as a recreational harvest limit.

Table 1 summarizes the black sea bass management measures for the 2004-2015 fishing years. Acceptable biological catch (ABC) levels have been identified for this stock since 2010, and recreational and commercial annual catch limits (ACLs), with a system of overage accountability for each ACL, were first implemented in 2012. It should be noted that catch limits include both projected landings and discards, whereas the commercial quotas and recreational harvest limits are landings based (i.e., harvest).

Total landings (commercial and recreational) peaked in the late 1980's at 15.8 million lb, and in 2013 were about 4.7 million lb total (Figure 3).

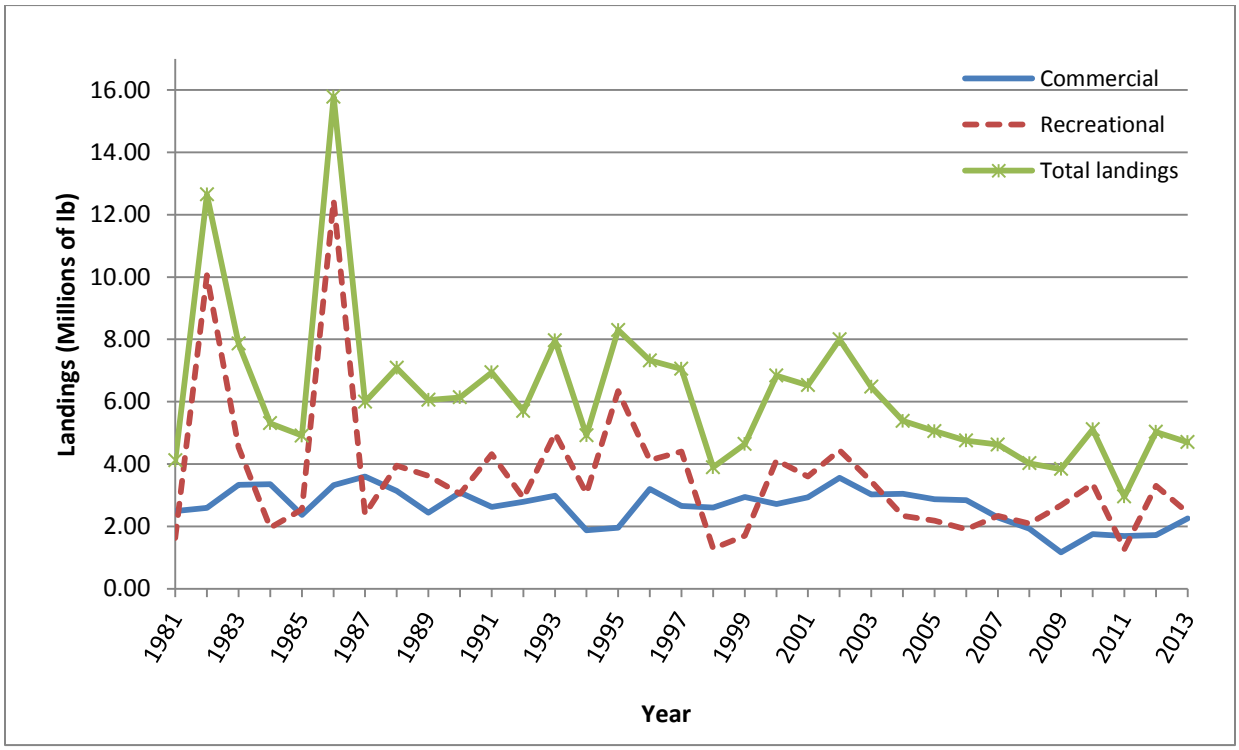

Figure 3: Commercial and Recreational U.S. Black Sea Bass Landings (Pounds) from Maine-North Carolina, 1981-2013.

Table 1: Summary of management measures and landings for 2004 through 2015.

Management measures	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015[a]
ABC (m lb)	NA	NA	NA	NA	NA	NA	4.500	4.500	4.500	5.50	5.50	5.50
TAC (m lb)	NA	NA	NA	NA	NA	2.300	4.500	4.500	4.500	5.50	5.50	5.50
Commercial ACL (m lb)	NA	NA	NA	NA	NA	NA	NA	NA	1.980	2.60	2.60	2.60
Com. quota–adjusted (m lb)[b]	3.77	3.95	3.83	2.38	2.03	1.09	1.76	1.71	1.71	2.17	2.17	2.17
Commercial landings (m lb)	3.04	2.87	2.84	2.29	1.93	1.17	1.75	1.69	1.72	2.26	NA	NA
Recreational ACL (m lb)	NA	NA	NA	NA	NA	NA	NA	NA	1.860	2.90	2.90	2.90
Rec. harvest limit-adjusted (m lb)[b]	4.01	4.13	3.99	2.47	2.11	1.14	1.83	1.78	1.32	2.26	2.26	2.26
Recreational landings (m lb)[c]	2.34	2.18	1.91	2.34	2.09	2.67	3.36	1.27	3.31	2.44	NA	NA
Com. fish size (in)	11	11	11	11	11	11	11	11	11	11	11	11
Com. min. mesh size (in, diamond)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Threshold (lb)	500/100	500/100	500/100	500/100	500/100	500/100	500/100	500/100	500/100	500/100	500/100	500/100
Vent size (in)	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8
Recreational measures (minimum fish size (total length), possession limit, and open season)	12-in TL, 25 fish, 1/1-9/7 and 9/22-11/30	12-in TL, 25 fish, 1/1-12/31	12-in TL, 25 fish, 1/1-12/31	12-in TL, 25 fish, 1/1-12/31	12-in TL, 25 fish, 1/1-12/31	12.5-in TL, 25 fish, 1/1-10/5	12.5-in TL, 25 fish, 5/22-10/11 and 11/1-12/31	12.5-in TL, 25 fish, 5/22-10/11 and 11/1-12/31	12.5-in TL, 25 fish, 5/19-10/14 and 11/1-12/31	12.5-in TL, 20 fish, 5/19-10/14 and 11/1-12/31	12.5-in TL, 15 fish, 5/19-9/18 and 10/18-12/31	NA

[a]These reflect the regulations currently set for black sea bass in 2015, however, the Council and ASFMC will review these catch limits and management measures in August 2014 and may revise as necessary. [b]Adjusted for RSA and projected discards. [c]Includes landings from all of North Carolina. NA=Not applicable or not yet available.

Commercial Fishery

In Federal waters, commercial fishermen holding a moratorium permit may fish for black sea bass. Permit data for 2013 indicate that 736 vessels held commercial permits for black sea bass. The ASMFC divides the black sea bass commercial quota among the states based on the allocation percentages given in Table 2, and states set measures to achieve their state-specific commercial quotas.

Table 2: The ASFMC black sea bass allocation formula for the commercial fisheries in each state.

State	Allocation (percent)
ME	0.5
NH	0.5
MA	13.0
RI	11.0
CT	1.0
NY	7.0
NJ	20.0
DE	5.0
MD	11.0
VA	20.0
NC	11.0
Totals	100

National Marine Fisheries Service statistical areas are shown in Figure 4, with areas that accounted for more than 5 percent of the black sea bass catch in 2013 highlighted. Vessel trip report (VTR) data suggest that statistical areas 615, 616 (includes Hudson canyon), and 621 were responsible for the largest percentage of the catch. Statistical area 537 had the majority of trips that caught black sea bass (Table 3).

Table 3: Statistical areas that accounted for at least 5 percent of the commercial black sea bass catch in 2013, with associated number of trips. Source: NMFS VTR data.

Statistical Area	Black Sea Bass Catch (percent)	Black Sea Bass Trips (N)
615	16.18	173
616	14.78	351
621	13.69	261
537	7.07	741
622	6.26	103
631	5.13	69

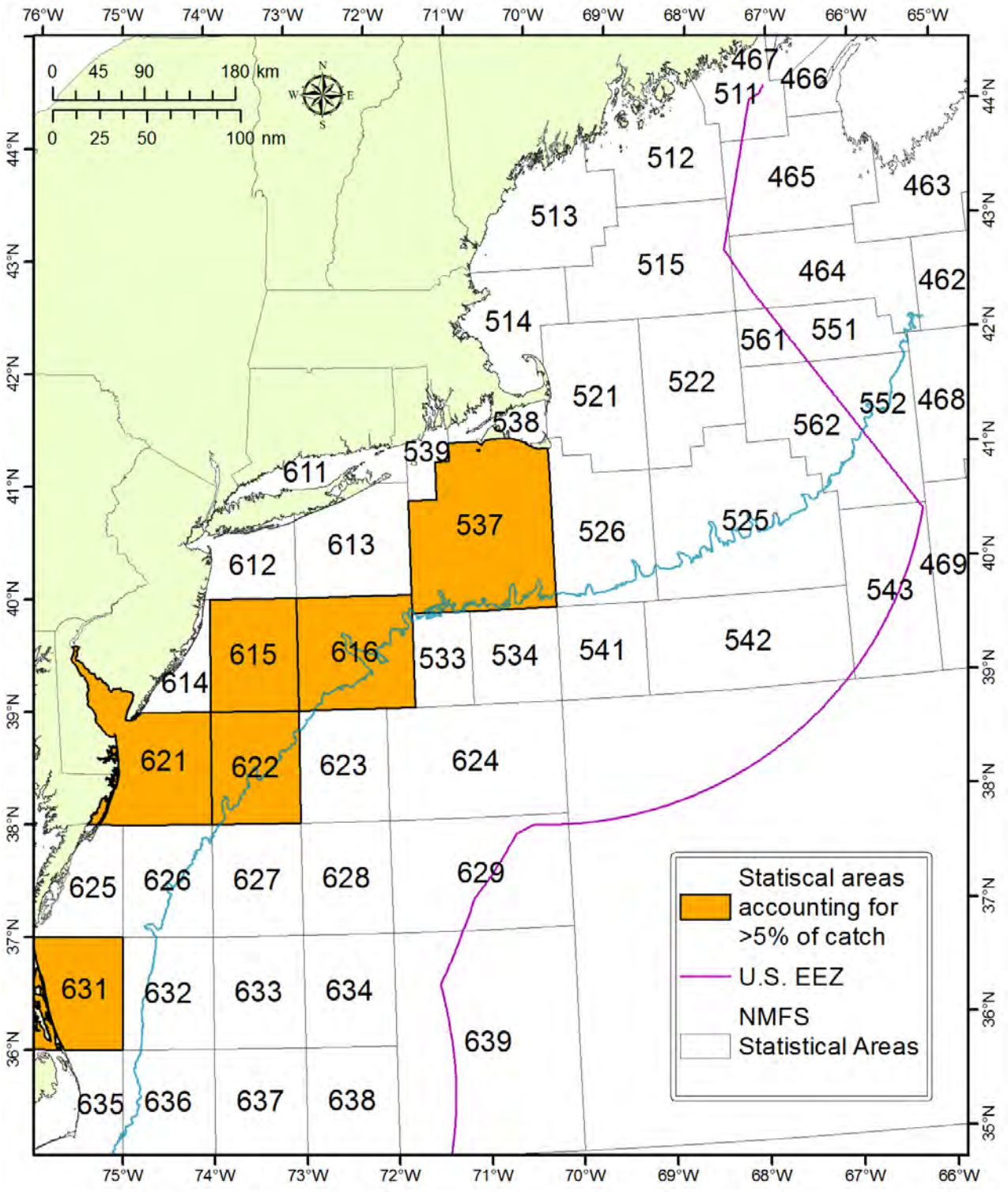

Figure 4: National Marine Fisheries Service Statistical Areas, showing areas accounting for more than 5% of the commercial black sea bass catch in 2013.

Based on VTR data for 2013, the majority of black sea bass landings were reported to be taken by bottom otter trawls (61 percent), followed by pots and traps (26 percent), offshore lobster pots (7 percent), and hand lines (5 percent). Other gear types each accounted for less than 1 percent of landings. Current regulations state that large trawl nets are required to possess a minimum of 75 meshes of 4.5 inch diamond mesh in the codend, or the entire net must have a minimum mesh size of 4.5 inch throughout. The threshold level used to trigger the minimum mesh requirement size is 500 lb from January through March and 100 lb from April through December (Table 1). In addition, the minimum vent size requirements for black sea bass pots/traps are 2.5 inches for circle vents, 2 inches for square vents, or 1.375 by 5.75 inches for rectangular vents. Two vents are required in the parlor portion of the pot/trap.

Black sea bass ex-vessel revenues, based on dealer data, have ranged from $2.2 to $7.7 million for the 1994 through 2013 period. The mean price for black sea bass (unadjusted) has ranged from a low of $1.14/lb in 1996 to a high of $3.33/lb in 2012 (Figure 5). In 2013, 2.26 million pounds of black sea bass were landed in the commercial fishery, generating $7.36 million in revenues ($3.26/lb).

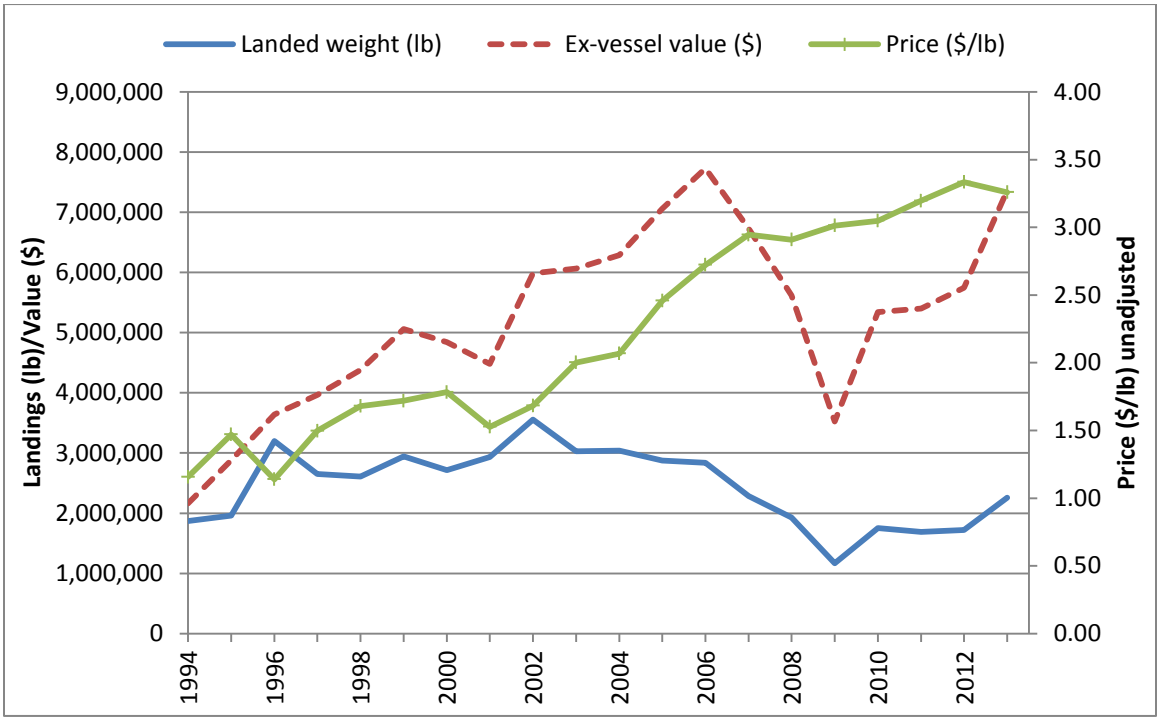

Figure 5: Landings, ex-vessel value, and price (unadjusted) for black sea bass, Maine through North Carolina, 1994-2013.

2013 NMFS dealer data were used to examine recent landings patterns among ports. The top commercial landings ports for black sea bass by pounds landed are shown in Table 4. A “top port” is defined as any port that landed at least 100,000 lb of black sea bass. Related data for the recreational fisheries are shown in subsequent sections. However, due to the nature of the recreational database, it is inappropriate to desegregate to less than state levels. The ports and communities that are dependent on black sea bass are fully described in Amendment 13 to the FMP. Additional information on "Community Profiles for the Northeast US Fisheries" can be found at: http://www.nefsc.noaa.gov/read/socialsci/community_profiles/.

Table 4: Top ports of landing (in lb) for black sea bass (BSB), based on NMFS 2013 dealer data. Since this table includes only the “top ports,” it may not include all of the landings for the year.

Port	Landings of BSB (lb)	# BSB Vessels
OCEAN CITY, MD	219,321	13
PT. PLEASANT, NJ	205,324	40
CAPE MAY, NJ	193,623	38
PT. JUDITH, RI	183,922	135
HAMPTON, VA	151,484	30
CHINCOTEAGUE, VA	143,567	23
NEWPORT NEWS, VA	142,957	29
INDIAN RIVER, DE	C	C
VIRGINIA BEACH, VA	101,806	4

Among the states from Maine through North Carolina, New York had the highest number of Federally permitted dealers (54) who bought black sea bass in 2013 (Table 5). All dealers bought approximately $7.36 million of black sea bass in 2013.

Table 5: Dealers reporting buying black sea bass, by state in 2013.

Number of Dealers	MA	RI	CT	NY	NJ	DE	MD	VA	NC
	38	38	13	54	26	3	5	17	24

Recreational Fishery

There is a significant recreational fishery for black sea bass in state waters, which occurs seasonally when the fish migrate inshore during the warm summer months. In Federal waters, the recreational black sea bass fishery is managed on a coastwide basis. For the past four years (2011-2014), state waters measures have been set on a state or regional basis, as the result of ASMFC FMP Addendums that have been passed in each of these years. The 2014 recreational fishing measures in Federal waters are given in Table 1, and the 2014 state-specific measures are given in Table 6.

Table 6: Black sea bass recreational fishing measures in 2014, by state.

State	Minimum Size (inches)	Possession Limit	Open Season
New Hampshire	13	10 fish	January 1-December 31
Massachusetts (Private and For-hire)	14	8 fish	May 17- September 15
Massachusetts (For-hire with Letter of Authorization from MA DMF)	14	8 fish	May 17- May 31
		20 fish	September 1- September 30
Rhode Island	13	3 fish	June 29- August 31
		7 fish	September 1- December 31
Connecticut (Private and Shore)	13	3 fish	June 21- August 31
		8 fish	September 1- December 31
CT Authorized Party/Charter Monitoring Program Vessels		8 fish	June 21-December 31
New York	13	8 fish	July 15- December 31
New Jersey	12.5	3 fish	July 1- August 31
		15 fish	May 19- June 30; September 1- September 6; October 18- December 31
Delaware	12.5	15 fish	May 19 - September 18 and October 18 - December 31
Maryland	12.5	15 fish	May 19 - September 18 and October 18 - December 31
PRFC	12.5	15 fish	May 19 - September 18 and October 18 - December 31
Virginia	12.5	15 fish	May 19 - September 18 and October 18 - December 31
North Carolina (North of Cape Hatteras 35° 15'N Latitude)	12.5	15 fish	May 19 - September 18 and October 18 - December 31

Recreational data have been available through the Marine Recreational Information Program (MRIP) since 2004, and prior to 2004 were available through the Marine Recreational Fishery Statistics Survey (MRFSS). Recreational catch and landings peaked in 1986 with landings in numbers and weight at the lowest levels in 2011 (Table 7). When anglers are intercepted through the surveys conducted for the recreational statistics programs, they are asked about where the majority of their fish were caught (i.e., inland, state waters (<=3 miles), exclusive economic zone (EEZ; > 3 miles)). While these data are somewhat imprecise, they do provide a general indication of where the majority of black sea bass are landed recreationally, and indicate that a majority of the landings are now occurring in state waters (Table 8).

Table 7: Recreational black sea bass landings and data from the NMFS recreational statistics databases, 1981-2013, Maine through North Carolina.

Year	Catch ('000 of fish)	Landings ('000 of fish)	Landings ('000 lb)
1981	5,301	2,734	1,628
1982	11,615	10,249	10,054
1983	8,707	5,631	4,530
1984	4,330	2,491	1,961
1985	7,131	4,216	2,540
1986	29,167	21,904	12,461
1987	5,912	3,467	2,392
1988	9,363	4,060	3,945
1989	7,000	4,649	3,621
1990	9,622	4,269	3,047
1991	11,224	5,458	4,316
1992	8,296	3,869	2,914
1993	9,451	6,197	4,985
1994	7,688	3,571	3,054
1995	14,481	6,887	6,339
1996	8,437	3,764	4,125
1997	11,088	4,868	4,399
1998	5,699	1,259	1,290
1999	7,758	1,412	1,697
2000	17,667	3,755	4,122
2001	14,626	3,006	3,596
2002	15,080	3,421	4,442
2003	12,649	3,392	3,449
2004	8,884	1,925	2,340
2005	8,358	1,489	2,181
2006	8,729	1,392	1,911
2007	9,601	1,630	2,338
2008	11,102	1,342	2,092
2009	9,875	1,909	2,672
2010	11,133	2,335	3,361
2011	5,794	881	1,267
2012	14,553	1,946	3,305
2013	10,912	1,276	2,441

Table 8: Percentage of black sea bass recreational landings (MRIP Type A+B1 in number of fish) by area (state vs. Federal waters), Maine through North Carolina, 2004-2013. Area information is self-reported based on the area where the majority of fishing activity occurred per angler trip.

Year	State <= 3 mi	EEZ > 3 mi
2004	25.6%	74.4%
2005	29.9%	70.1%
2006	34.9%	65.1%
2007	34.8%	65.2%
2008	60.3%	39.7%
2009	67.5%	32.5%
2010	72.1%	27.9%
2011	63.8%	36.2%
2012	72.6%	27.4%
2013	68.8%	31.2%
Avg. 2004 - 2013	53.0%	47.0%
Avg. 2011 - 2013	68.4%	31.6%

Table 9: State contribution (as a percentage) to total recreational landings of black sea bass, (MRIP Type A+B1 in number of fish), from Maine through North Carolina, 2012 and 2013.

State	2012	2013
Maine	0.0	0.0
New Hampshire	0.2	1.0
Massachusetts	26.7	23.8
Rhode Island	5.3	6.0
Connecticut	5.7	8.3
New York	16.5	26.4
New Jersey	37.8	25.8
Delaware	2.1	2.0
Maryland	1.7	0.6
Virginia	0.2	1.7
North Carolina	3.9	4.5
Total	**100%**	**100%**

In 2013, there were 773 recreational vessels (i.e., party and charter vessels) that held black sea bass Federal recreational permits. Many of these vessels also hold recreational permits for summer flounder and scup. Landings by mode indicate that although party/charter fishermen have historically been responsible for the majority of black sea bass landings, the private/rental fishery has accounted for the majority of landings in recent years (Table 10).

Table 10: The number of black sea bass landed from Maine through North Carolina by mode, 1981-2013.

Year	Shore	Party/Charter	Private/Rental
1981	452,103	1,440,169	841,478
1982	81,445	8,104,204	2,063,334
1983	222,012	4,005,707	1,403,508
1984	98,227	1,128,294	1,264,897
1985	163,448	2,393,049	1,659,700
1986	1,021,525	16,695,387	4,187,084
1987	71,956	1,157,243	2,238,159
1988	140,754	1,691,300	2,227,901
1989	237,970	1,991,672	2,419,654
1990	289,378	2,268,915	1,710,455
1991	250,675	2,586,145	2,621,271
1992	45,369	2,043,190	1,780,224
1993	54,676	4,579,662	1,562,227
1994	243,347	2,005,883	1,321,629
1995	275,982	5,197,231	1,413,571
1996	70,523	2,631,733	1,062,027
1997	8,337	3,950,336	908,836
1998	7,073	777,874	474,069
1999	19,231	621,354	771,260
2000	177,489	1,797,702	1,780,240
2001	14,035	1,826,852	1,164,977
2002	16,618	2,066,232	1,338,448
2003	10,760	2,073,132	1,308,493
2004	9,462	698,453	1,217,160
2005	13,110	605,932	869,467
2006	49,080	730,749	612,618
2007	9,865	909,869	709,901
2008	9,447	479,682	852,619
2009	23,992	442,107	1,442,842
2010	6,096	519,529	1,809,046
2011	8,177	310,760	561,730
2012	6,443	701,777	1,237,668
2013	12,205	228,574	1,035,530
% of total, 1981 - 2013	3%	60%	37%
% of total, 2009 - 2013	1%	26%	73%

The NMFS angler expenditure survey summarizes a variety of costs associated with recreational fishing in the Northeast (Table 11). In addition, Steinback et al., 2009 summarized the reasons for fishing, with a majority of anglers (about 85 percent) fishing either mostly or fully for recreational purposes (Table 12).

Table 11: Average daily trip expenditures by recreational fishermen in the Northeast region by mode, in 2011. Source: Lovell et al. 2013.

Expenditures	$		
	Party/Charter	Private/Rental	Shore
Auto Fuel	24.92	13.50	13.25
Auto Rental	0.43	0.00	0.09
Bait	0.47	4.98	5.09
Boat Rental	0.52	18.40	0.00
Charter Fees	113.44	0.05	0.00
Crew Tips	9.95	0.00	0.00
Fish Processing	0.01	0.00	0.00
Food from Grocery Stores	12.09	6.11	6.22
Food from Restaurants	11.25	2.28	4.07
Gifts & Souvenirs	3.57	0.03	0.57
Ice	0.56	1.04	0.57
Lodging	17.42	1.35	7.69
Parking & Site Access	0.67	0.82	1.27
Public Transportation	1.56	0.05	0.15
Tournament Fees	3.77	0.00	0.00
Total	**200.63**	**48.62**	**38.96**

Table 12: Purpose of Marine Recreational Fishing in the Northeast**.** Source: Steinback et al., 2009.

	Percent	Number of anglers in 2005 (thousands)
All for food or income	2.1	92.4
Mostly for food or income	<1.0	34.3
Both for recreation and for food or income	11.7	514.8
Mostly for recreation	13.2	580.8
All for recreation	72.2	3,176.8

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Summer Flounder, Scup, and Black Sea Bass Fishery Performance Reports
July 2014

The Mid-Atlantic Fishery Management Council's (Council's) Summer Flounder, Scup, and Black Sea Bass Advisory Panel met jointly with the Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass Advisory Panels on July 1, 2014 to review fishery information documents for all three species and develop Fishery Performance Reports (FPRs) based on advisor perspectives on catch and landings patterns and other trends in these fisheries. **Please note:** Advisor comments described below reflect the broader discussion and are not necessarily consensus statements.

Council Advisory Panel members present: Greg DiDomencio* (NJ), Skip Feller* (VA), Harry Doernte (VA), James Fletcher (NC)

Commission Advisory Panel members present: James Tietje (MA), Robert Busby (NY), Marc Hoffman (NY), Paul Risi (NY), Paul Forsberg (NY), Skip Feller* (VA), Bill Shillingford (NJ), Bob Meimbresse (NJ), Greg DiDomencio* (NJ), Mike Fedosh (NJ)

Others present: Kiley Dancy (MAFMC Staff), Kirby Rootes-Murdy (ASMFC Staff), Mike Luisi (MAFMC/ASMFC), John Boreman (MAFMC SSC)

*Serve on both Council and Commission Advisory Panels.

Black sea bass

Environmental and Ecological Issues

Advisors commented that sea bass are wiping out other species, in particular feeding on juvenile lobsters. Some advisors noted concern about black sea bass biomass movement northward in search of food and potential impact on the lobster industry throughout New England. Increased biomass has led to increased predation on other species.

Advisors noted that there's such a high biomass of fish in the north that they are becoming nearly invasive in some areas. The biomass needs to be regulated to control impacts on other species. One advisor noted that the NEAMAP survey shows that sea bass indices are off the chart, similar to scup. The NEAMAP survey has never been wrong, and there is no reason to have the restrictions that we currently have.

Management Issues & Management Induced Effort Shifts

Advisors agreed that black sea bass is facing a critical management situation that needs to be addressed immediately. Despite Magnuson Act restrictions, the Council and Commission need to approach these issues with more common sense. Waiting until a potential 2016 benchmark assessment will be too late. The current quota is punitive and based on bad information. Faith in

the management system is being lost, and now is the time to break the rules and experiment with different solutions.

Southern states need different recreational regulations than northern states. The recreational season in Virginia has been closed when they most need it open. The highest landings for Virginia are reported in July according to MRIP, however, one advisor noted that they catch far more in the winter. Wave 1 has been closed due to lack of catch accounting, but the wave 1 fishery is primarily larger party/charter boats who file VTRs. VTR data should be used in general (not just in wave 1), as this is good data going unused in favor of lower quality estimates. Mangers should also consider also requiring and using state VTR data. Advisors also noted that many people are being shut out of most or all of the sea bass season in some areas (e.g., shore based fishermen). The sea bass fishery can withstand an extended season and increased bag limit, and a limited winter fishery should be open with VTR requirements. One advisor suggested looking at reducing size limits, or going to total (cumulative) length.

Advisors commented that current recreational data collection under MRIP is no different from MRFSS. Similar to last year, advisors noted that the MRIP survey has not advanced to the point where it can adequately capture reductions in effort. One advisor described an effort reduction of about 30% in New York and New Jersey, which is not reflected in the MRIP estimates and will result in estimated landings which could be inflated. All components of the new MRIP methodology need to be implemented.

The average size of black sea bass is increasing, but as the result of harvest limits that are in pounds, fishermen can catch fewer total numbers of fish.

Advisors are frustrated with high discards of black sea bass. Boats need to go farther offshore to catch bigger fish, but this means fishing in deeper waters, where discard mortality is higher. Many participants don't know how to vent and properly release. FishSmart[1] should be disseminated to a greater degree among recreational fishermen. There are ongoing efforts to reduce mortality from barotrauma, and hopefully in the future, mortality estimates and resulting catch limits will give anglers credit for this reduced discard mortality.

In Nantucket Sound (part of which is nursery habitat for sea bass), there used to be big pot fishery that was significantly restricted. If managers are able to increase catch limits, they should let pot fishermen get back to fishing.

Research Recommendations

Research suggestions proposed by advisors included:

- Exploring the feasibility of a slot limit in the recreational fishery and research into finding an appropriate range of a potential slot limit.
- Quantifying shifts in distribution and abundance resulting from climate change.
- Effects of chemicals to increase growth rate and influence sex change, and aquaculture research on stock enhancement potential.

[1] http://www.fishsmart.org/

Black Sea Bass 2012-2013 Catch and Survey information

Northeast Fisheries Science Center

June 27, 2014

Commercial Fishery

Landings in 2013 were 1027 mt, predominately from otter trawls and fish pots, an increase from 782 mt in 2012. The majority of landings were reported from the Mid-Atlantic statistical areas between New York and Delaware.

Table 1. Commercial black sea bass landings (kg) by region, market category and year.

By Statistical Area

Market Category

2013 kg

area	uncl	large	jumbo	medium	small	total	Pct
512-539	14,355	76,359	87,402	45,056	12,400	235572	23%
611-623	22,733	220,399	223,245	167,130	16,603	650111	63%
625-636	91	41,136	26,321	54,594	19,148	141291	14%
	37,179	337,894	336,968	266,780	48,151		
	4%	33%	33%	26%	5%	1,026,974	

2012

area	uncl	large	jumbo	medium	small	total	Pct
512-539	7,758	50,177	75,563	19,428	8,065	160,991	21%
611-623	20,597	161,640	155,255	165,155	13,497	516,143	66%
625-636	1,037	26,400	23,527	38,357	15,611	104,933	13%
	29,392	238,217	254,344	222,940	37,173		
	4%	30%	33%	29%	5%	782,067	

Table 2. Commercial black sea bass landings (kg) by gear type, market category and year.

By Gear

2013 kg

	uncl	large	jumbo	medium	small	total	
POTS + TRAPS,FISH	9,939	60,909	49,832	91,365	28,065	240,110	23%
TRAWL,OTTER,BOTTOM,FISH	5,566	222,814	260,773	90,128	14,799	594,079	58%
HANDLINE	4,170	34,232	20,680	28,385	2,159	89,625	9%
OTHER	4,433	23,791	23,823	47,386	3,727	103,159	10%

2012 kg

	uncl	large	jumbo	medium	small	total	
POTS + TRAPS,FISH	10,042	55,871	49,434	114,524	23,518	253,390	32%
TRAWL,OTTER,BOTTOM,FISH	7,342	144,943	146,224	58,220	9,073	365,801	47%
HANDLINE	7,767	24,956	46,460	13,062	2,637	94,881	12%
OTHER	4,241	12,448	12,227	37,134	1,944	67,995	9%

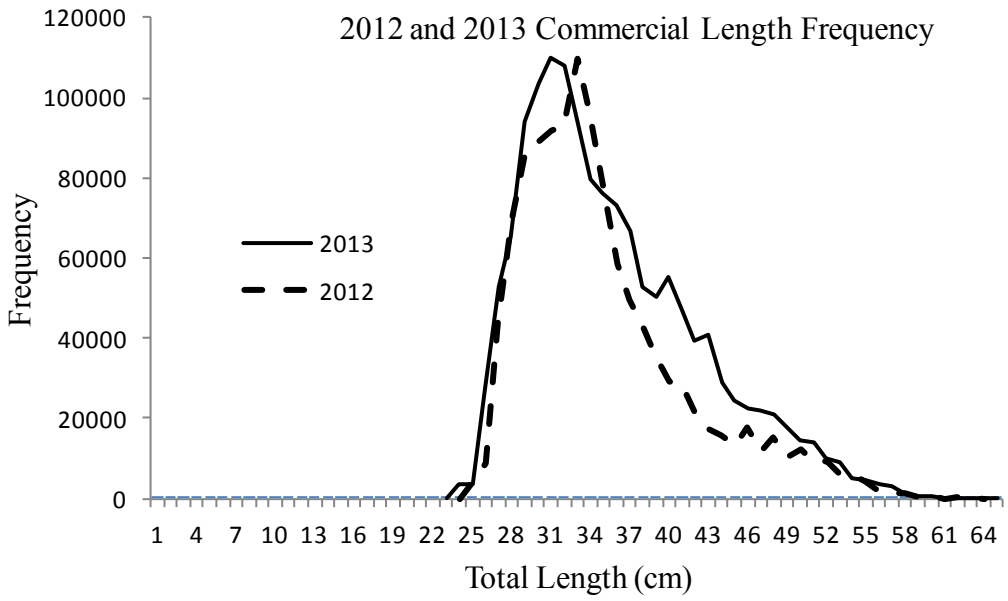

Figure 1. Length frequency of 2012 and 2013 black sea bass commercial landings.

Commercial discards from otter trawls were estimated from Northeast Fisheries Observer trips discard to kept all ratios. All other gears were estimated from discard to kept sea bass recorded in Vessel Trip Reports expanded to total sea bass landings by gear. Mortality rates as used in previous assessment.

Table 3. Commercial black sea bass discards (mt) by gear and year.

2013	mt	mortality rate	losses (mt)
Bottom otter trawl	148.4	1.00	148.4
handline	11.1	0.15	1.7
fish pot	31.1	0.15	4.7
lobster pot-offshore	1.7	0.15	0.3
other	2.9	1.00	2.9
total discard mt	195.2		
total discard loss mt			157.9

2012	mt	mortality rate	losses (mt)
Bottom otter trawl	91.8	1.00	91.8
handline	12.9	0.15	1.9
fish pot	21.2	0.15	3.2
lobster pot-offshore	21.6	0.15	3.2
other	11.2	1.00	11.2
total discard mt	158.8		
total discard loss mt			111.4

Recreational Fishery

Recreational landings in 2013 for Maine through Cape Hatteras, NC were 1.221 million fish equal to 1.054 mt. Associated discards (B2 only) were 8.283 million fish. Assuming a discard mortality rate of 15%, discard losses equal 1.232 million fish. Landings in 2012 equaled 1.874 million with discards of 10.606 million. 2012 discard losses equaled 1.590 million fish.

Table 4. Recreational black sea bass catch (number) by year. A mortality rate of 15% applied to live discards (B2).

Number

	AB1	B2	B2 mortality
2012	1,874,267	10,606,249	1,590,937
2013	1,220,958	8,282,715	1,242,407

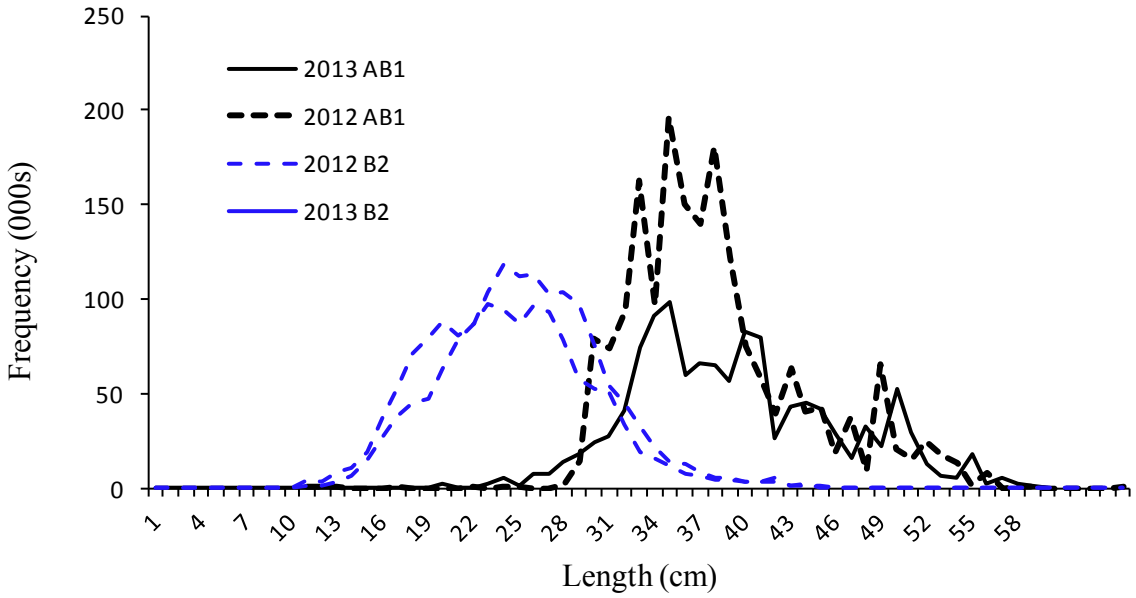

Figure 2. Length frequency (TL cm) of 2012 and 2013 black sea bass recreational landings and discards, ME- NC (Cape Hatteras).

Table 5. Total black sea bass catch (MT, landings plus discard mortalities) , 1981-2013 for northern stock.

Year	Landings Com	Discard losses Com	Landings Rec (AB1)	Discard losses Rec (B2*15%)	Total
1981	1129	67	625	35	1,857
1982	1177	70	1243	40	2,530
1983	1513	90	1860	114	3,577
1984	1519	105	666	36	2,326
1985	1075	89	1002	45	2,210
1986	1508	101	1824	95	3,528
1987	1635	98	929	36	2,698
1988	1424	102	1324	90	2,940
1989	1105	82	1502	39	2,727
1990	1402	53	1283	92	2,830
1991	1190	19	1876	92	3,176
1992	1264	91	1219	82	2,657
1993	1353	179	2167	64	3,762
1994	848	34	1355	80	2,318
1995	889	36	2753	124	3,802
1996	1448	483	1804	91	3,826
1997	1198	31	1920	112	3,261
1998	1171	136	588	86	1,981
1999	1305	36	802	112	2,255
2000	1205	42	1800	263	3,310
2001	1299	187	1556	295	3,336
2002	1587	24	1968	372	3,952
2003	1359	58	1512	301	3,230
2004	1405	370	817	140	2,733
2005	1298	29	902	153	2,383
2006	1285	16	945	166	2,413
2007	1037	57	1052	192	2,338
2008	875	37	771	242	1,925
2009	523	165	1088	226	2,002
2010	751	110	1373	251	2,485
2011	765	135	512	133	1,546
2012	782	111	1444	387	2,724
2013	1027	158	1054	300	2,539

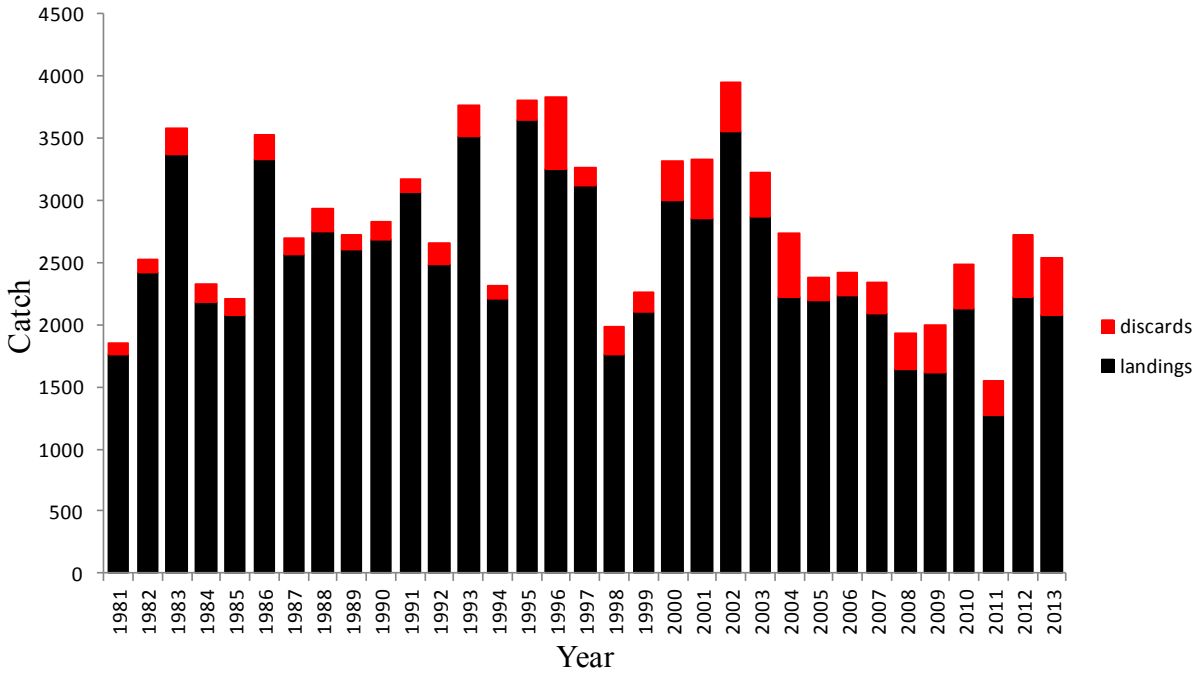

Figure 3. Black sea bass catch, 1981-2013.

Survey

Northeast Fisheries Science Center spring offshore index increased in 2013 to 4.531 fish per tow, compared to 1.613 per tow in 2012 (Bigelow indices calibrated to Albatross units). The large 2011 year class was evident as age 1 in spring of 2012 and age 2 in 2013.

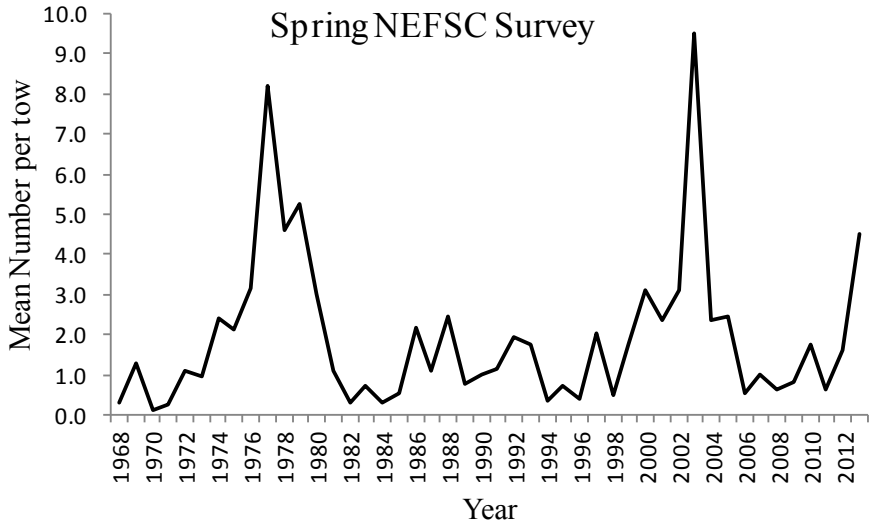

Figure 4. NEFSC spring offshore stratified mean number per tow of black sea bass, 1968-2013. 2009-2013 Bigelow data calibrated to Albatross units.

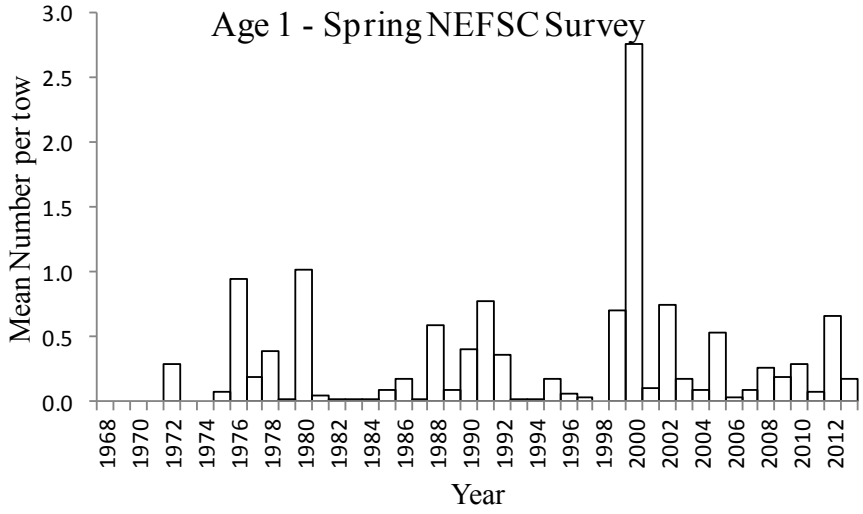

Figure 5. Indices of black sea bass recruitment (mean #/tow, age 1) from NEFSC spring offshore survey.

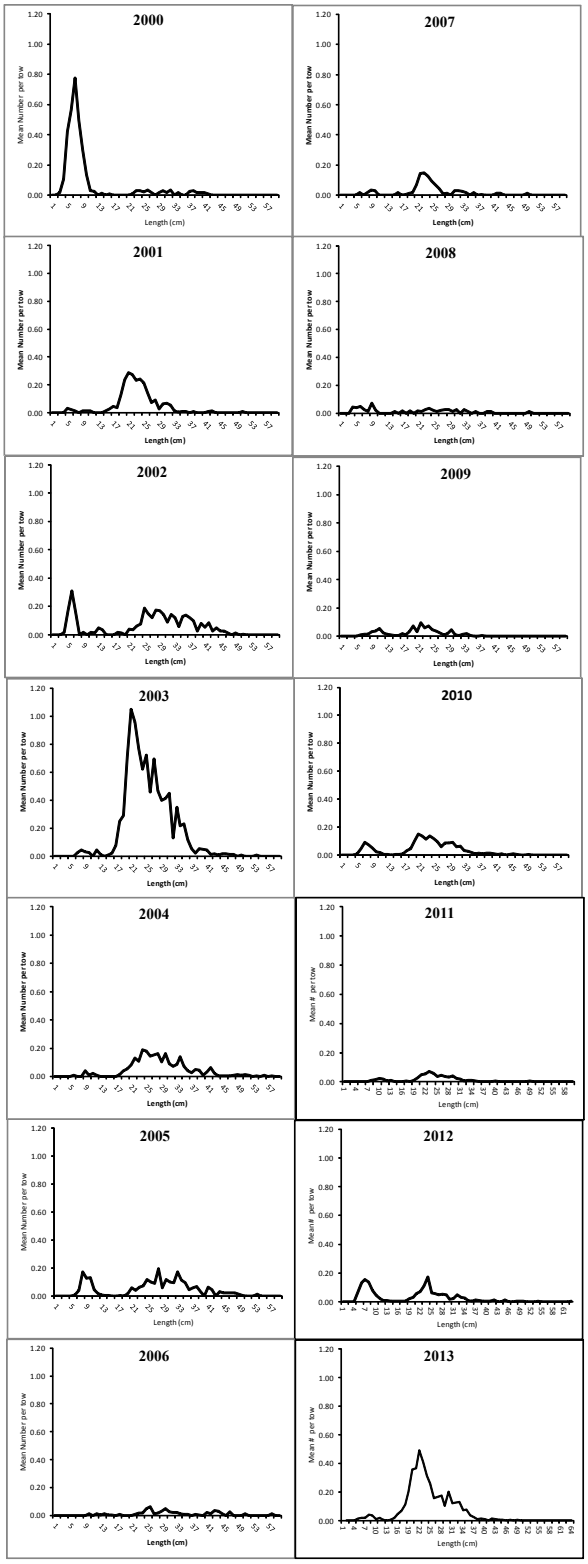

Figure 6. Length frequency distributions of black sea bass from NEFSC spring offshore survey, 2000-2013

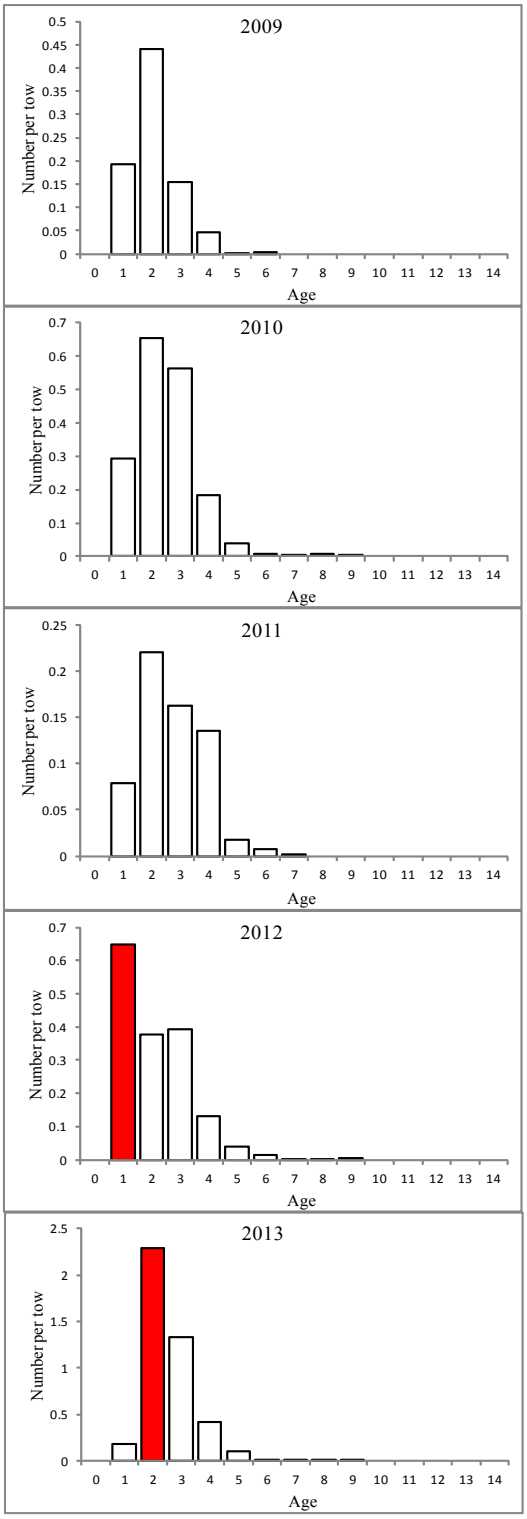

Figure 7. Mean number per tow at age of black sea bass from NEFSC spring offshore survey, 2009-2013. 2011 year class highlighted in red.

Table 6. Survey indices for black sea bass at age 1 (or equal length bin) from state and federal surveys. 2011 cohort indices highlighted in yellow. Indices have been standardized to the individual series means.

age 1 ***relative to series average***

	VA	spring MD age	NJ	<=14cm CT	RI	MA	<= 14 cm NEFSC spring	NEFSC winter	NEAMAP
1984					0.00	0.00	0.02		
1985					0.00	1.05	0.30		
1986					0.90	1.03	0.56		
1987					0.00	0.00	0.08		
1988				0.15	0.00	0.00	1.82		
1989	1.17	0.12	0.15	0.00	0.00	0.00	0.26		
1990	3.29	1.31	0.00	0.15	0.00	0.49	1.24		
1991	1.56	1.27	0.92	0.59	0.77	0.00	2.38		
1992	1.79	0.96	0.26	0.00	0.00	0.00	1.13	0.33	
1993	0.31	0.14	0.26	0.00	0.00	0.00	0.02	0.06	
1994	1.47	0.75	0.25	0.00	0.00	0.00	0.05	0.19	
1995	1.48	1.86	1.79	0.00	0.00	0.61	0.57	0.32	
1996	0.70	0.06	0.05	0.00	0.00	0.54	0.18	1.17	
1997	0.50	0.99	0.19	0.00	0.77	0.51	0.09	0.12	
1998	0.64	0.32	0.01	0.00	0.00	0.00	0.00	0.06	
1999	0.80	1.55	0.34	0.15	0.78	0.00	2.17	0.50	
2000	0.81	1.79	1.62	2.52	8.24	5.65	8.52	3.04	
2001	1.03	1.18	0.79	0.00	0.00	0.00	0.30	0.60	
2002	1.80	2.18	8.33	7.27	1.96	2.44	2.31	3.50	
2003	0.89	0.89	0.46	0.00	0.00	0.00	0.53	2.35	
2004	0.17	0.29	0.05	0.00	0.00	0.00	0.28	0.24	
2005	0.08	0.26	1.56	0.00	0.00	0.00	1.67	0.58	
2006	0.27	1.17	0.20	0.15	2.01	2.30	0.11	0.68	
2007	0.61	1.39	1.65	1.93	0.78	0.00	0.28	2.27	
2008	1.16	2.93	0.29	2.08	3.22	2.47	0.81		0.34
2009	0.57	0.60	1.26	1.34	0.45	1.29	0.60		0.89
2010	0.45	0.85	0.41	0.00	0.00	1.07	0.90		0.11
2011	1.55	0.44	0.54	0.30	0.38	0.00	0.24		0.86
2012	0.91	0.98	2.32	9.35	8.62	9.62	2.03		1.71
2013		0.70	1.32	1.04	1.12	0.94	0.56		2.09

Table 7. Mean number per tow of black sea bass from NEAMAP survey series. Ages provided by VIMS.

NEAMAP

	Age					
fall	0	1	2	3	4+	all
2007	0.35	0.39	0.26	0.17	0.06	0.85
2008	0.21	0.15	0.08	0.06	0.06	0.45
2009	0.27	0.3	0.2	0.15	0.07	0.66
2010	0.13	0.12	0.08	0.05	0.07	0.36
2011	0.2	0.22	0.16	0.08	0.16	0.69
2012	0.28	0.51	0.36	0.09	0.2	1.05
2013	0.2	0.22	0.33	0.18	0.3	0.89

	Age				
spring	1	2	3	4+	all
2007					
2008	0.09	0.48	0.67	0.7	1.68
2009	0.24	0.46	0.55	0.49	1.64
2010	0.03	0.44	0.55	0.58	1.3
2011	0.23	0.45	0.54	0.78	1.99
2012	0.46	0.72	0.62	0.69	2.36
2013	0.56	2.71	1.08	1.54	5.66
2014					

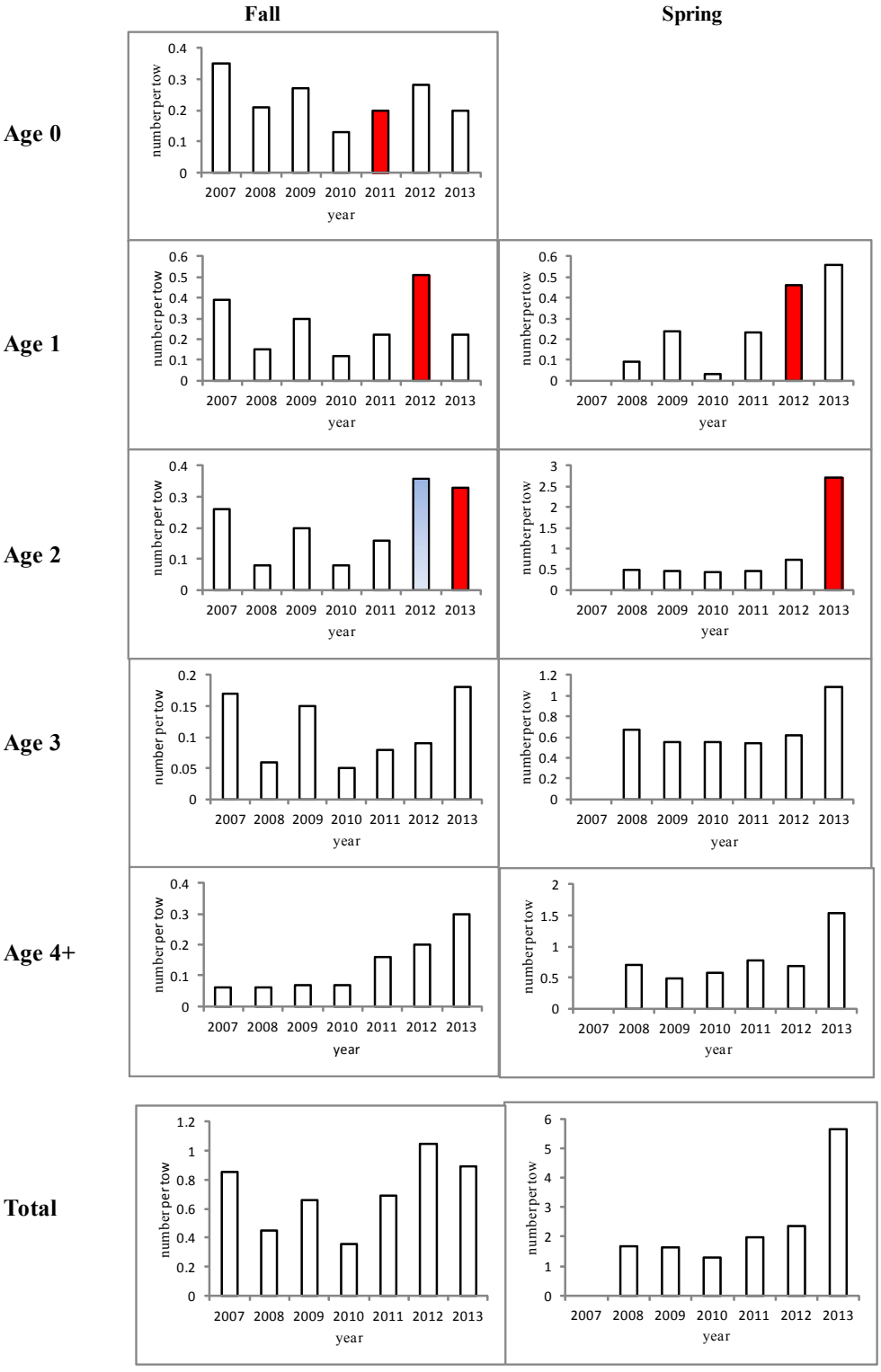

Figure 8. Mean number per tow at age from NEAMAP survey.

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Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: July 8, 2014

TO: Chris Moore, Executive Director

FROM: Kiley Dancy, Staff

SUBJECT: Review of Black Sea Bass Management Measures for 2015

Executive Summary

In 2013, two-year specifications were implemented for black sea bass, establishing management measures for the 2014 and 2015 fishing years. Catch and landings limits are already in place for 2015 and may remain unchanged if the Scientific and Statistical Committee (SSC), Council, and ASMFC's Summer Flounder, Scup, and Black Sea Bass Board determine that the previously recommended Acceptable Biological Catch (ABC) for 2015 (5.50 mil lb; 2,494 mt) is still appropriate. Similarly, the Monitoring Committee will review recent fishery performance and make a recommendation to the Council and Board regarding any necessary modifications to the implemented 2015 commercial management measures.

Based on the latest stock assessment update in July of 2012, the black sea bass stock was not overfished and overfishing was not occurring in 2011. The 2011 stock was estimated to be at 102% of the spawning stock biomass at maximum sustainable yield (SSB_{MSY}).

Staff recommends maintaining the specified ABC (5.50 mil lb) as the basis for management measures in 2015. This ABC resulted in a commercial Annual Catch Limit (ACL) of 2.60 million lb (1,180 mt), and a recreational ACL of 2.90 million lb (1,314 mt). Based on the recommendation of the Monitoring Committee, both the commercial Annual Catch Target (ACT) and the recreational ACT were set equal to their respective sector ACLs for 2015. Last year, the Council recommended that up to 3% of the commercial and recreational quotas be reserved for research set-aside (RSA) in 2015.[1] After adjusting for projected discards and 3% RSA, the 2015 commercial quota is 2.17 mil lb, and the recreational harvest limit is 2.26 mil lb (Table 1).

Staff does not recommend any change to the current minimum fish size (11 inch total length) or gear requirements (4.5 inch mesh with 500/100 lb trigger; current pot/trap vent requirements).

[1]The Council is scheduled to have a separate discussion at the August 2014 meeting regarding the future of the RSA program.

Table 1: Current multi-year catch and landings limits for black sea bass in 2014 and 2015. (Numbers may not add precisely due to rounding error.)

Management Measure	Current (2014)		2015		Basis
	mil lb.	mt	mil lb.	mt	
ABC	5.50	2,494	5.50	2,494	Projections
ABC Landings Portion	4.56	2,070	4.56	2,070	Projections
ABC Discards Portion	0.94	424	0.94	424	Projections
Commercial ACL (=ACT)	2.60	1,180	2.60	1,180	49% of ABC landings portion (per FMP) + 39% of ABC discards portion
Comm. discards (projected)	0.36	166	0.36	166	39% of ABC discards portion, based on 2010-2011 average % discards by sector
RSA deduction (3%)	0.07	32	0.07	32	3% of pre-RSA Comm. Quota
Commercial quota (adjusted)	2.17	984	2.17	984	Comm. ACT less discards and RSA
Recreational ACL (=ACT)	2.90	1,314	2.90	1,314	51% of ABC landings portion (per FMP) + 61% of ABC discards portion
Rec. discards (projected)	0.57	258	0.57	258	61% of ABC discards portion, based on 2010-2011 average % discards by sector
RSA deduction (3%)	0.07	30	0.07	30	3% of pre-RSA RHL
Recreational Harvest Limit (adjusted)	2.26	1,024	2.26	1,024	Rec. ACT less discards and RSA

Introduction

The Magnuson-Stevens Act (MSA) requires each Council's Scientific and Statistical Committee (SSC) to provide ongoing scientific advice for fishery management decisions, including recommendations for ABC, preventing overfishing, and maximum sustainable yield. The Council's catch limit recommendations for the upcoming fishing year(s) cannot exceed the ABC recommendation of the SSC. In addition, the Monitoring Committees established by the Fishery Management Plan (FMP) are responsible for developing recommendations for management measures designed to achieve the recommended catch limits.

Multi-year specifications may be set for black sea bass for up to three years at a time. For fishing year 2015, the SSC previously recommended an ABC for black sea bass as part of the multi-year specifications setting process for the 2014 and 2015 fishing years. The SSC recommended an ABC that addresses scientific uncertainty, while the Monitoring Committee recommended an annual catch target (ACT) and management measures that address management uncertainty. Both the SSC and Monitoring Committee will review the measures currently implemented and determine if any changes may be warranted. Based on the SSC and Monitoring Committee recommendations, the Council will make a recommendation to the

National Marine Fisheries Service (NMFS) Greater Atlantic Regional Administrator, if changes are believed to be warranted. Because the FMP is cooperatively managed with the Atlantic States Marine Fisheries Commission, the Commission's Summer Flounder, Scup, and Black Sea Bass Board will meet jointly with the Council to revisit black sea bass management measures. In this memorandum, information is presented to assist the SSC and Monitoring Committee in developing recommendations for the Council and Board to consider for the 2015 fishing year for black sea bass.

Additional relevant information about the fishery and past management measures is presented in the Fishery Performance Report for black sea bass developed by the Council and Commission Advisory Panels, as well as in the corresponding Black Sea Bass Fishery Information Document prepared by Council staff.

Catch and Landings Update

According to the Black Sea Bass Data Update for 2014, commercial landings in 2013 were 2.26 million lb (1,027 mt), and recreational landings were 2.32 million lb (1,054 mt).[2] The 2014 commercial landings as of the week ending June 21, 2014, indicate that 54% of the coastwide commercial quota has been landed (Table 2).

Table 2: 2014 black sea bass commercial quota and landings by state as of week ending June 21, 2014.

State	Cumulative Landings (lb)	Quota (lb)	Percent of Quota (%)	Research Set-Aside Landings (lb)
ME	0	--	--	0
NH	16	--	--	0
MA	7,399	--	--	915
RI	119,511	--	--	3,258
CT	10,934	--	--	0
NY	59,007	--	--	19,189
NJ	242,613	--	--	7,094
DE	22,008	--	--	0
MD	202,227	--	--	0
VA	287,691	--	--	401
NC	223,458	--	--	0
Other	1,589	--	--	0
Totals	**1,176,453**	**2,174,312**	**54**	**30,857**

Source: NMFS Weekly Quota Report for week ending June 21, 2014.

Stock Status and Biological Reference Points

The most recent accepted benchmark assessment on black sea bass was peer-reviewed and accepted in December 2008 by the DPSWG Peer Review Panel. Documentation associated with this assessment and previous stock assessments, such as reports on stock status, including annual assessment and reference point update reports, Stock Assessment Workshop (SAW) reports, and Stock Assessment Review Committee (SARC) panelist reports, are available online at the NEFSC website: http://www.nefsc.noaa.gov/saw/.

[2]Recreational landings for Maine through Cape Hatteras, NC.

The biological reference points for black sea bass were updated as part of the 2012 assessment update[3], as the result of several changes made to the information incorporated into the SCALE model. The updated 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 July 2012 assessment update indicates the black sea bass stock was not overfished and overfishing is not occurring in 2011, relative to the biological reference points. Fishing mortality (F_{MULT}) in 2011 was 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}. SSB in 2011 was estimated at 24.57 million lb (11,145 mt), and was at 102% of SSB_{MSY}. Recruitment estimated by the model was relatively constant through the time series with the exception of the 1999 and 2001 year classes. These cohorts appeared to be the driving force behind the increase in biomass and SSB. The estimated average recruitment (age one) in 2011 (2010 cohort) was 21.0 million fish.

Regulatory Review

As described above, the last assessment update for black sea bass was completed in 2012 (with data through 2011). The overfishing limit (OFL) provided by the assessment update was specified as 7.00 million lb (3,175 mt), based on an F_{MSY} proxy of $F_{40\%}$ = 0.44. However, the SSC did not endorse this estimate because of concerns about the unresolved uncertainty in the OFL related to stock mixing, life history, and natural mortality. For each year 2010-2013, the SSC had recommended an ABC of 4.50 million lb (2,041 mt), based on a constant catch approach. However, in January 2013, the SSC met to reconsider that ABC recommendation, after reviewing new information relative to fishery performance (including recent catch data) and abundance and recruitment (i.e., state survey data).

The SSC concluded that there was little information in these data that would lead to a change in the ABC recommendation, the constant catch approach, or the designation of the assessment as level 4. However, the SSC believed it was appropriate to re-evaluate whether the constant catch level used since 2010 (4.50 mil lb) was still appropriate. The SSC evaluated the performance of the ABC and concluded that its continued application in 2013 and 2014 was overly conservative, and recommended a 2013-2014 ABC based on a constant catch level of 5.50 million lb (2,494 mt). This results in a commercial ACL (=ACT) of 2.60 million lb (1,180 mt) and a recreational ACL (=ACT) of 2.90 million lb (1,314 mt).

In September 2013, the SSC met to review the existing 2014 ABC recommendations for black sea bass to determine if changes were necessary, and to consider recommending an ABC for 2015. The SSC determined that available scientific evidence was not compelling enough to warrant a change to its ABC recommendation for 2014 (5.50 mil lb), and additionally recommended extending this same ABC into the 2015 fishing year.

[3]Shepherd, G.R. 2012. Black Sea Bass Assessment Summary for 2012. Northeast Fisheries Science Center.

The SSC considered black sea bass to be a level 4 assessment, and considered the following to be the most significant sources of uncertainty:

- Difficulty in determining appropriate reference points due to atypical life history strategy (protogynous hermaphrodite);
- Assessment assumes a completely mixed stock, while tagging analyses suggesting otherwise;
- Uncertainty exists with respect to M because of the unusual life history strategy the current assumption of a constant M in the model for both sexes may not adequately capture the dynamics in M); and
- Concern about the application of trawl calibration coefficients (ALBATROSS IV vs BIGELOW) and their influence on the selectivity pattern and results of the assessment.

Management measures in the commercial fishery other than quotas and harvest limits (i.e., minimum fish size, gear requirements, etc.) have remained constant since 2006.

Basis for 2015 Staff Recommendation

Input from the Council's Visioning and Strategic Planning processes as well as from the Advisory Panel Fishery Performance Reports highlight stakeholder interest in increasing the stability of fishery management measures. Last year, multi-year specifications were set for black sea bass for 2014 and 2015, with the understanding that recent fishery data would be reviewed in 2014 to identify any potentially critical issues in the fishery or problems with maintaining the implemented measures.

In April 2013, a black sea bass data workshop was sponsored by the Partnership for Mid-Atlantic Fisheries Science (PMFAS) and conducted by the Atlantic States Marine Fisheries Commission (ASMFC). The working group concluded that consideration of additional indices and datasets were not likely to result in any near-term changes in the perception of uncertainty in the assessment. Additionally, an assessment update would not likely be used for management purposes given the existing perception of uncertainty in the assessment. The working group recommended delaying a black sea bass benchmark stock assessment to 2016 or later, to allow for progress to be made on interim analyses and advances in modeling approaches.

Since establishing a new basis for a constant catch ABC recommendation in January 2013, the SSC has revisited those specifications and concluded that there was no compelling evidence at the time to warrant a change in the ABC, nor was there new information upon which to base a revised ABC recommendation. While progress has been made toward reducing uncertainties in the assessment, work is ongoing and currently there is little new information available to support changing the implemented specifications. Thus, staff recommends no changes to the implemented 2015 catch limits and commercial measures for black sea bass.

Other Management Measures

Recreational and Commercial ACLs

As defined by the Omnibus ACLs and AMs Amendment, the ABC is equivalent to the total allowable catch (TAC), and is equal to the sum of the commercial and recreational ACL (Figure 1).

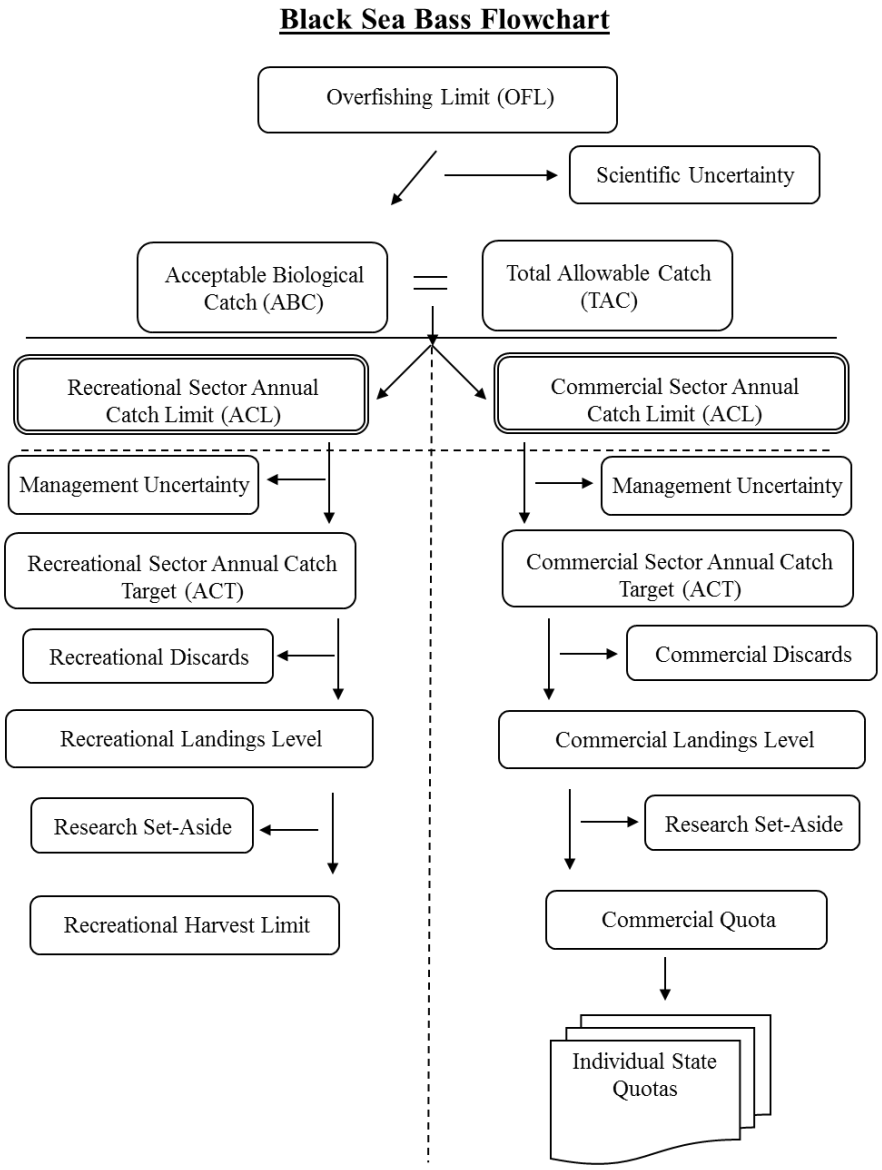

Figure 1: Flowchart for black sea bass catch and landings limits.

The ABC in place for 2015 is comprised of both landings and discards. Based on the allocation percentages in the FMP, 49% of the landings are allocated to the commercial fishery, and 51% to the recreational. Discards are apportioned based on the contribution from each fishing sector using the 2010-2011 average ratios; 61% of dead discards are attributable to the recreational fishery, 39% to the commercial (Table 1).

Annual Catch Targets

The Black Sea Bass Monitoring Committee is responsible for recommending ACTs for the Council to consider. The relationship between the recreational and commercial ACTs, and other catch components are given in Figure 1. The Monitoring Committee may provide other recommendations relevant to setting catch limits consistent with the Magnuson Stevens Act. The Monitoring Committee is responsible for considering all relevant sources of management uncertainty in the black sea bass fishery and providing the technical basis, including any formulaic control rules, for any reduction in catch when recommending an ACT. The ACTs, technical basis for ACT recommendations, and sources of management uncertainty would be described and provided to the Council.

Management uncertainty is comprised of two parts: uncertainty in the ability of managers to control catch and uncertainty in quantifying the true catch (i.e., estimation errors). Management uncertainty can occur because of a lack of sufficient information about the catch (e.g., due to late reporting, underreporting, and/or misreporting of landings or bycatch) or because of a lack of management precision (i.e., the ability to constrain catch to desired levels).

The sector-specific landings performance in recent years indicates that the recreational fishery has been variable in its performance relative to the harvest limits, but has periodically experienced large overages, including a significant overage in 2012. In 2013, the recreational fishery landings were much closer to, but slightly above the harvest limit (Table 3). For 2014 and 2015, the Monitoring Committee indicated that it would address recreational management uncertainty during the process for setting recreational measures in each year. Therefore, staff recommends no modifications to the current ACTs, which are set equal to the sector-specific ACLs for 2015.

Table 3: Black sea bass commercial and recreational fishery performance relative to quotas and harvest limits, 2009-2013.

Year	Commercial Landings (mil lb)	Commercial Quota (mil lb)	Percent Overage(+)/ Underage(-)	Recreational Landings (mil lb)[1]	Recreational Harvest Limit (mil lb)	Percent Overage(+)/ Underage(-)
2009	1.17	1.09	+7%	2.40	1.14	+111%
2010	1.75	1.76	-1%	3.03	1.83	+66%
2011	1.69	1.71	-1%	1.13	1.78	-37%
2012	1.72	1.71	+1%	3.18	1.32	+141%
2013	2.26	2.17	+4%	2.32	2.26	+3%
5-yr Avg.	-	-	+2%	-	-	+57%

[1]Recreational landings north of Cape Hatteras, NC.

Commercial Quota, Recreational Harvest Limit, and Research Set-Aside

The landings-based allocations (49% commercial, 51% recreational) were maintained in the derivation of the sector-specific ACLs and ACTs, such that the sums of the sector-specific TALs (total allowable landings for each sector) are equal to overall TAL. Based on the implemented ACLs and ACTs given above and a 3% research set-aside deduction, the adjusted commercial quota in 2015 is 2.17 mil lb (986 mt), and the adjusted recreational harvest limit is 2.26 mil lb (1,026 mt; Table 1). The ASMFC allocates the commercial quota to each state based on the allocation percentages given in Table 4.

Table 4: The Commission state-by-state commercial allocation percentages.

State	Allocation (percent)
ME	0.5
NH	0.5
MA	13.0
RI	11.0
CT	1.0
NY	7.0
NJ	20.0
DE	5.0
MD	11.0
VA	20.0
NC	11.0
Totals	100

Specific management measures that will be used to achieve the harvest limit for the recreational fishery in 2015 will not be determined until after the first four waves of 2014 recreational landings are reviewed. These data will be available in October 2014. The Monitoring Committee will meet in November to review landings data and make recommendations regarding changes in the recreational management measures (i.e., possession limit, minimum size, and season). Given the performance of the recreational fishery relative to the recreational harvest limit in recent years, management measures (i.e., minimum size, possession limits, and seasons) should be implemented that are designed to achieve the recreational ACT, while preventing the recreational ACL from being exceeded.

Commercial Gear Regulations and Minimum Fish Size

Amendment 9 established minimum fish sizes for black sea bass in federal and state waters. The Council and Commission increased the size limit to 11-inch total length (TL) in 2002. Staff recommends that the size limit remain at 11 inch-TL. Amendment 9 also established gear regulations that became effective in December of 1996. Current regulations state that large trawl nets are required to possess a minimum of 75 meshes of 4.5 inch diamond mesh in the codend, or the entire net must have a minimum mesh size of 4.5 inch throughout. The threshold level used to trigger the minimum mesh requirement size is 500 lb from January through March and 100 lb from April through December. Staff recommends no change in these trawl mesh regulations.

The Council and Commission adopted modifications to the circle vent size in black sea bass pots/traps, effective in 2007, based on the findings of a Council and Commission sponsored workshop. The minimum circle vent size requirements for black sea bass pots/traps were increased from 2.375 inch to 2.5 inch. The requirements of 1.375 inch x 5.75 inch for rectangular vents and 2 inch for square vents remained unchanged. In addition, 2 vents are required in the parlor portion of the pot/trap. Staff recommends no change in these pot/trap regulations.

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Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: 30 July 2014

TO: Richard M. Robins, Jr., MAFMC Chairman

FROM: John Boreman, Ph.D., Chair, MAFMC Scientific and Statistical Committee

SUBJECT: Report of the July 2014 Meeting of the MAFMC SSC

The SSC met in Baltimore, MD, on 23 July 2014 for the main purpose of developing ABC recommendations for Bluefish in response to terms of reference provided by the MAFMC (Attachment 1), and reviewing ABC recommendations made previously for Summer Flounder, Scup, and Black Sea Bass. The SSC also received updates on the white paper on forage species being developed for the Council, progress on developing a research track project on Black Sea Bass, plans for the upcoming National SSC meeting in Honolulu, and progress on refining the MAFMC five-year research plan. The meeting agenda is attached (Attachment 2).

A total of 13 SSC members were in attendance (Attachment 3), which constituted a quorum. Also in attendance were staff from the NMFS Northeast Fisheries Science Center, Council members and staff, ASMFC staff, and representatives from the fishing industry and general public.

All documents cited in this report can be accessed via the MAFMC SSC website (http://www.mafmc.org/ssc-meetings/2014/July-2014).

Bluefish

Below are the SSC's responses to the terms of reference (in italics) provided by the MAFMC for Bluefish.

1) The materials considered in reaching its recommendations:

- Wood, A. D. 2013. Bluefish 2014 Stock Assessment Update: Data and Model Update Through 2013. Coastal Pelagic Working Group, Northeast Fisheries Science Center, NOAA Fisheries. 37 pp.
- Armstrong, J. 2014. Staff memorandum to Chris Moore, dated 17 July 2014, entitled: "Bluefish ABC and Management Measures for 2015." 9 pp.
- MAFMC Staff. 2014. Bluefish AP information document – July 2014. Mid-Atlantic Fishery Management Council. 15 pp.

- MAFMC Staff. 2014. 2013 Bluefish fishery performance report. Mid-Atlantic Fishery Management Council. 2 pp.

2) The level (1-4) that the SSC deems most appropriate for the information content of the most recent stock assessment, based on criteria listed in the Omnibus Amendment:

The SSC designated the assessment as **Level 3** because the structure of the assessment was unchanged from previous specification. There were no new estimates of uncertainties associated with the maximum fishing mortality rate (OFL).

3) If possible, the level of catch (in weight) and the probability of overfishing associated with the overfishing limit (OFL) based on the maximum fishing mortality rate threshold or, if appropriate, an OFL proxy:

The **OFL = 15,522 mt**, based on an F_{msy} of 0.19.

4) The level of catch (in weight) and the probability of overfishing associated with the acceptable biological catch (ABC) for the stock, the number of fishing years for which the ABC specification applies and, if possible, interim metrics that can be examined to determine if multi-year specifications need reconsideration prior to their expiration:

The SSC recommends an **ABC = 9,772 mt** (21.5 million lbs) for the 2015 fishing year, based on the control rule for Level 3 assessments. The SSC used an assumed CV of the OFL with a lognormal distribution of 100%, noting that the ratio of B/B_{MSY}, based on mid-year estimates from 2014, is 0.751, and that Bluefish exhibits a typical life history. The SSC applied the Council's policy of P* = 0.289. The projection is 62.9% of the catch at OFL. Since a benchmark assessment of Bluefish is scheduled for 2015, the SSC does not recommend ABCs for fishing years beyond 2015.

5) The most significant sources of scientific uncertainty associated with determination of OFL and ABC:

- The value of B_{MSY} has been fixed, based on the 2005 Assessment, and has not been changed since then – in contrast, the OFL has been updated annually. This increases uncertainty in the ABC.
- Delay in the timing of the NEFSC fall survey in 2013 by three weeks resulted in an estimated CPUE that was a time series low. This low CPUE may reflect the change in the survey timing and not Bluefish stock abundance *per se*.
- There is a significant amount of missing data involved in constructing the age-length keys (ALKs), which are critical for development of the catch-at-age matrix.
- Concern exists about the application of aggregate trawl calibration coefficients (ALBATROSS IV vs BIGELOW), and their influence on the selectivity pattern and results of the assessment. Also, some near shore areas previously sampled by the ALBATROSS IV are unavailable for sampling by the BIGELOW;
- Commercial discards are assumed to be insignificant, which may not be the case.
- Approximately two-thirds of the population biomass is in the aggregated 6+ age group for which there is relatively little information.

- Questions have been raised about the uncertainty in the historical MRFSS/MRIP estimates in general, and are particularly relevant here given the highly episodic nature of Bluefish catches in the recreational fisheries coast wide.
- The basis for the unusual bimodal selectivity curve used in the ASAP model is not well understood.

6) Ecosystem considerations accounted for in the stock assessment, and any additional ecosystem considerations that the SSC took into account in selecting the ABC, including the basis for those additional considerations:

No additional information pertinent to ecosystem considerations was explicitly included in selecting the ABC.

7) Prioritized research or monitoring recommendations that would reduce the scientific uncertainty in the ABC recommendation and/or improve the assessment level:

- Evaluate the amount and length frequencies of discards from the commercial and recreational fisheries.
- Explore implications of alternative approaches to expand the age-length information in the assessment.
- Low frequency environmental variability may have caused changes in the timing of the movement of juvenile Bluefish through the region that, in turn, may have affected availability. Changes in the selectivity of age-0 Bluefish in the survey relative to temperature and date should be examined.
- Initiate fishery-dependent and fishery-independent sampling of offshore populations of Bluefish during the winter months (consider migration, seasonal fisheries, and unique selectivity patterns resulting in the bimodal partial recruitment pattern, and if the migratory pattern results in several recruitment events).
- Collect data on size and age composition in the fisheries by gear type and statistical area.
- Develop Bluefish index surveys (proof of concept), including abundance/biomass trend estimates for the offshore populations in winter.

8) A certification that the recommendations provided by the SSC represent the best scientific information available.

To the best of the SSC's knowledge, these recommendations are based on the best available scientific information.

Summer Flounder

The SSC reviewed the following information relevant to the status of Summer Flounder:

- MAFMC Staff. 2014. Summer Flounder Advisory Panel information document. Mid-Atlantic Fishery Management Council. 15 pp.

- MAFMC Staff. 2014. Summer Flounder, Scup, and Black Sea Bass fishery performance reports. Mid-Atlantic Fishery Management Council. 5 pp.
- Dancy, K. 2014. Staff memorandum to Chris Moore, dated 8 July 2014, entitled: "Review of Summer Flounder Management Measures for 2015." 10 pp.
- Northeast Fisheries Science Center. 2014. Summer Flounder data update for 2014. 20 pp.

The SSC saw no compelling evidence to change its recommendation of **ABC = 10,329 mt** for 2015.

Scup

The SSC reviewed the following information relevant to the status of Scup:

- MAFMC Staff. 2014. Scup Advisory Panel information document. Mid-Atlantic Fishery Management Council. 20 pp.
- MAFMC Staff. 2014. Summer Flounder, Scup, and Black Sea Bass fishery performance reports. Mid-Atlantic Fishery Management Council. 5 pp.
- Dancy, K. 2014. Staff memorandum to Chris Moore, dated 8 July 2014, entitled: "Review of Scup Management Measures for 2015." 9 pp.
- Northeast Fisheries Science Center. 2014. Scup data update for 2014. 15 pp.

The SSC saw no compelling evidence to change its recommendation of **ABC = 15,320 mt** for 2015.

Black Sea Bass

The SSC reviewed the following information relevant to the status of Black Sea Bass:

- MAFMC Staff. 2014. Black Sea Bass Advisory Panel information document. Mid-Atlantic Fishery Management Council. 15 pp.
- MAFMC Staff. 2014. Summer Flounder, Scup, and Black Sea Bass fishery performance reports. Mid-Atlantic Fishery Management Council. 5 pp.
- Dancy, K. 2014. Staff memorandum to Chris Moore, dated 8 July 2014, entitled: "Black Sea Bass Management Measures for 2015." 8 pp.
- Northeast Fisheries Science Center. 2014. Black Sea Bass 2012-2013 Catch and Survey Information. June 27, 2014. 13 pp.

The SSC saw no compelling evidence to change its recommendation of **ABC = 2,494 mt** for 2015.

Other Topics

Black Sea Bass Research Track

Gary Shepherd gave an update on recent modeling for black sea bass work being conducted by the NEFSC. Models are being developed that relate recruitment strength to physical oceanographic attributes of shelf waters, including temperature and salinity. Additional work looking at the synchrony or lack thereof among the state surveys and spring NEFSC survey was also presented. There appear to

be consistent patterns of recruitment success by area (i.e., north vs south), which correlate with certain physical characteristics of shelf waters, primarily temperature and salinity (that may be aliasing other factors). Consistent spatial differences in recruitment patterns may be indicative of spatial patterns in stock structure.

Additional work describing the impact of protogyny under the "lek" life history model vs true harem building was also presented. Models are under development under the hypothesis that the migratory nature of northern Black Sea Bass alters their spawning behavior. It is likely that BSB form leks rather than harems, and the presence of "sneaker" males (young males that sneak in a contribute during a spawning event) may be important to spawning success. Gary noted that sex transition occurs in fall/winter during offshore movement period and secondary sex characteristics may form quickly, but physical change takes longer. The feedback for transitioning may occur in fall pre-migration aggregation rather than during spawning season (it might even be a random event). Gary also hypothesized that Black Sea Bass may not be true protogynous hermaphrodites, but rather be best described as gonochorists that may lead to the northern stock component being more robust to exploitation than its southern counterpart (i.e., the stock south of Cape Hatteras).

Gary also described early development of a length-based Black Sea Bass population simulation model, which includes monthly time steps in 50-75 year simulations. The model configuration currently includes a quarterly growth transition matrix by cm (probability of remaining the same size or increasing to another cm category) with four stages of transition (female, transition, secondary male, primary male) by cm. He also described additional projects which are currently underway, including a behavior study being conducted by John Rosendale and Beth Phelan (NEFSC J.J. Howard Lab), documentation of behavior in pots and spawning behavior, a morphometric study (Mark Wuenschel and Gary Shepherd, NEFSC Woods Hole, with Brad Kiegwin, UMass Amherst) examining body shape by sex using landmarks subjected to multivariate analysis, a fishery independent Black Sea Bass pot survey (Laura Skrobe, URI, with David Borden), and a study of Black Sea Bass habitat use in the Gulf of Maine (Marissa McMahon and Jon Grabowski, Northeastern University) .

The SSC was encouraged by the recent efforts to examine recruitment dynamics and the impact of various life history models on robustness of the northern stock component to fishing. However, the SSC remained concerned that the need to discern the impact of assuming spatial stock structure on model results is still not being addressed. The SARC 53 review panel noted "the Panel identified substantial concerns over the potential for spatial structure and incomplete mixing within the stock area that compromised the ability of the forward projecting catch at age model index abundance and fishing mortality reliably based on the data available". As a result, SSC members noted that additional activities conducted under the Black Sea Bass research track project should address the spatial issues raised by the SARC 53 Review Panel before any new stock assessment undergoes peer review. The current version of Stock Synthesis in the National Fishery Tool Box is capable of handling stock structure, and the assessment working group should consider using it in future Black Sea Bass stock assessments.

MAFMC Five-Year Research Plan

Rich Seagraves briefed the SSC on progress being made in the refinement of the Council's five-year research plan. He has asked Mark Holliday and Brian Rothschild to help scope out a strategy for the refinement, and a draft should be ready for review by the September SSC meeting. Rich asked the SSC for additional volunteers to serve on the group.

EAFM Forage White Paper

Rich Seagraves briefly discussed progress on drafting a white paper for the Council on forage species, based on the forage fish workshop held by the Council last year. He expects to have a draft ready for review by the SSC in a few weeks.

National SSC Workshop V

John Boreman and Rich Seagraves apprised the SSC of recent developments related to the upcoming National SSC Workshop (NSSC V). The Council Coordinating Committee approved the following theme for the workshop that was proposed by the SSC Chairs: "Providing ABC Specifications in the Face of Uncertainty." Two inter-related subthemes are: "(1) setting ABCs in data poor and model resistant situations; and (2) incorporating variable and changing climate and ecosystem conditions (including spatial management and habitat considerations) into ABC specifications." SSC members were asked to think of presentation and discussion topics that would be timely and appropriate for the subthemes. The workshop will probably be held some time in February 2015 in Honolulu.

cc: SSC Members, Lee Anderson, Chris Moore, Rich Seagraves, Jim Armstrong, Kiley Dancy, Fred Serchuk, Tony Wood, Mark Terceiro, Gary Shepherd

Mid-Atlantic Fishery Management Council
Scientific and Statistical Committee Meeting
July 23, 2014
Terms of Reference

For bluefish the SSC will provide a written report that identifies the following for fishing year 2015:

1) The materials considered in reaching its recommendations;
2) The level (1-4) that the SSC deems most appropriate for the information content of the most recent stock assessment, based on criteria listed in the Omnibus Amendment;
3) If possible, the level of catch (in weight) and the probability of overfishing associated with the overfishing limit (OFL) based on the maximum fishing mortality rate threshold or, if appropriate, an OFL proxy;
4) The level of catch (in weight) and the probability of overfishing associated with the acceptable biological catch (ABC) for the stock, the number of fishing years for which the ABC specification applies and, if possible, interim metrics that can be examined to determine if multi-year specifications need reconsideration prior to their expiration;
5) The most significant sources of scientific uncertainty associated with determination of OFL and ABC;
6) Ecosystem considerations accounted for in the stock assessment, and any additional ecosystem considerations that the SSC took into account in selecting the ABC, including the basis for those additional considerations;
7) Prioritized research or monitoring recommendations that would reduce the scientific uncertainty in the ABC recommendation and/or improve the assessment level;
8) A certification that the recommendations provided by the SSC represent the best scientific information available.

Mid-Atlantic Fishery Management Council
Scientific and Statistical Committee
July 23-24, 2014
Baltimore, MD
Agenda

Wednesday July 23, 2014

9:00 Bluefish OFL/ABC Recommendations for 2015 (Wood/Armstrong)

12:00 Lunch

1:00 Review fishery performance report and multi-year ABC specification for summer flounder (Terceiro/Dancy)

2:00 Review fishery performance report and multi-year ABC specification for scup (Terceiro/Dancy)

3:00 Review fishery performance report and multi-year ABC specification for black sea bass (including Wave 1 data issue); Black Sea Bass Research Track Assessment discussion (Shepherd/Dancy)

Thursday July 24, 2014

8:00 Black Sea Bass Research Track Assessment (cont. if necessary)

10:00 Five Year Research Plan Development (Rothschild/Holliday/Seagraves)

11:00 EAFM Forage White Paper (Houde/Seagraves)

12:00 Other Business

Attachment 3

MAFMC Scientific and Statistical Committee
7-8 May 2014 Meeting
Baltimore, MD

Name	Affiliation
SSC Members in Attendance:	
John Boreman (SSC Chairman)	North Carolina State University
Tom Miller (SSC Vice-Chair) (5/7 only)	University of Maryland - CBL
Mike Wilberg	University of Maryland - CBL
Doug Lipton	NMFS
Ed Houde	University of Maryland - CBL
Doug Vaughan	NMFS (retired)
Dave Secor	University of Maryland – CBL
Sunny Jardine	University of Delaware
Brian Rothschild	University of Massachusetts - Dartmouth
David Tomberlin	NMFS Office of Science and Technology
Mark Holliday	NMFS Office of the Assistant Administrator
Mike Frisk	Stony Brook University
Wendy Gabriel	NMFS Northeast Fisheries Science Center
Others in attendance:	
Rich Seagraves	MAFMC staff
Kiley Dancy	MAFMC staff
Jim Armstrong	MAFMC staff
Tony Wood	NMFS Northeast Fisheries Science Center
Fred Serchuk	NMFS Northeast Fisheries Science Center
Lee Anderson	MAFMC Vice-chair
Gary Shepherd	NMFS Northeast Fisheries Science Center
Greg DiDomenico	GSSA
Kirby Rootes-Murdy	ASMFC staff
Joseph Gordon	Pew Charitable Trust
Purcie Bennett-Nickerson	Pew Charitable Trust
Aaron Kernbluth	Pew Charitable Trust
Toni Kerns (call-in)	ASMFC staff
Mark Terceiro (call-in)	NMFS Northeast Fisheries Science Center

Summer Flounder, Scup, and Black Sea Bass Monitoring Committee
Webinar Summary
July 25, 2014

Attendees: Paul Caruso (MA-DMF), Jason McNamee (RI-DFW), Peter Clarke (NJ-F&W), Greg Wojcik (CT-DEEP), Sally Roman (VMRC), Ed Hale (DNREC), Steve Doctor (MD-DNR), John Maniscalco (NY-DEC), Tom Wadsworth (NC-DMF), Kiley Dancy (Council Staff), Kirby Rootes-Murdy (ASMFC Staff), Mike Luisi (MD-DNR; Council/ASMFC), Gary Shepherd (NEFSC), Jason Didden (Council Staff), Jim Armstrong (Council Staff)

General Comments

Similar to last year, the Monitoring Committee noted that it does not currently have any formal control rules for the recommendation of Annual Catch Targets (ACTs). The Committee recognizes the need to develop ACT control rules or guidelines for addressing management uncertainty for all three species in the future.

The Committee also noted that recent problems with illegal harvest associated with the research-set aside (RSA) program may need to be considered in the context of increased management uncertainty. Given the scheduled discussions of the RSA program at the upcoming Council and Board meetings, the Committee did not make any specific recommendations regarding this issue. However, the Committee noted that management uncertainty related to RSA may need to be addressed in future, depending on outcome of the Council and Board discussions.

Summer Flounder Comments and Recommendations

The Committee agreed with the staff recommendation that no changes be made to the implemented 2015 management measures, including the 2015 ACTs, commercial minimum fish size (14-inch total length), gear requirements, and exemption programs.

Scup Comments and Recommendations

The Committee agreed with the staff recommendation that no changes be made to the implemented 2015 management measures, including the 2015 ACTs, commercial minimum fish size (9-inch total length), gear requirements, and possession limits.

Black Sea Bass Comments and Recommendations

The Committee agreed with the staff recommendation that no changes be made to the implemented 2015 management measures, including the 2015 ACTs, commercial minimum fish size (11-inch total length), and gear requirements.

The Committee noted that if the RSA program continues with the current 3% set-aside, a high priority for RSA-derived funding should be research into reducing the impacts of barotrauma for black sea bass. Additionally, funding should be considered for research toward gear modification or measures to reduce discard mortality in the trawl fishery.

Mid-Atlantic Fishery Management Council
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Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: July 30, 2014

TO: Council

FROM: Kiley Dancy, Staff

SUBJECT: Review of Scup Management Measures for 2015

The following materials are enclosed for Council consideration of the above subject:

1) Scup Advisory Panel Information Document (June 2014)
2) Scup Fishery Performance Report (July 2014)
3) Scup Data Update for 2014 (July 2014)
4) Staff Memo (July 2014)

Two additional documents can be found behind the black sea bass tab:

5) Scientific and Statistical Committee Meeting Report (July 2014)
6) Monitoring Committee meeting summary (July 2014)

To summarize the recommendations contained in these two documents, neither the SSC nor the Monitoring Committee found any compelling evidence to recommend any changes to the implemented 2015 specifications for scup.

Scup Advisory Panel Information Document[1]

June 2014

Management System

The Fishery Management Plan (FMP) for scup has been in place since 1996 when it was incorporated into the Summer Flounder FMP. The FMP established the management unit for scup (*Stenotomus chrysops*) as the U.S. waters in the western Atlantic Ocean from Cape Hatteras, North Carolina northward to the U.S.-Canadian border, and established measures to ensure effective management of the scup resource. There are two management entities that work cooperatively to develop fishery regulations for scup: the Atlantic States Marine Fisheries Commission (ASMFC) and the Mid-Atlantic Fishery Management Council (MAFMC), in conjunction with the National Marine Fisheries Service (NMFS) as the federal implementation and enforcement entity. The cooperative management endeavor was developed because a significant portion of the catch is taken from both state (0-3 miles offshore) and federal waters (3-200 miles offshore). The commercial and recreational fisheries are managed using catch and landings limits, commercial quotas, recreational harvest limits, minimum fish sizes, gear regulations, permit requirements, and other provisions as prescribed by the FMP. The scup stock was previously under a stock rebuilding strategy and was declared rebuilt in 2009. The FMP, including subsequent Amendments and Frameworks, is available on the Council website at: http://www.mafmc.org/sf-s-bsb/.

Basic Biology

Information on scup life history and habitat requirements can be found in the document titled, "Essential Fish Habitat Source Document: Scup, *Stenotomus chrysops*, Life History and Habitat Characteristics" (Steimle et al. 1999), and is summarized here. An electronic version is available at the following website: http://www.nefsc.noaa.gov/nefsc/habitat/efh/.

Scup is a schooling continental shelf species of the Northwest Atlantic which undertakes extensive migrations between coastal waters and offshore waters. Spawning occurs from May through August, peaking in June. Scup spawn once annually over weedy or sand-covered areas. Juvenile and adult scup are demersal, using inshore waters in the spring and moving offshore in the winter. Essential Fish Habitat (EFH) for scup includes demersal waters, sands, mud, mussel beds, and seagrass beds, from the Gulf of Maine through Cape Hatteras, North Carolina. About 50% of age-2 scup are sexually mature (at about 17 cm total length, or 7 inches), while nearly all scup of age 3 and older are mature (DPSWG 2009). Scup reach a maximum age of at least 14 years, with a likely maximum of 20 years (DPSWG 2009). Adult scup are benthic feeders and forage on a variety of prey, including small crustaceans (including zooplankton), polychaetes,

[1] Data employed in the preparation of this document are from unpublished National Marine Fisheries Service (NMFS) Dealer, Vessel Trip Reports (VTRs), Permit, and Marine Recreational Statistics (MRFSS/MRIP) databases, as of May 2014, unless otherwise noted.

mollusks, small squid, vegetable detritus, insect larvae, hydroids, sand dollars, and small fish. The Northeast Fisheries Science Center (NEFSC) food habits database lists several shark species, skates, silver hake, bluefish, summer flounder, black sea bass, weakfish, lizardfish, king mackerel, and goosefish as predators of scup.

Status of the Stock

A statistical catch at age model (age-structured assessment program; ASAP) model was used in the most recent peer-reviewed and accepted scup assessment (DPSWG 2009; Data Poor Stock Working Group (DPSWG) Peer Review Panel). Reports on "Stock Status," including annual assessment and reference point update reports, Stock Assessment Workshop (SAW) reports, Stock Assessment Review Committee (SARC) panelist reports, and DPSWG reports and peer-review panelist reports are available online at the NEFSC website: http://www.nefsc.noaa.gov/saw.

The last assessment update was completed in July 2012 (Terceiro 2012), and indicated that the scup stock was not overfished and overfishing was not occurring in 2011 relative to the biological reference points. The fishing mortality rate (F) was estimated to be 0.034 in 2011, below the fishing mortality threshold reference point (F_{MSY} = F40% = 0.177) (Figure 1). Spawning Stock Biomass (SSB) was estimated to be 190,424 metric tons (420 million lb) in 2011, above the biomass target reference point (SSB_{MSY} = $SSB_{40\%}$ = 92,044 mt, or 203 million lb). After below average recruitment in 2009 and 2010, the 2011 year class was estimated to be above average at 154 million age 0 fish (Figure 2).

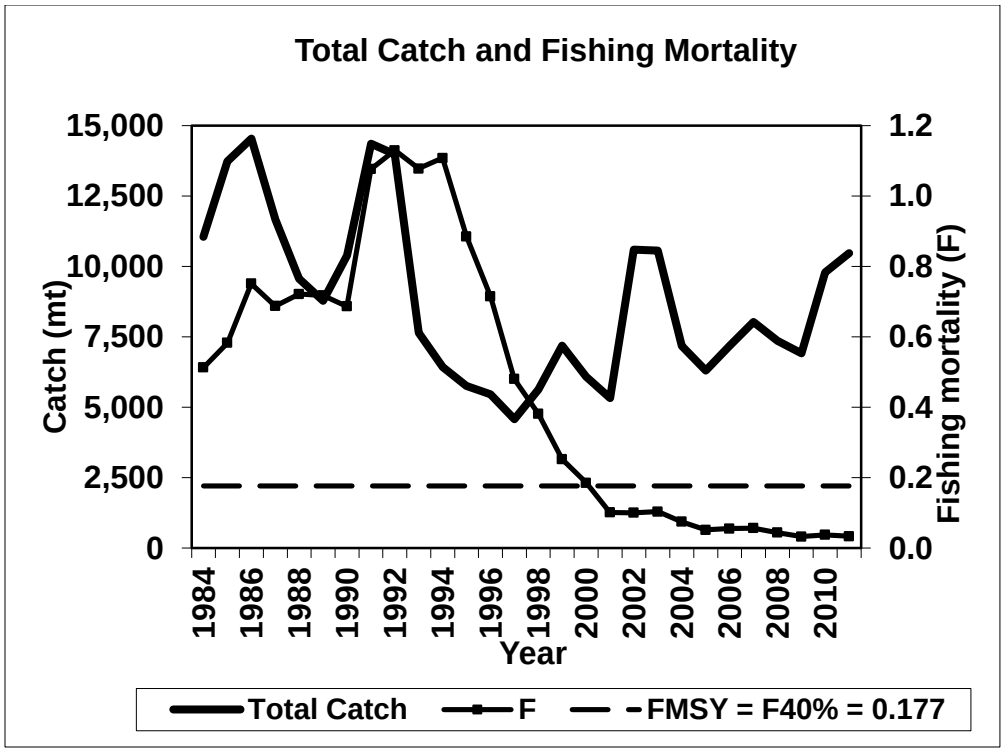

Figure 1: Total fishery catch and fishing mortality rate for scup. $F_{40\%}$ is the proxy for F_{MSY}. Source: Terceiro 2012.

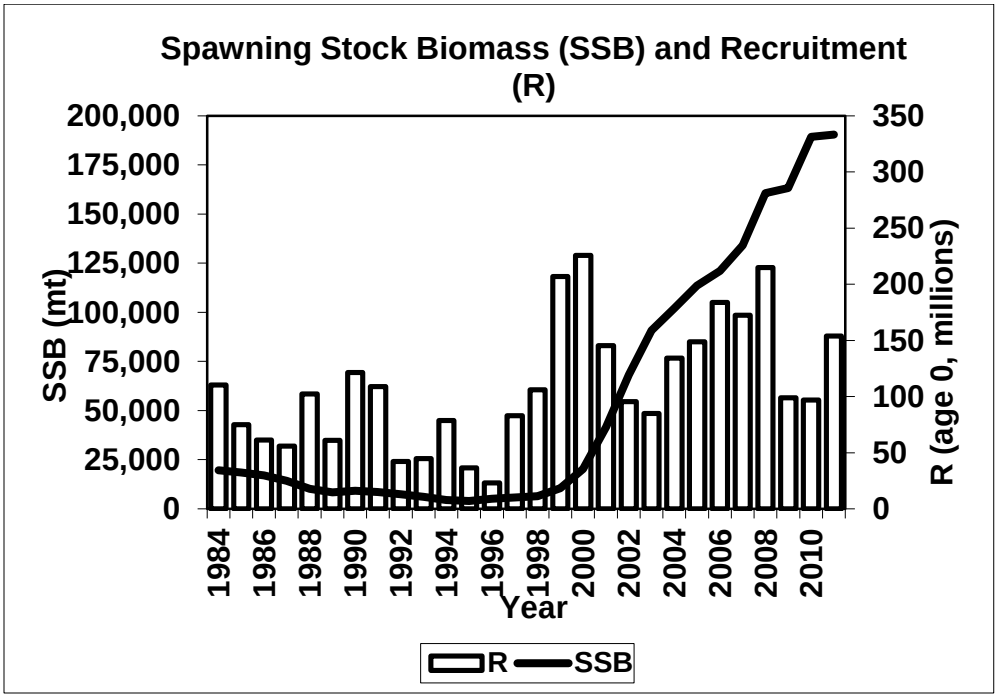

Figure 2: Spawning stock biomass (SSB) and Recruitment (R, age 0) by calendar year. Source: Terceiro 2012.

Fishery Performance

There are significant commercial and recreational fisheries for scup. Scup is managed primarily using output controls (catch and landings limits), with 78 percent of the landings being allocated to the commercial fishery as a commercial quota and 22 percent of landings allocated to the recreational fishery as a recreational harvest limit. The commercial quota is divided into three periods: Winter I (January-April; 45.11 percent), Summer (May-October; 38.95 percent), and Winter II (November-December; 15.94 percent).

Table 1 summarizes the scup management measures for the 2004-2015 fishing years. Acceptable biological catch (ABC) levels have been identified for this stock since 2010, and recreational and commercial annual catch limits (ACLs), with a system of overage accountability for each ACL, were first implemented in 2012. It should be noted that catch limits include both projected landings and discards, whereas the commercial quotas and recreational harvest limits are landings based (i.e., harvest).

Total (commercial and recreational) landings peaked in 1981 at over 27 million lb, and in 2013 were about 23 million lb total (Figure 3).

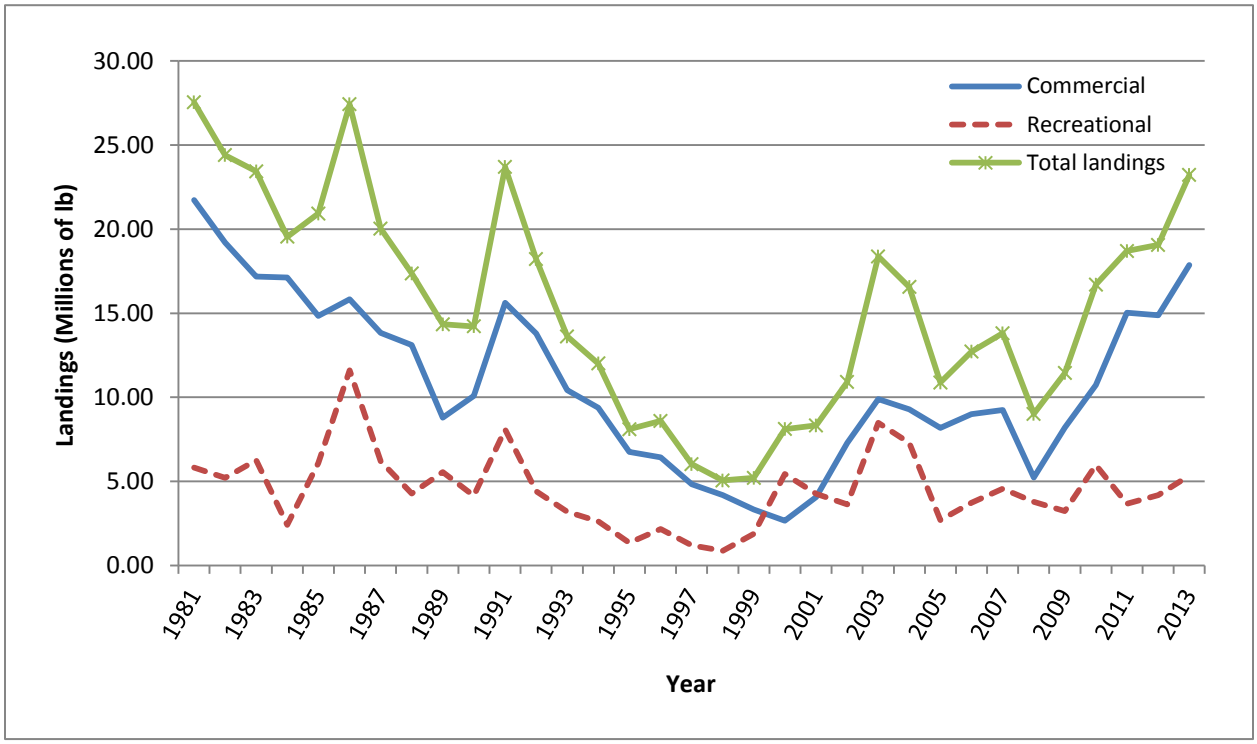

Figure 3: Commercial and Recreational U.S. Scup Landings (millions of pounds) from Maine to North Carolina, 1981-2013.

Table 1: Summary of scup management measures and landings for 2004 through 2015.

Management measures	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015[a]
ABC (m lb)	NA	NA	NA	NA	NA	11.70	17.09	51.70	40.88	38.71	35.99	33.77
TAC (m lb)	18.65	18.65	19.79	13.97	9.90	15.54[b]	17.09	31.92	40.88	38.71	35.99	33.77
Commercial ACL	NA	NA	NA	NA	NA	NA	NA	NA	31.89	30.19	28.07	26.34
Com. quota–adjusted (m lb)[c]	12.34	12.23	11.93	8.90	5.24	8.37	10.68	20.36	27.91	23.53	21.95	20.60
Commercial landings	9.28	8.18	9.00	9.24	5.22	8.20	10.73	15.03	14.88	17.87	NA	NA
Recreational ACL	NA	NA	NA	NA	NA	NA	NA	NA	8.99	8.52	7.92	7.43
Rec. harvest limit-adjusted (m lb)[c]	4.01	3.96	4.15	2.74	1.83	2.59	3.01	5.74	8.45	7.55	7.03	6.60
Recreational landings	4.24	2.54	2.93	3.65	4.04	3.23	5.97	3.67	4.17	5.34	NA	NA
Com. fish size (in)	9	9	9	9	9	9	9	9	9	9	9	9
Com. min. mesh size (in, diamond)	4.5/5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Threshold (lb)	500/100	500/200	500/ 200	500/ 200	500/ 200	500/ 200	500/ 200	500/200	500/200	500/200	500/200	500/200
Recreational measures (minimum fish size (total length), possession limit, and open season)	10-in TL, 50 fish, 1/1-2/28 and 9/7 - 11/30	10-in TL, 50 fish, 1/1-2/28 and 9/18 - 1/30	10-in TL, 50 fish, 1/1-2/28 and 9/18-11/30	10-in TL, 50 fish, 1/1-2/28 and 9/18-11/30	10.5-in TL, 15 fish, 1/1-2/28 and 10/1-10/31	10.5-in TL, 15 fish, 1/1-2/28 and 10/1-10/31	10.5-in TL, 10 fish, 6/6 - 9/26	10.5-in TL, 10 fish, 6/6 - 9/26	10.5-in TL, 15 fish, 5/19-10/14 and 11/1-12/31	10-in TL, 30 fish, 1/1-12/31	9-inch TL, 30 fish, 1/1-12/31	NA

[a]These reflect the regulations currently set for scup in 2015, however, the Council and ASFMC will review these catch limits and management measures in August 2014 and may revise as necessary. [b]In 2009, the SSC recommend an ABC of 11.70 million lb. Based on the Data Poor Stocks Workgroup Panel Report, which was not available to the SSC at the time the recommendation was made, NMFS increased the TAC to 15.54 million lb. [c]Adjusted for RSA and projected discards. NA=Not applicable or not yet available.

Commercial Fishery

In Federal waters, commercial fishermen holding a moratorium permit may fish for scup. Permit data indicate that 697 vessels held commercial permits for scup in 2013.

NMFS statistical areas are shown in Figure 4, with areas that accounted for more than 5 percent of the scup catch in 2013 highlighted. Vessel trip report (VTR) data suggest that statistical area 537 was responsible for the largest percentage of the catch in 2013, with statistical area 611having the majority of trips that caught scup (Table 2).

Table 2: Statistical areas that accounted for at least 5 percent of the scup catch in 2013, with associated number of trips. Source: NMFS VTR data.

Statistical Area	Scup Catch (percent)	Scup Trips (N)
537	27.67	1009
616	16.17	346
539	13.20	1588
611	12.80	1633
613	10.10	1023
615	5.12	96

Based on VTR data for 2013, the bulk of scup landings were taken by bottom otter trawls (97 percent), followed by pots and traps (~1.3 percent). Other gear types each accounted for less than 1 percent of landings. Current commercial regulations for scup require a 9 inch-TL minimum fish size in the commercial fishery, and the following gear requirements for otter trawls: minimum mesh size of 5 inch for the first 75 meshes from the terminus of the net, and for codends constructed with fewer than 75 meshes, a minimum mesh size of 5 inch throughout the net. The threshold level used to trigger the minimum mesh requirements is 500 lbs of scup from November 1 through April 30 and 200 lb or more of scup from May 1 through October 31 (Table 1). In addition, the current regulations require a circular escape vent of 3.1 inch, a square escape vent of 2.25 inch, or a rectangular escape vent of an equivalent size.

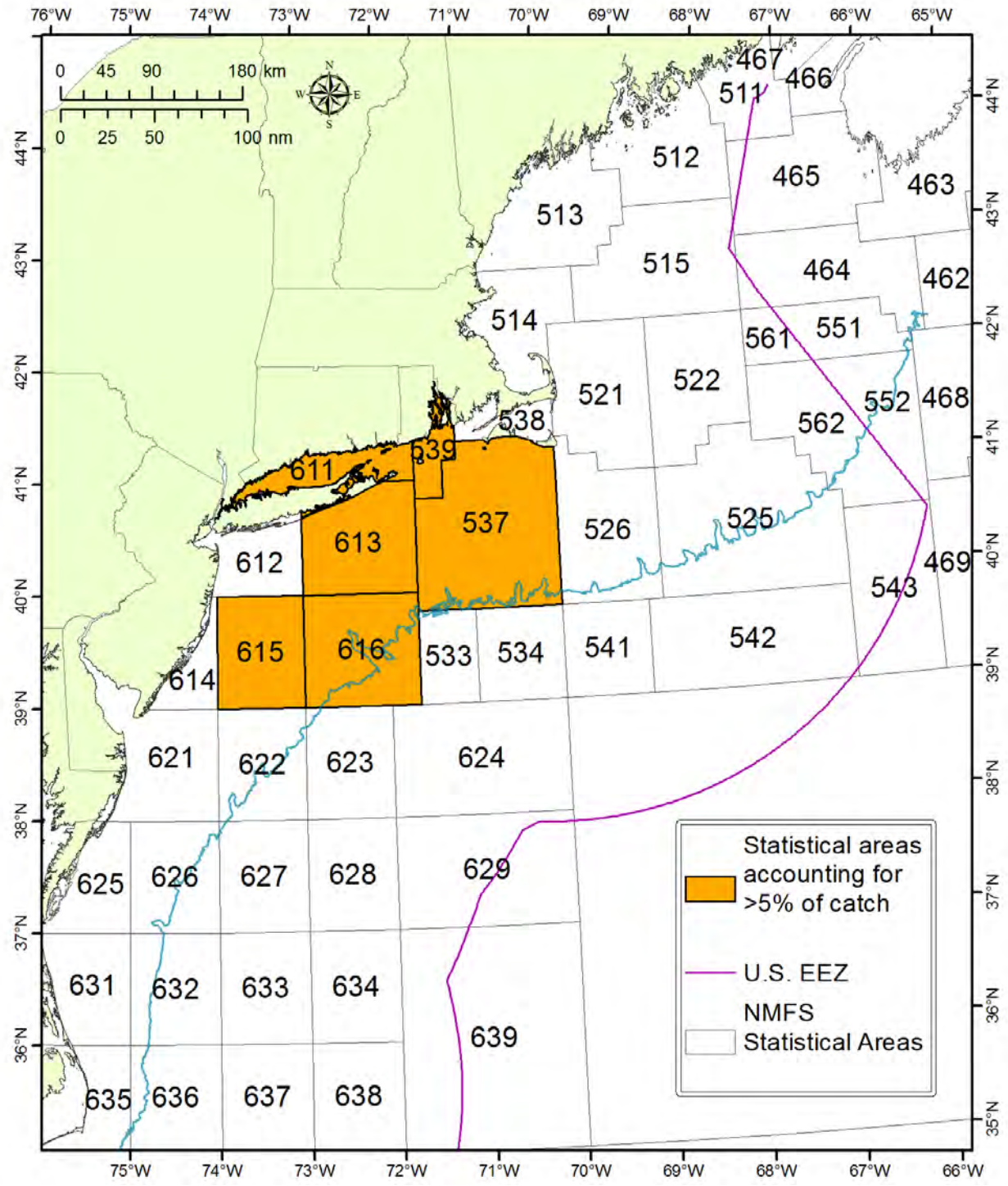

Figure 4: National Marine Fisheries Service Statistical Areas, showing statistical areas accounting for more than 5% of the commercial scup catch in 2013.

Gear restricted areas (GRAs) were implemented by NMFS in 2000 to reduce discards of scup in small mesh fisheries, and became effective on November 1, 2000 for the northern area with an exemption for the herring fishery. The GRAs were modified in size in December 2000 to include areas farther south that were identified as areas of potential scup and *Loligo* interactions. Mackerel and herring small mesh fisheries were exempt from the regulations. In 2005, based on recommendations from the Monitoring Committee, the boundary of the southern GRA was moved 3 longitudinal minutes to the west. A Framework Adjustment to the FMP was initiated in 2013 to analyze additional potential modifications to the boundaries of the GRAs, in particular the eastern boundary of the southern GRA. As of June 2014, the Council has not yet taken action on this Framework.

The Winter I possession limit for 2013 is 50,000 lb, until 80 percent of the landings are reached, at which point the possession limit drops to 1,000 lb. In 2014, the Winter II possession limit has been increased to 12,000 lb (from the previous 2,000 lb limit). This is an initial possession limit, which increases if a transfer of quota occurs between Winter I and Winter II. In that case, the Winter II possession limit should increase at 1,500 lb intervals for every 500,000 lb of scup transferred, i.e., if 1.0 million lb is transferred then the limit would be increased by 3,000 lb to result in a 15,000 lb possession limit. The possession limits were chosen as an appropriate balance between the economic concerns of the industry (i.e., landing enough scup to make the trip economically viable) and the need to ensure the equitable distribution of the quota over the period.

The 50,000 lb possession limit for Winter I was first put in place in 2012, representing an increase from the 2011 Winter I possession limit of 30,000 lb. A threshold analysis was conducted to examine how the change in possession limit may change the landings patterns for the winter periods. These data indicate that since the implementation of the increased Winter I trip limit in 2012, there has been a moderate, steady increase in the number of trips and the number of associated pounds landed above the 30,000 lb threshold (Table 3).

Table 3: The total number of vessels, trips, and associated pounds for a given threshold (pounds) of scup for 2011-2014, Winter I and II. Note: 2014 data are preliminary. C = Confidential.

Time Period	Threshold	Vessels	%	Trips	%	Pounds	%
2011 Winter I (Jan-Apr)	>=1	207	100%	3,342	100%	5,807,280	100%
	>=500	128	62%	1,573	47%	5,590,146	96%
	>=5000	82	40%	337	10%	3,198,479	55%
	>=10000	54	26%	115	3%	1,665,417	29%
	>=15000	30	14%	38	1%	750,052	13%
	>=20000	14	7%	17	1%	391,898	7%
	>=25000	4	2%	4	0%	106,350	2%
	>=30000	0	0%	0	0%	0	0%
Time Period	**Threshold**	**Vessels**	**%**	**Trips**	**%**	**Pounds**	**%**
2012 Winter I (Jan-Apr)	>=1	216	100%	4,753	100%	5,411,994	100%
	>=500	111	51%	1,815	38%	5,077,379	94%
	>=5000	58	27%	237	5%	2,423,926	45%
	>=10000	34	16%	75	2%	1,319,872	24%
	>=15000	19	9%	41	1%	915,408	17%
	>=20000	11	5%	19	0%	536,305	10%
	>=25000	8	4%	10	0%	331,895	6%
	>=30000	4	2%	5	0%	195,540	4%
	>=50000	0	0%	0	0%	0	0%
Time Period	**Threshold**	**Vessels**	**%**	**Trips**	**%**	**Pounds**	**%**
2013 Winter I (Jan-Apr)	>=1	213	100%	3,749	100%	7,431,296	100%
	>=500	136	64%	1,928	51%	7,215,496	97%
	>=5000	77	36%	424	11%	4,402,159	59%
	>=10000	46	22%	151	4%	2,501,705	34%
	>=15000	26	12%	63	2%	1,437,985	19%
	>=20000	19	9%	36	1%	969,098	13%
	>=25000	12	6%	17	0%	548,563	7%
	>=30000	8	4%	11	0%	387,270	5%
	>=50000	0	0%	0	0%	0	0%
Time Period	**Threshold**	**Vessels**	**%**	**Trips**	**%**	**Pounds**	**%**
2014 Winter I (Jan-Apr)	>=1	187	100%	3,377	100%	6,078,832	100%
	>=500	120	64%	1,571	47%	5,859,320	96%
	>=5000	61	33%	330	10%	3,660,036	60%
	>=10000	38	20%	135	4%	2,274,762	37%
	>=15000	23	12%	57	2%	1,330,754	22%
	>=20000	12	6%	29	1%	844,335	14%
	>=25000	7	4%	18	1%	598,488	10%
	>=30000	5	3%	14	0%	489,867	8%
	>=50000	0	0%	0	0%	0	0%

Table 3, Continued:

Period	Threshold	Vessels	%	Trips	%	Pounds	%
2011 Winter II (Nov-Dec)	>=1	181	100%	3,259	100%	2,638,811	100%
	>=500	90	50%	1,183	36%	2,416,371	92%
	>=5000	39	21%	91	3%	614,747	23%
	>=10000	c	c	c	c	c	c
	>=15000	c	c	c	c	c	c
	>=20000	0	0%	0	0%	0	0%
	>=25000	0	0%	0	0%	0	0%
	>=30000	0	0%	0	0%	0	0%
Period	**Threshold**	**Vessels**	**%**	**Trips**	**%**	**Pounds**	**%**
2012 Winter II (Nov-Dec)	>=1	178	100%	3,112	100%	2,690,856	100%
	>=500	117	66%	1,302	42%	2,466,015	92%
	>=5000	35	20%	67	2%	447,986	17%
	>=10000	c	c	c	c	c	c
	>=15000	c	c	c	c	c	c
	>=20000	0	0%	0	0%	0	0%
	>=25000	0	0%	0	0%	0	0%
	>=30000	0	0%	0	0%	0	0%
	>=50000	0	0%	0	0%	0	0%
Period	**Threshold**	**Vessels**	**%**	**Trips**	**%**	**Pounds**	**%**
2013 Winter II (Nov-Dec)	>=1	215	100%	3,020	100%	2,212,846	100%
	>=500	112	52%	1,073	36%	1,980,172	89%
	>=5000	24	11%	45	1%	294,092	13%
	>=10000	c	c	c	c	c	c
	>=15000	c	c	c	c	c	c
	>=20000	c	c	c	c	c	c
	>=25000	0	0%	0	0%	0	0%
	>=30000	0	0%	0	0%	0	0%
	>=50000	0	0%	0	0%	0	0%

Scup ex-vessel revenues based on dealer data have ranged from $3.3 to $10.4 million for the 1994 through 2013 period. The mean price for scup (unadjusted) has ranged from a low of $0.55/lb in 2011 and 2013 to a high of $1.46/lb in 1998 (Figure 5), with a strong price-volume relationship exhibited in the time series. In 2013, 17.87 million pounds of scup were landed generating $9.79 million in revenues ($0.55/lb).

When examining the landings and prices by period for 2007-2013, the period associated with the highest price per pound has varied year to year (Table 4). As landings have increased, price has generally decreased.

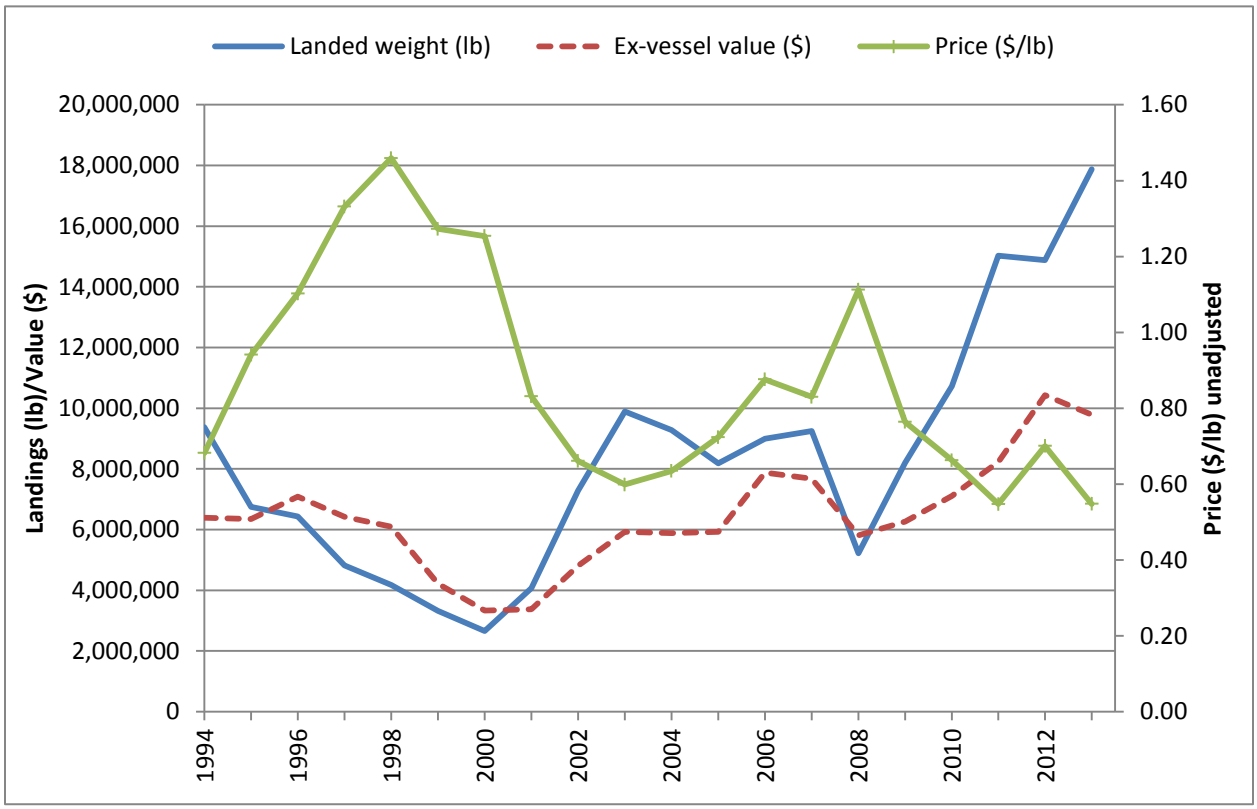

Figure 5: Landings, ex-vessel value, and price (unadjusted) for scup, Maine through North Carolina, 1994-2013.

Table 4: Commercial scup landings, ex-vessel value, and nominal price, by period, 2007-2013.

Year	Period	Landings (lbs)	Nominal Value ($)	Nominal Price Mean ($/lb)
2007	**Winter I**	3,397,362	3,098,131	0.91
	Summer	4,254,208	3,410,682	0.80
	Winter II	1,593,017	1,165,044	0.73
	Total	**9,244,587**	**7,673,857**	**0.83**
2008	**Winter I**	2,397,279	2,300,240	0.96
	Summer	1,933,203	2,773,152	1.43
	Winter II	894,139	736,733	0.82
	Total	**5,224,621**	**5,810,125**	**1.11**
2009	**Winter I**	3,774,583	2,505,230	0.66
	Summer	3,072,571	2,876,455	0.94
	Winter II	1,356,796	884,752	0.65
	Total	**8,203,950**	**6,266,437**	**0.76**
2010	**Winter I**	4,876,682	2,574,698	0.53
	Summer	4,307,065	3,336,595	0.77
	Winter II	1,543,934	1,201,374	0.78
	Total	**10,727,681**	**7,112,667**	**0.66**
2011	**Winter I**	5,807,280	2,775,814	0.48
	Summer	6,586,374	3,911,973	0.59
	Winter II	2,638,811	1,543,157	0.58
	Total	**15,032,465**	**8,230,944**	**0.55**
2012	**Winter I**	5,411,994	4,128,690	0.76
	Summer	6,781,245	4,807,675	0.71
	Winter II	2,690,856	1,492,612	0.55
	Total	**14,884,095**	**10,428,977**	**0.70**
2013	**Winter I**	7,431,296	3,871,666	0.52
	Summer	8,229,884	4,448,851	0.54
	Winter II	2,211,107	1,471,450	0.67
	Total	**17,872,287**	**9,791,967**	**0.55**

2013 NMFS dealer data were used to examine recent landings patterns among ports. The top commercial landings ports for scup by pounds landed are shown in Table 5. A "top port" is defined as any port that landed at least 100,000 lb of scup. Related data for the recreational fisheries are shown in subsequent sections. However, due to the nature of the recreational database, it is inappropriate to desegregate to less than state levels. The ports and communities that are dependent on scup are fully described in Amendment 13 to the FMP. Additional information on "Community Profiles for the Northeast US Fisheries" can be found at: http://www.nefsc.noaa.gov/read/socialsci/community_profiles/.

Table 5: Top ports of landing (in lb) for scup, based on NMFS 2013 dealer data. Since this table includes only the "top ports," it may not include all of the landings for the year. Note: C = Confidential.

Port	Landings of Scup (lb)	# of Vessels
POINT JUDITH, RI	6,190,480	127
MONTAUK, NY	3,376,814	92
CAPE MAY, NJ	905,278	32
PT. PLEASANT, NJ	821,582	36
NEW BEDFORD, MA	780,691	51
HAMPTON, VA	610,038	31
HAMPTON BAY, NY	477,536	34
NEW LONDON, CT	474,006	9
LITTLE COMPTON, RI	454,149	19
STONINGTON, CT	442,559	19
MATTITUCK, NY	328,709	4
OCEAN CITY, MD	315,374	9
BELFORD, NJ	294,841	15
NEWPORT, RI	273,570	11
FALL RIVER, MA	C	C
CHINCOTEAGUE, VA	205,945	18
NEWPORT NEWS, VA	168,720	24
EAST LYME, CT	C	C
EAST HAVEN, CT	125,082	6
TIVERTON, RI	117,331	4
AMMAGANSETT, NY	113,963	5

Among the states from Maine through North Carolina, New York had the highest number of Federally permitted dealers (46) who bought scup in 2013 (Table 6). All dealers bought approximately $9.79 million of scup in 2013.

Table 6: Dealers reporting buying scup, by state in 2013. Note: C = Confidential.

Number of Dealers	NH	MA	RI	CT	NY	NJ	DE	MD	VA	NC
	C	35	41	17	46	21	C	C	11	13

Recreational Fishery

There is a significant recreational fishery for scup in state waters, which occurs seasonally when the fish migrate inshore during the warm summer months. In Federal waters, the recreational scup fishery is managed on a coastwide basis. However, the ASMFC applies a regional management approach, where the four northern states (New York through Massachusetts) developed regulations intended to land 97 percent of the allocation. The 2014 recreational fishing measures in Federal waters are given in Table 1, and the 2014 state-specific measures are given in Table 7.

Recreational data have been available through the Marine Recreational Information Program (MRIP) since 2004, and prior to 2004 were available through the Marine Recreational Fishery Statistics Survey (MRFSS). Recreational catch and landings of scup peaked in 1986 with landings in numbers and weight at the lowest levels in 1998 (Table 8). When anglers are intercepted through the surveys conducted for the recreational statistics programs, they are asked about where the majority of their fish were caught (i.e., inland, state waters (<=3 miles), exclusive economic zone (EEZ; > 3 miles)). While these data are somewhat imprecise, they do provide a general indication of where the majority of scup are landed recreationally. On average, 97% of scup have been landed in state waters since 2004 (Table 9).

Table 7: Scup recreational fishing measures in state waters for 2014, by state.

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts	10	30 fish	May 1- December 31
MA (For-hire only)	10	45 fish	May 1 - June 30
		30 fish	July 1 - December 31
Rhode Island (Private and 4 Designated Shore Sites)	10	30 fish	May 1- December 31
RI (Party/Charter)	10	30 fish	May 1- August 31; November 1-December 31
		45 fish	September 1-October 31
Connecticut	10.5	20 fish	May 1- December 31
CT Shore Program (45 designated shore sites)	9		
New York	10	30 fish	May 1- December 31
NY (Anglers aboard licensed party/charter boats)	10	30 fish	May 1- August 31; November 1-December 31
		45 fish	September 1- October 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	50 fish	All Year
North Carolina	8	50 fish	All Year

Table 8: Recreational scup landings data from the NMFS recreational statistics databases, 1981-2013.

Year	Catch ('000 of fish)	Landings ('000 of fish)	Landings ('000 lb)
1981	10,376	9,084	5,812
1982	7,181	6,454	5,205
1983	10,155	8,837	6,252
1984	7,775	6,057	2,416
1985	13,861	10,810	6,093
1986	30,872	24,823	11,605
1987	12,377	9,916	6,197
1988	7,539	6,062	4,267
1989	11,394	9,176	5,557
1990	10,172	8,043	4,140
1991	16,852	13,279	8,087
1992	10,077	7,764	4,412
1993	7,076	5,663	3,197
1994	5,650	4,270	2,628
1995	3,767	2,419	1,344
1996	4,676	2,972	2,156
1997	3,070	1,916	1,198
1998	2,670	1,211	875
1999	4,636	3,251	1,886
2000	11,284	7,244	5,443
2001	9,925	5,099	4,262
2002	7,580	3,647	3,624
2003	14,661	9,452	8,484
2004	13,426	7,154	7,277
2005	7,038	2,589	2,693
2006	9,615	3,434	3,716
2007	10,051	4,748	4,564
2008	10,706	3,487	3,788
2009	8,704	3,134	3,230
2010	11,147	5,148	5,969
2011	6,473	3,056	3,665
2012	8,829	3,668	4,172
2013	10,037	4,958	5,344

Table 9: Percentage of scup recreational landings (MRIP Type A+B1 in number of fish) by year and area, Maine through North Carolina, 2004-2013. Area information is self-reported based on the area where the majority of fishing activity occurred per angler trip.

Year	State <= 3 mi	EEZ > 3 mi
2004	94.8%	5.2%
2005	98.2%	1.8%
2006	93.6%	6.4%
2007	98.3%	1.7%
2008	96.2%	3.8%
2009	98.1%	1.9%
2010	95.8%	4.2%
2011	96.4%	3.6%
2012	99.5%	0.5%
2013	95.3%	4.7%
Avg. 2004-2013	96.6%	3.4%
Avg. 2011- 2013	97.1%	2.9%

Table 10: State contribution (as a percentage) to total recreational landings of scup (MRIP Type A+B1 in number of fish) from Maine through North Carolina, 2011 and 2012.

State	2012	2013
Maine	0.0%	0.0%
New Hampshire	0.0%	0.0%
Massachusetts	43.3%	42.0%
Rhode Island	13.6%	16.8%
Connecticut	23.7%	18.4%
New York	16.1%	19.8%
New Jersey	3.3%	2.9%
Delaware	0.0%	0.0%
Maryland	0.0%	0.0%
Virginia	0.0%	0.0%
North Carolina	0.0%	0.0%
Total	**100%**	**100%**

In 2013, there were 718 recreational vessels (i.e., party and charter vessels) that held scup Federal recreational permits. Many of these vessels also hold recreational permits for summer flounder and black sea bass. Landings by mode indicate that private/rental fishermen are responsible for the majority of scup landings (Table 11).

Table 11: The number of scup landed from Maine through North Carolina by mode, 1981-2013.

Year	Shore	Party/Charter	Private/Rental
1981	772,162	1,054,555	7,256,991
1982	833,427	1,393,723	4,226,957
1983	2,227,113	2,996,660	3,612,789
1984	1,299,566	227,734	4,530,010
1985	1,121,593	325,846	9,362,609
1986	1,898,860	3,228,151	19,696,031
1987	522,310	583,977	8,809,700
1988	698,339	1,137,625	4,226,344
1989	882,602	1,033,317	7,260,511
1990	434,743	1,302,788	6,305,462
1991	1,625,127	2,250,043	9,403,919
1992	1,003,648	1,017,368	5,743,161
1993	284,525	1,762,457	3,616,036
1994	229,924	918,217	3,122,099
1995	222,397	837,391	1,359,243
1996	120,597	451,613	2,399,997
1997	141,367	453,069	1,321,999
1998	117,056	164,931	929,148
1999	197,876	821,995	2,230,779
2000	550,951	1,140,133	5,552,865
2001	766,084	768,894	3,563,842
2002	505,079	1,309,167	1,832,595
2003	858,699	1,329,588	7,264,026
2004	776,634	1,508,921	4,867,979
2005	394,888	165,759	2,028,783
2006	321,081	605,953	2,507,105
2007	352,618	516,174	3,879,033
2008	385,583	868,772	2,232,587
2009	209,882	1,122,189	1,801,986
2010	383,464	1,280,207	3,484,600
2011	302,056	470,571	2,283,585
2012	266,228	1,146,896	2,255,366
2013	917,609	1,631,073	2,409,292
% of Total, 1981-2013	10%	17%	73%
% of Total, 2009-2013	10%	28%	61%

The NMFS angler expenditure survey summarizes a variety of costs associated with recreational fishing in the Northeast (Table 12). In addition, Steinback et al., 2009 summarized the reasons for fishing, with a majority of anglers (about 85 percent) fishing either mostly or fully for recreational purposes (Table 13).

Table 12: Average daily trip expenditures by recreational fishermen in the Northeast region by mode, in 2011. Source: Lovell et al. 2013.

Expenditures	$		
	Party/Charter	Private/Rental	Shore
Auto Fuel	24.92	13.50	13.25
Auto Rental	0.43	0.00	0.09
Bait	0.47	4.98	5.09
Boat Rental	0.52	18.40	0.00
Charter Fees	113.44	0.05	0.00
Crew Tips	9.95	0.00	0.00
Fish Processing	0.01	0.00	0.00
Food from Grocery Stores	12.09	6.11	6.22
Food from Restaurants	11.25	2.28	4.07
Gifts & Souvenirs	3.57	0.03	0.57
Ice	0.56	1.04	0.57
Lodging	17.42	1.35	7.69
Parking & Site Access	0.67	0.82	1.27
Public Transportation	1.56	0.05	0.15
Tournament Fees	3.77	0.00	0.00
Total	**200.63**	**48.62**	**38.96**

Table 13: Purpose of Marine Recreational Fishing in the Northeast. Source: Steinback et al., 2009.

	Percent	Number of anglers in 2005 (thousands)
All for food or income	2.1	92.4
Mostly for food or income	<1.0	34.3
Both for recreation and for food or income	11.7	514.8
Mostly for recreation	13.2	580.8
All for recreation	72.2	3,176.8

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Summer Flounder, Scup, and Black Sea Bass Fishery Performance Reports
July 2014

The Mid-Atlantic Fishery Management Council's (Council's) Summer Flounder, Scup, and Black Sea Bass Advisory Panel met jointly with the Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass Advisory Panels on July 1, 2014 to review fishery information documents for all three species and develop Fishery Performance Reports (FPRs) based on advisor perspectives on catch and landings patterns and other trends in these fisheries. **Please note:** Advisor comments described below reflect the broader discussion and are not necessarily consensus statements.

Council Advisory Panel members present: Greg DiDomencio* (NJ), Skip Feller* (VA), Harry Doernte (VA), James Fletcher (NC)

Commission Advisory Panel members present: James Tietje (MA), Robert Busby (NY), Marc Hoffman (NY), Paul Risi (NY), Paul Forsberg (NY), Skip Feller* (VA), Bill Shillingford (NJ), Bob Meimbresse (NJ), Greg DiDomencio* (NJ), Mike Fedosh (NJ)

Others present: Kiley Dancy (MAFMC Staff), Kirby Rootes-Murdy (ASMFC Staff), Mike Luisi (MAFMC/ASMFC), John Boreman (MAFMC SSC)

*Serve on both Council and Commission Advisory Panels.

Scup

Market and Economic Issues

One advisor commented that the increase in the minimum fish size over the years has impacted markets for scup. There used to be a market for smaller scup that fit into a frying pan, but that market has transitioned to imported tilapia since the Council has put the larger size limits in place. Managers should work towards total utilization for the commercial fishery, where all catch must be brought ashore and any size can be sold.

One advisor commented that prices for scup are down because of the abundance of the fish, and noted that the price per fish would go up if biomass would go down. Another advisor expressed that in the commercial fishery, the markets have experienced the growing pains of rebuilding, but are starting to see benefits. Recent management changes will make benefits more pronounced in the commercial fishery (e.g., the increased Winter II trip limit). Scup are now increasingly part of the value-added market in many places, and increasingly placed on restaurant menus. The market for scup is returning, albeit from a different group of consumers.

The price of fuel is affecting every facet of the fishery, predominately by increasing overall costs, and the trend only seem to be getting worse. Fuel prices have had a big economic impact on party/charter fishery, by affecting rates and therefore participation.

One advisor noted that for the first time, he is seeing marinas that are not full. There are fewer boats and less money available. In bad economic times, people will not spend money on recreational fishing. Low income participants used to be able to easily justify the costs of a fishing trip. Now, recreational participants often can't justify the cost if they are not able to balance fees with what they are able to catch and keep. One advisor suggested changing size limits to total cumulative length, which would allow for increased retention of scup.

Environmental and Ecological Issues

Scup are eating juveniles of other species, specifically crabs and lobsters. There is a need to consider how the high biomass of scup impacts other species. One advisor noted that scup biomass should be reduced to reduce significant impacts to other species.

Management Issues & Management Induced Effort Shifts

Advisors commented that current recreational data collection under MRIP is no different from MRFSS. Similar to last year, advisors noted that the MRIP survey has not advanced to the point where it can adequately capture reductions in effort. One advisor described an effort reduction of about 30% in New York and New Jersey, which is not reflected in the MRIP estimates and will result in estimated landings which could be inflated. All components of the new MRIP methodology need to be implemented.

Advisors generally agreed that managers should encourage and incentivize more scup catch given high biomass estimates (200% of the target biomass, based on 2012 stock assessment update), and that the strong, healthy stock can support liberalization of some measures. Several advisors consider it imperative that action be taken to reduce the scup biomass, given concerns of potential predation on other commercially valuable species. Both commercial and recreational minimum sizes could be much smaller, and could always be increased later if there are problems. Smaller minimum sizes will greatly reduce discards. Smaller size limits should be considered before increased trip limits (for both commercial and recreational fisheries) because it would increase availability to all sectors/user groups and would reduce waste. Shore fishermen would have increased opportunity to take home fish with smaller size limits. The scup fishery is strong enough to support these changes, and advisors would not expect fishery to decline back to levels seen in the 80s, when draggers had smaller mesh nets. Gear restrictions are helping to maintain the stock by reducing dead discards.

Fishing Behavior Issues

Advisors noted that managers should consider the subsistence fishing aspect of the scup fishery. In the 80s, there used to be a 100 fish trip limit, with 8-hour trips, with customers predominately freezing these larger quantities of fish to eat over time. Now with reduced trip limits, the time needed to reach a trip limit is quicker, so trips are shorter, with charter boats booking multiple day trips. While two trips instead of one has been good for for-hire businesses, it's somewhat inefficient for participants (and more expensive, which disadvantages lower-income participants). The various changes in size limits, trip expenses, and availability of fish over past three decades has changed the clientele. A lot of scup trips are tourist trips now. Managers should consider the range of participants that they would like the fishery to be available to in the future.

Other Issues

One advisor noted that the Coast Guard targets commercial fishermen, but should be putting equal effort into checking recreational vessels as well.

Research Recommendations

Research suggestions proposed by advisors included:

- Adding a research recommendation for quantifying the role of scup as a predator, not just as a prey species. There was also support for quantifying the role of juvenile scup as a forage species.
- Recommendation #5 in the draft 5-year research plan (incorporating ecological relationships and oceanic events into the stock assessment model) should be designated as a higher priority.
- Research into cooking methods for cooking the whole fish (with bones), which could lead to improved markets for scup.
- A financial reward system should be created that anyone could access in exchange for contributing to research work, since the current process has become a "closed system."

Scup Data Update for 2014

National Marine Fisheries Service
Northeast Fisheries Science Center
166 Water St.
Woods Hole, MA 02543

Fishery and Survey Data

Reported 2013 landings in the commercial fishery were 8,108 mt = 17.875 million lbs, about 73% of the commercial quota including the RSA (11,106 mt = 24.484 million lbs). Estimated 2013 landings in the recreational fishery were 2,424 mt = 5.344 million lbs, about 71% of the recreational harvest limit (3,425 mt = 7.551 million lbs). Total commercial and recreational landings in 2013 were 10,532 mt = 23.219 million lbs and total commercial and recreational discards were 1,703 mt = 3.754 million lbs, for a total catch in 2013 of 12,235 mt = 26.974 million lbs (Table 1, Figure 1).

State and Federal survey biomass index trends were variable, but most indices decreased from 2012 to 2013 (Figures 2-12). Indices of recruitment (age 0 fish) were generally lower over the last 3 years than in the previous decade (Figure 13).

Table 1. Total catch (metric tons) of scup from Maine through North Carolina. Landings include revised Massachusetts landings for 1986-1997. Commercial discards for 1981-1988 calculated as the geometric mean ratio of discards to landings numbers at age for 1989-1993. Commercial discard estimate for 1998 is the mean of 1997 and 1999 estimates. Recreational catch from MRIP (2004-2013) and MRFSS (1981-2003) adjusted by MRFSS to MRIP 2004-2011 ratio.

Year	Commercial Landings	Commercial Discards	Recreational Landings	Recreational Discards	Total Catch
1981	9,856	4,964	3,116	59	17,995
1982	8,704	4,383	2,791	53	15,931
1983	7,794	3,925	3,353	63	15,135
1984	7,769	2,158	1,296	33	11,256
1985	6,727	4,184	3,268	60	14,239
1986	7,176	2,005	6,223	97	15,501
1987	6,276	2,537	3,323	42	12,178
1988	5,943	1,657	2,289	35	9,923
1989	3,984	2,229	2,980	43	9,237
1990	4,571	3,909	2,220	42	10,742
1991	7,081	3,530	4,336	87	15,034
1992	6,259	5,668	2,366	52	14,345
1993	4,726	1,436	1,714	31	7,907
1994	4,392	807	1,409	41	6,649
1995	3,073	2,057	720	14	5,864
1996	2,945	1,522	1,156	22	5,645
1997	2,188	1,843	642	9	4,682
1998	1,896	3,331	469	16	5,712
1999	1,505	4,819	1,012	7	7,343
2000	1,207	2,352	2,919	61	6,539
2001	1,729	1,499	2,285	184	5,697
2002	3,173	5,636	1,944	152	10,905
2003	4,405	2,153	4,549	176	11,283
2004	4,231	893	3,278	182	8,584
2005	4,266	662	1,215	270	6,413
2006	4,062	1,387	1,681	426	7,556
2007	4,196	1,859	2,085	346	8,486
2008	2,351	2,879	1,713	287	7,229
2009	3,717	1,675	1,462	211	7,065
2010	4,855	2,108	2,715	318	9,996
2011	6,819	1,913	1,632	173	10,537
2012	6,751	2,152	1,842	231	10,976
2013	8,108	1,477	2,424	226	12,235

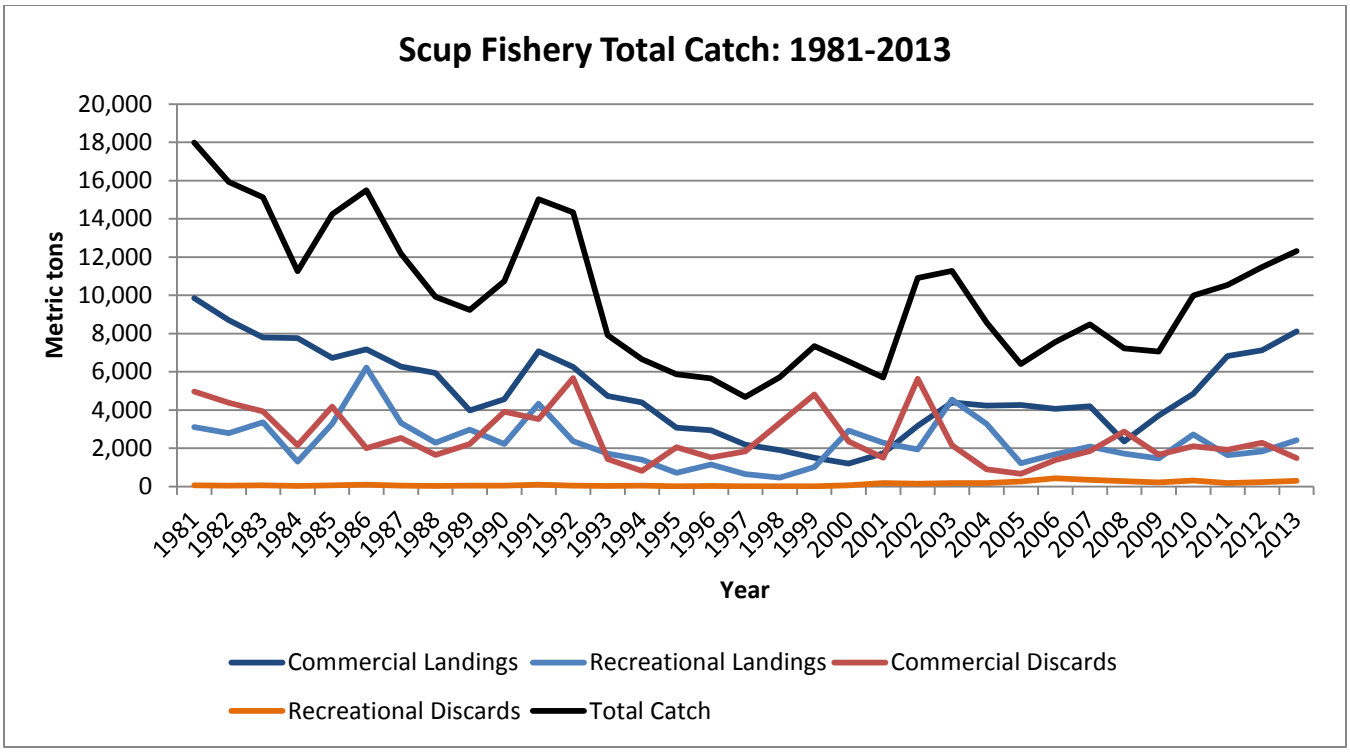

Figure 1. Scup fishery total catch.

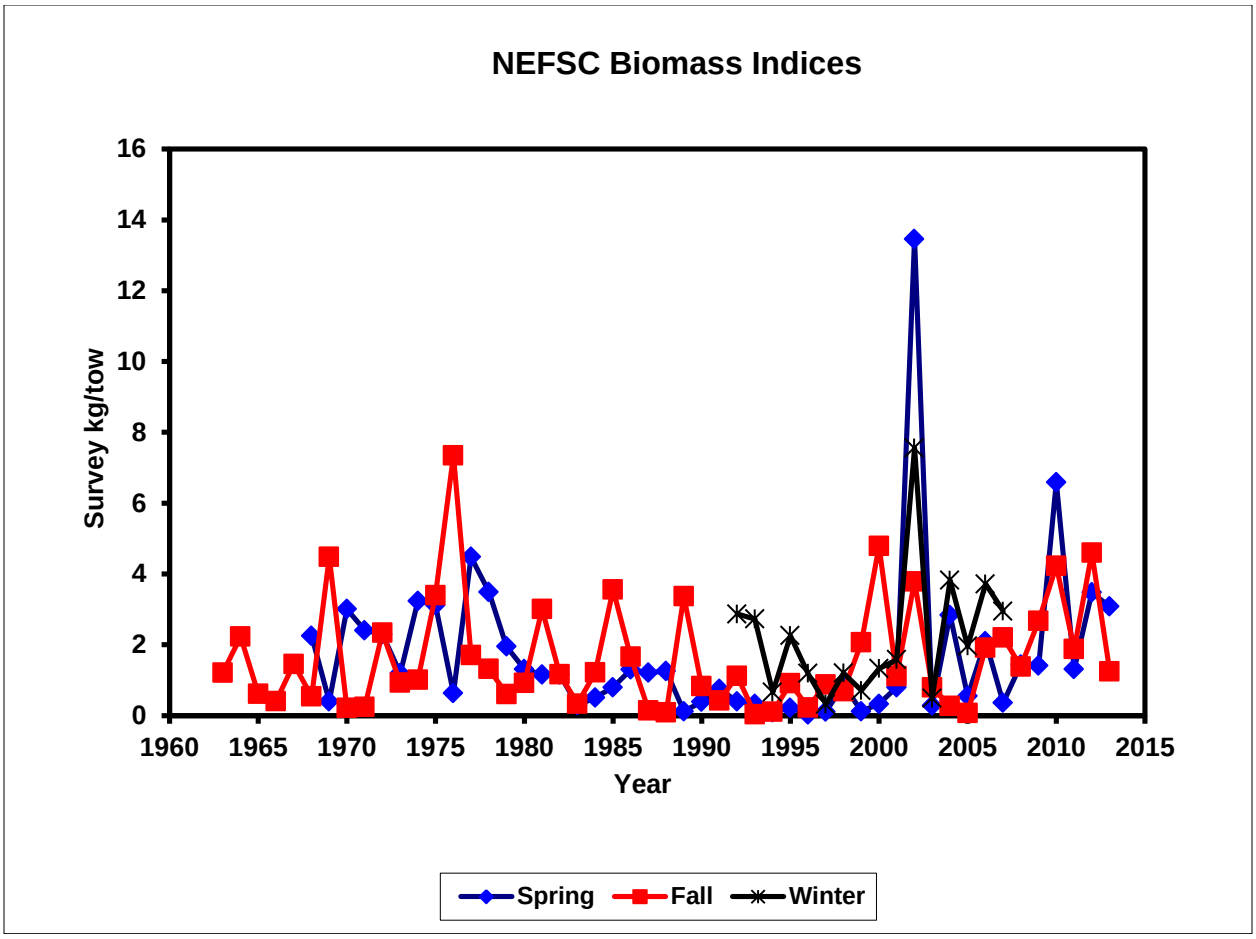

Figure 2. NEFSC trawl survey biomass indices for scup.

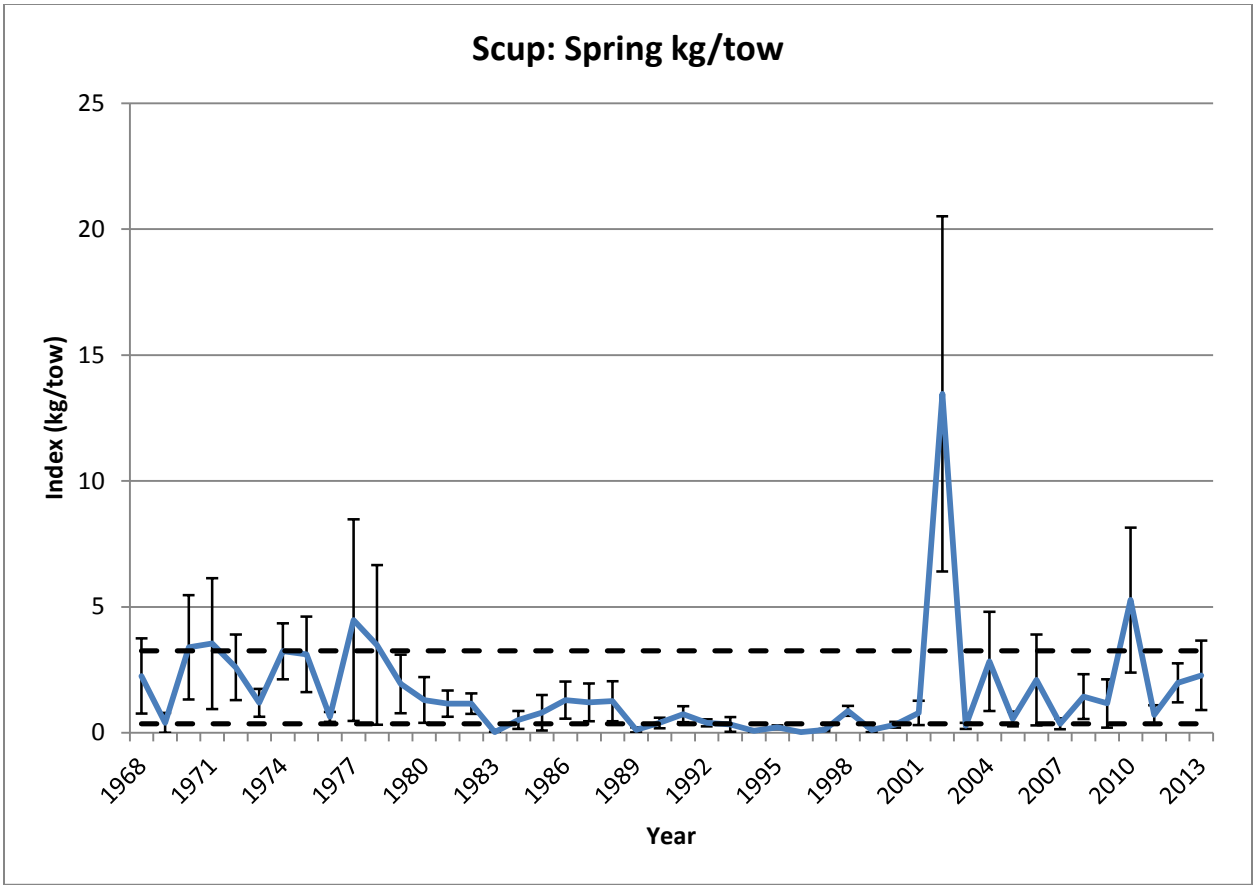

Figure 3. NEFSC spring trawl survey biomass indices for scup. Whiskers around each annual index represent +/- one standard deviation. Dashed lines represent 65% confidence intervals around the 2004-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing overfishing.

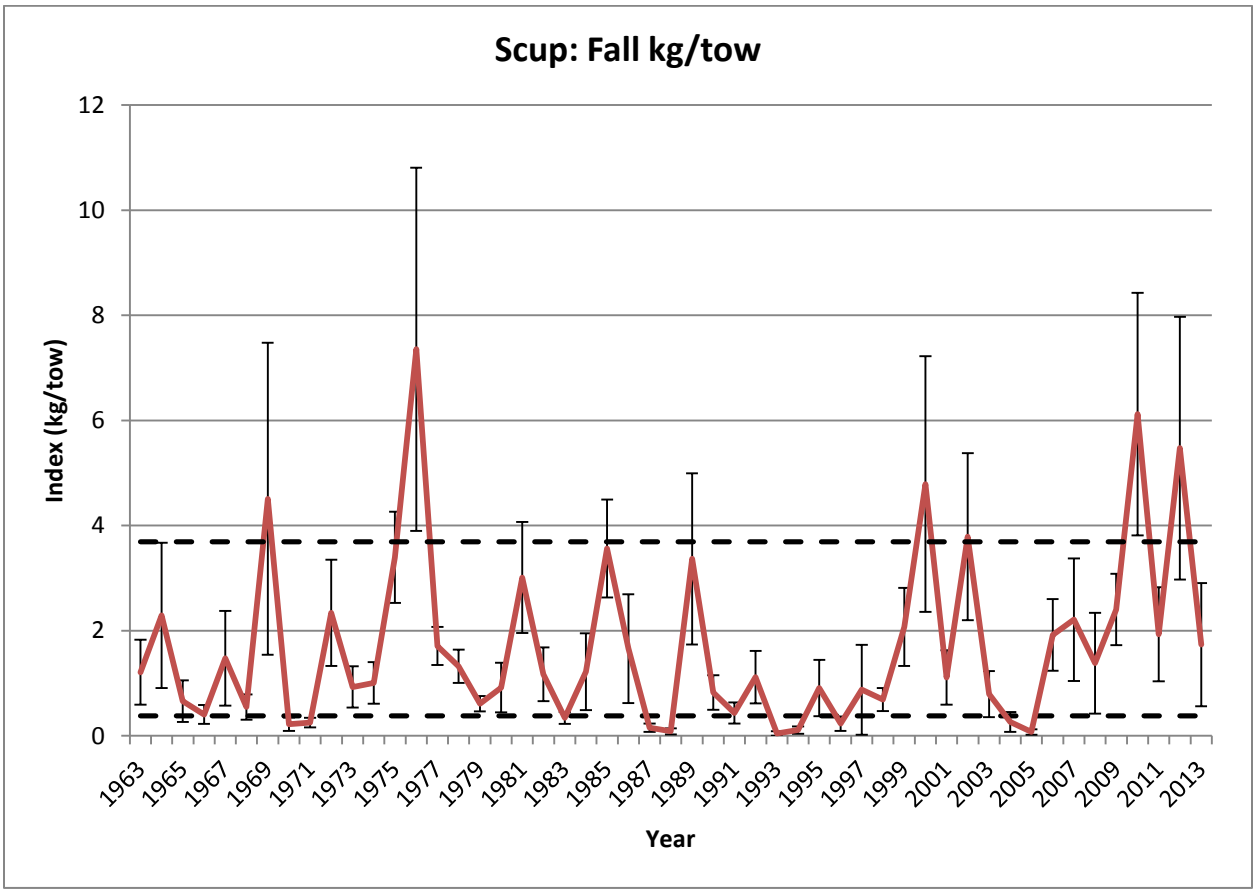

Figure 4. NEFSC fall trawl survey biomass indices for scup. Whiskers around each annual index represent +/- one standard deviation. Dashed lines represent 65% confidence intervals around the 2004-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing overfishing.

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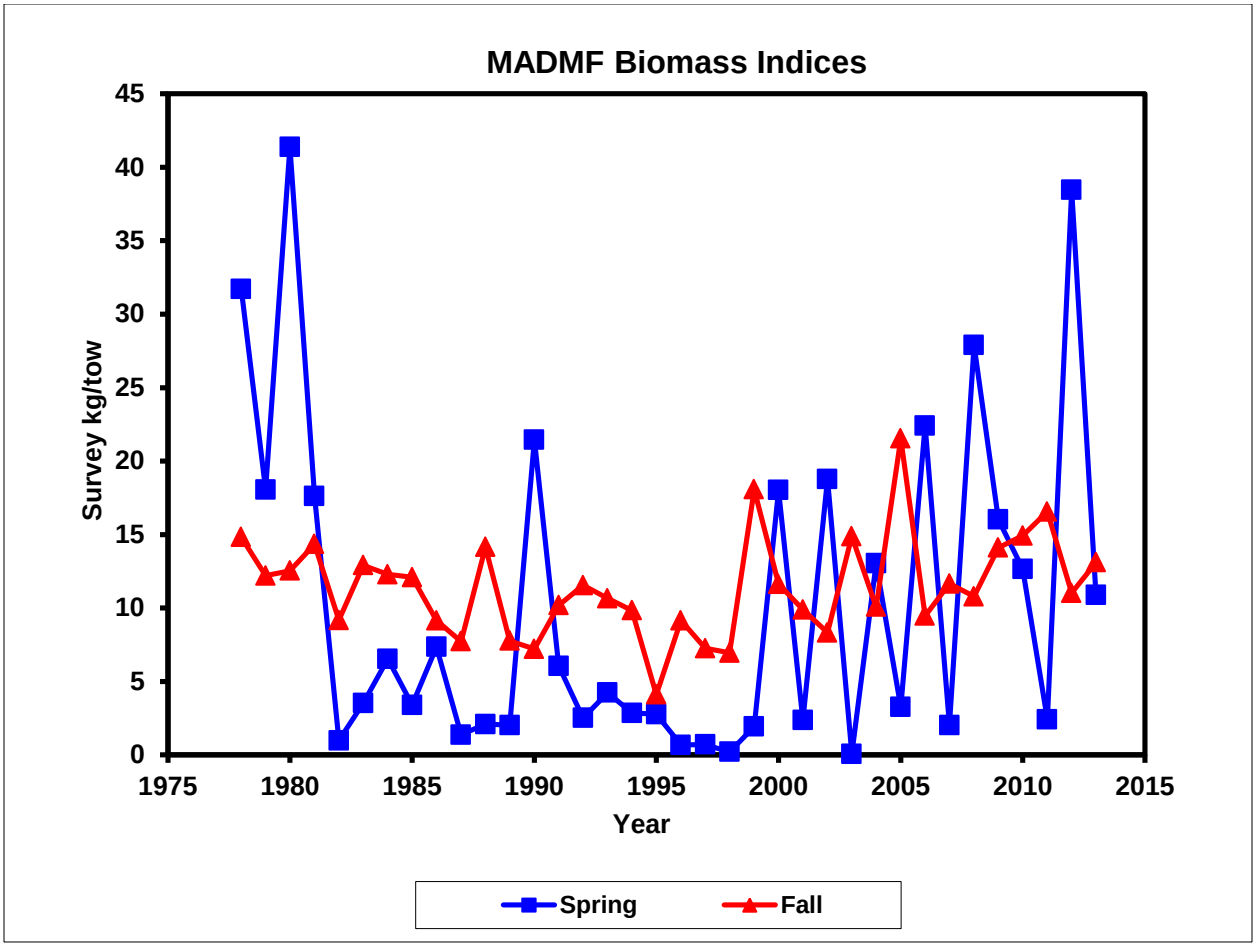

Figure 5. MADMF trawl survey indices for scup.

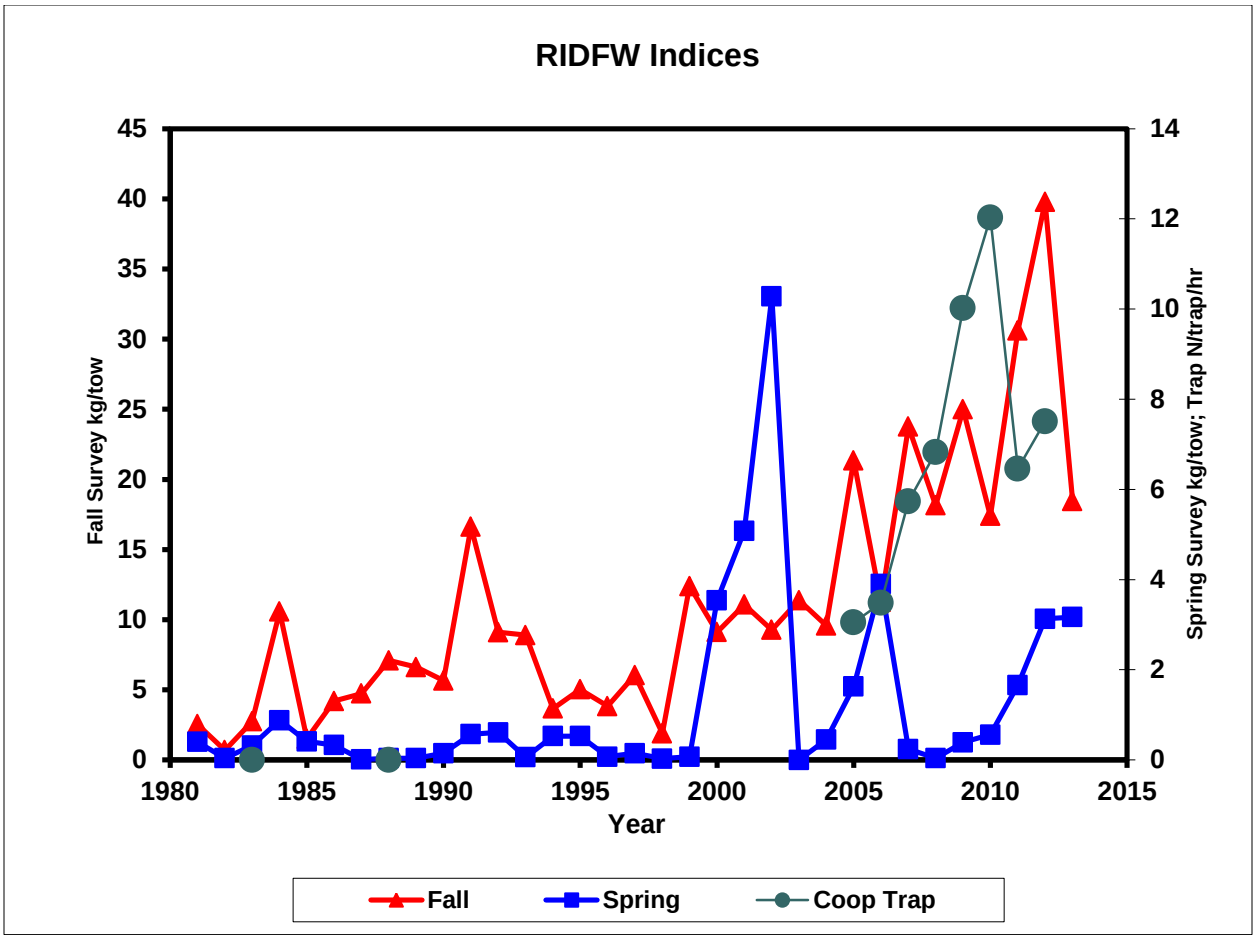

Figure 6. RIDFW trawl and trap survey indices for scup. The Cooperative trap survey ended in 2012.

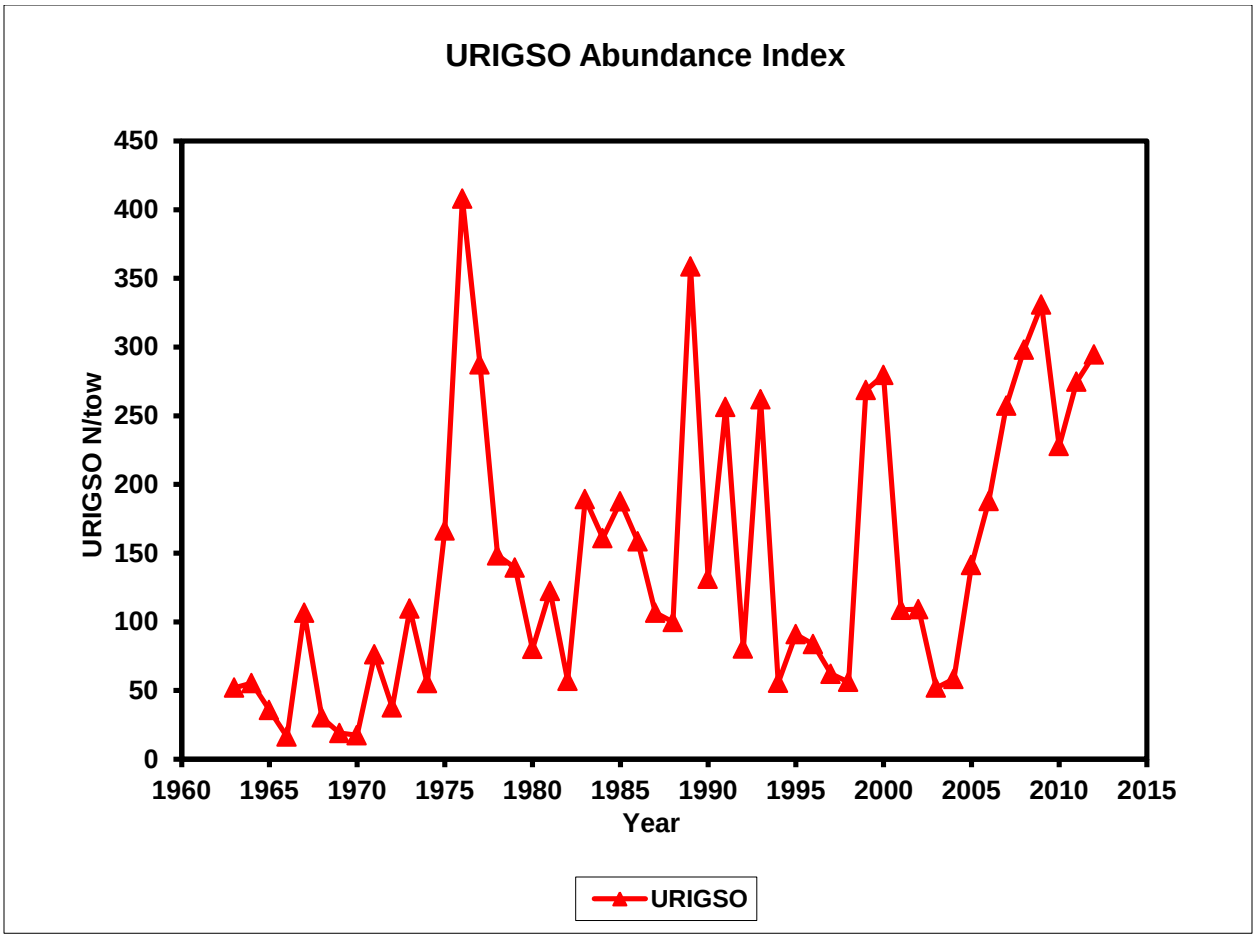

Figure 7. URIGSO trawl survey indices for scup. 2013 indices not available.

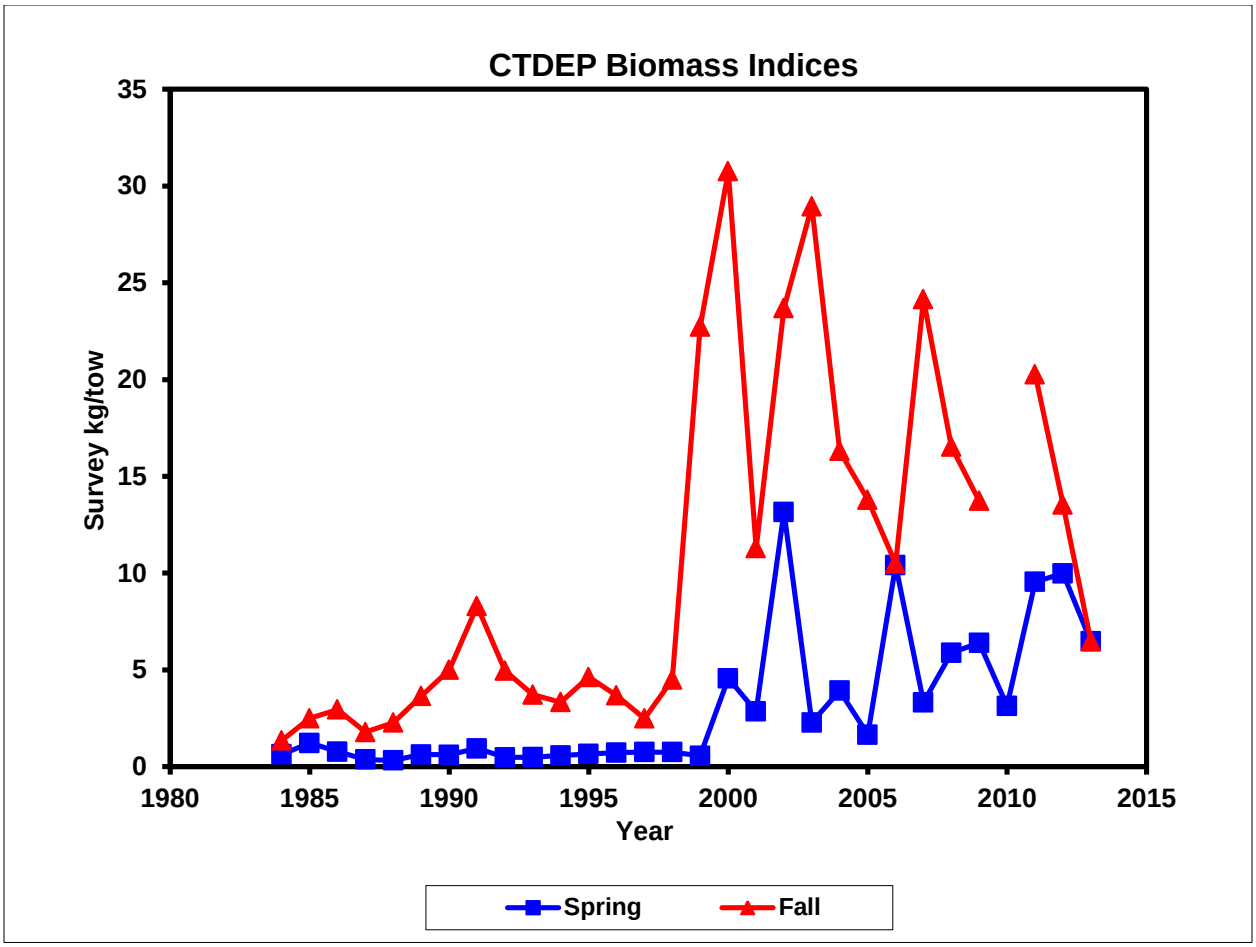

Figure 8. CTDEP trawl survey indices for scup.

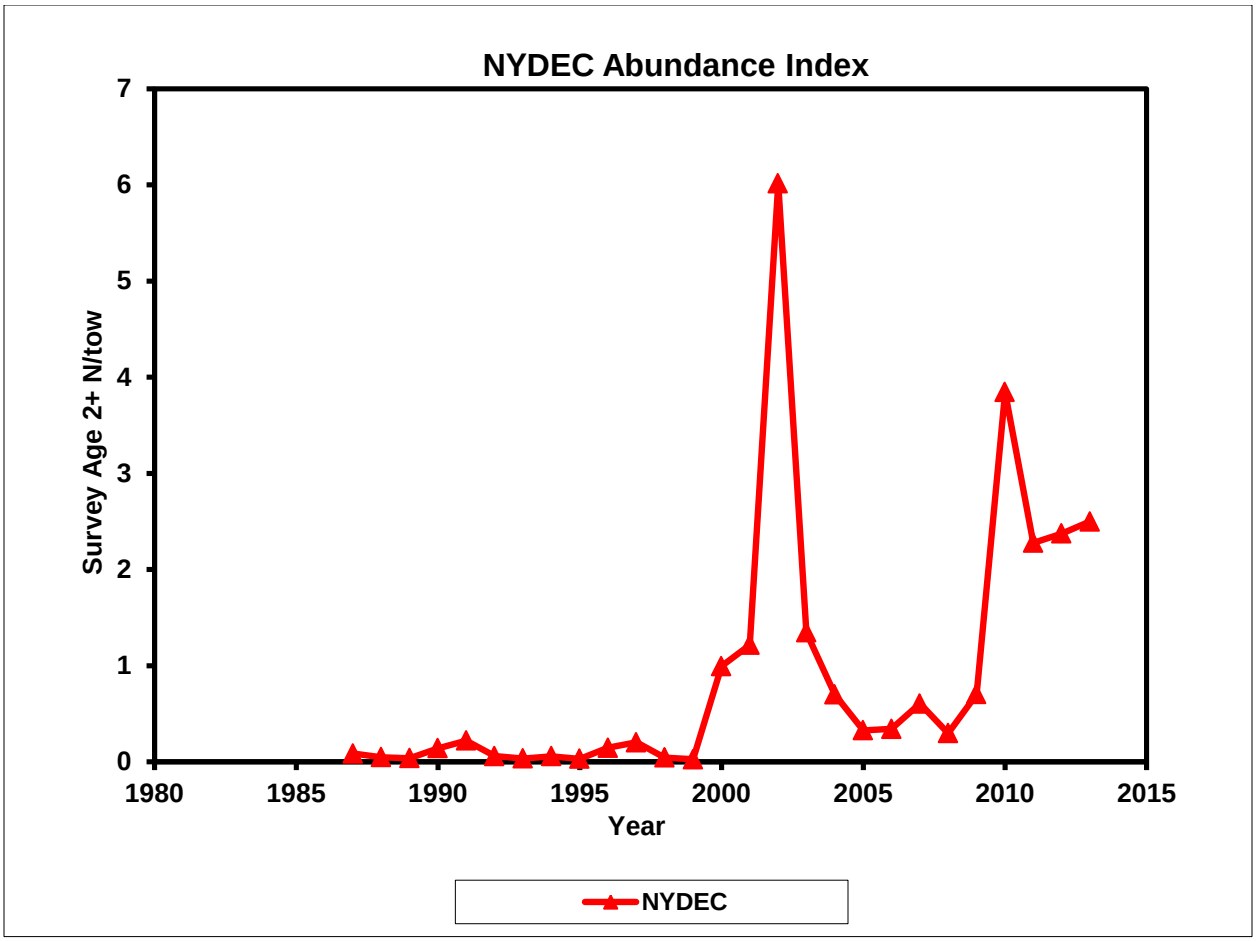

Figure 9. NYDEC trawl survey indices for scup.

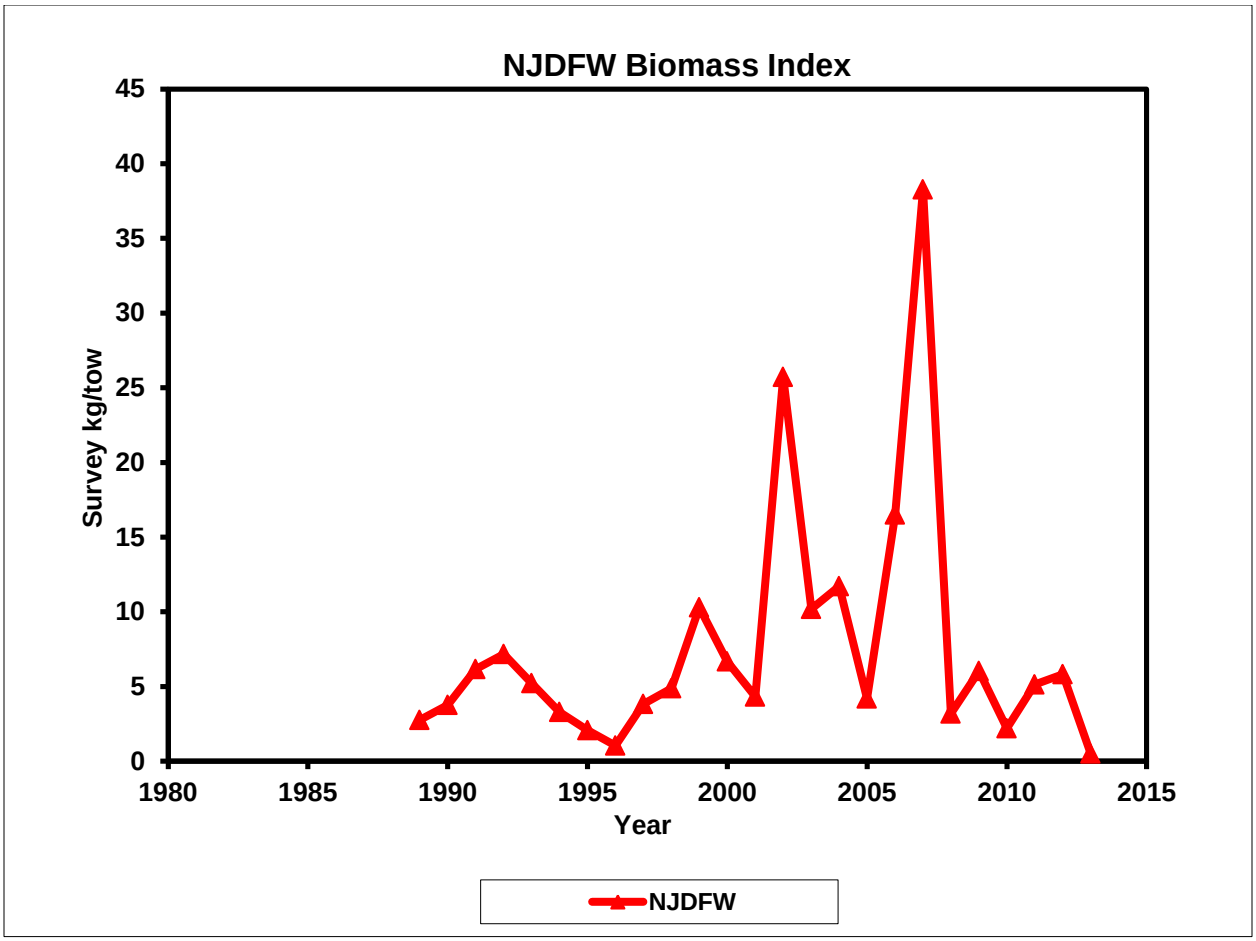

Figure 10. NJDMF trawl survey indices for scup.

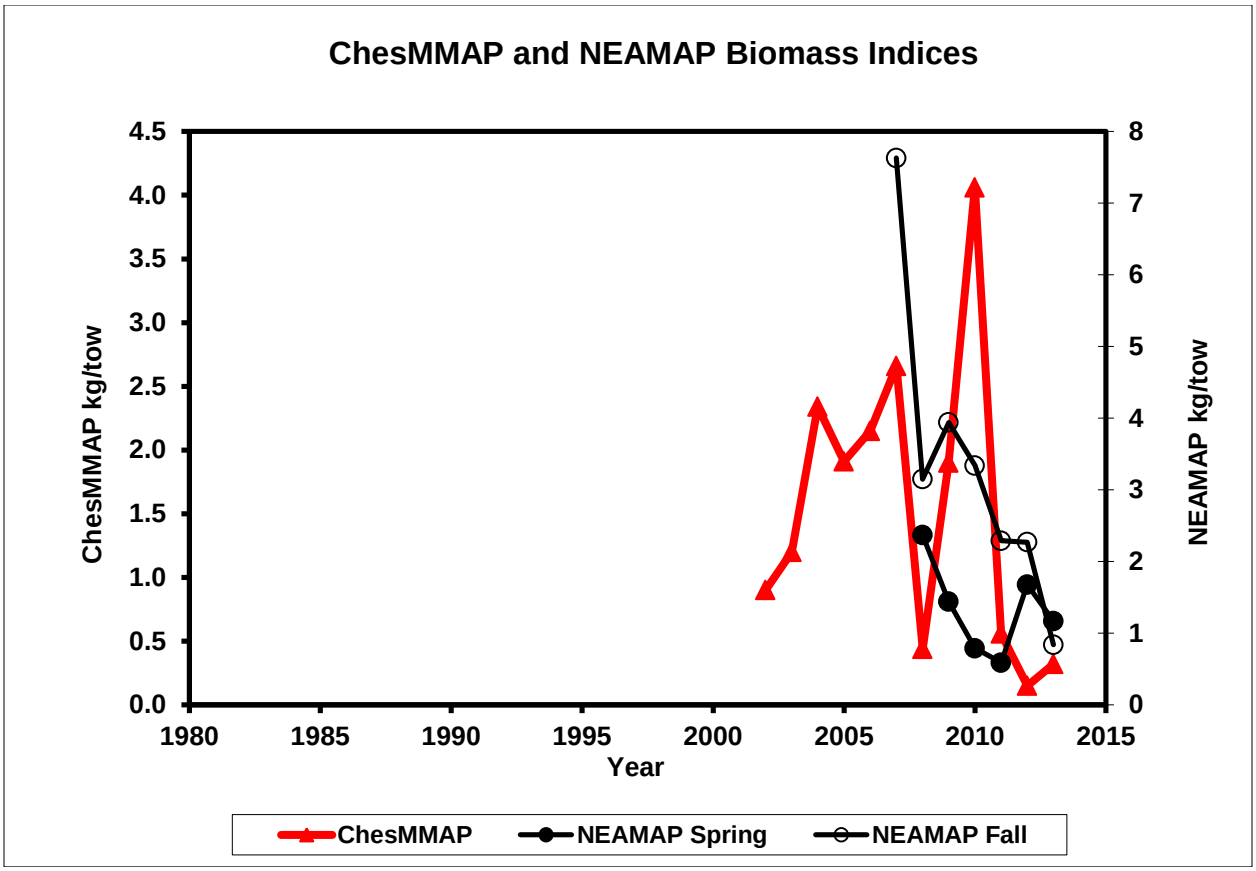

Figure 11. VIMS (ChesMMAP and NEAMAP) trawl survey indices for scup.

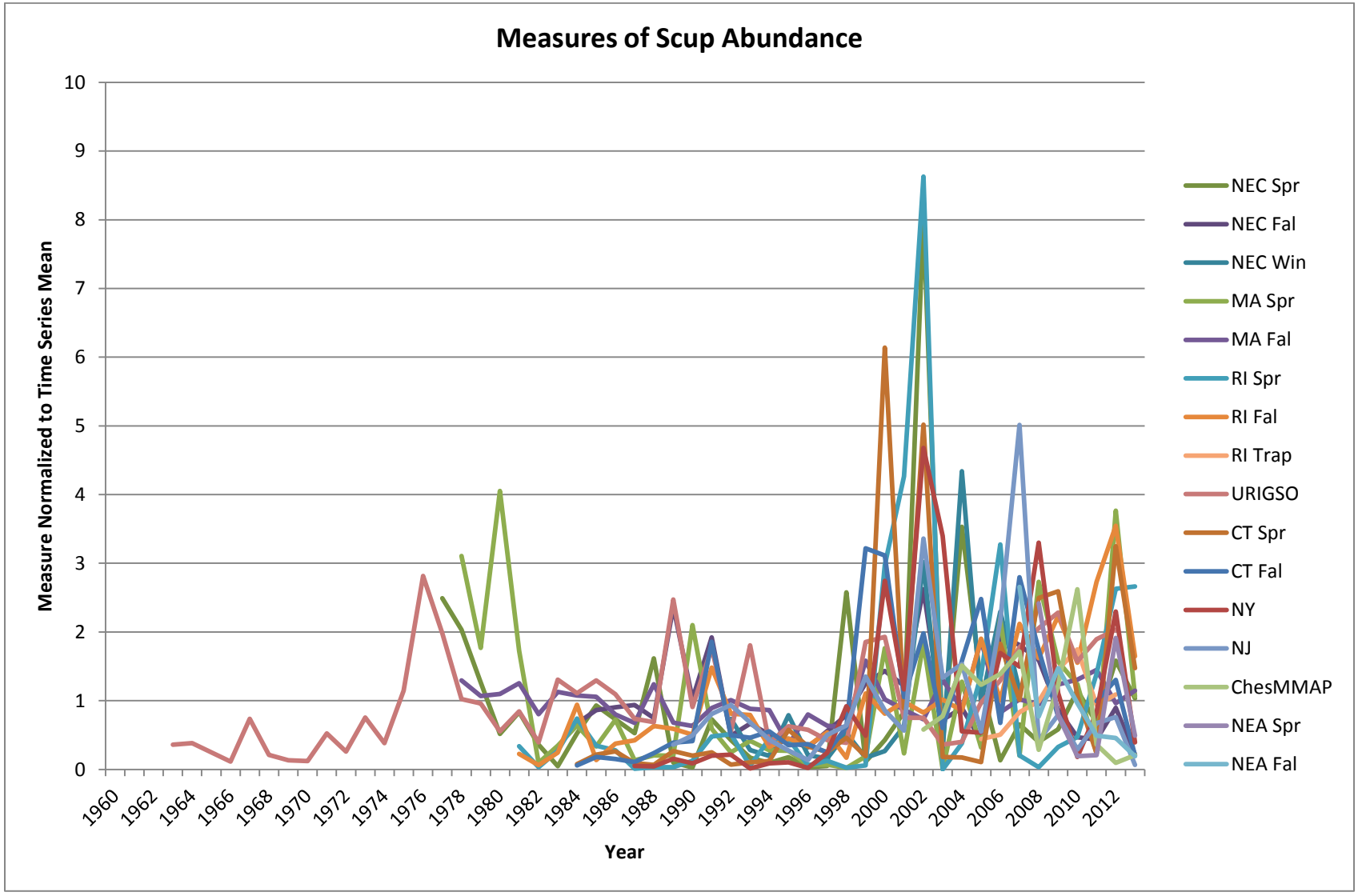

Figure 12. Measures of scup aggregate numeric abundance. Indices normalized to time series means.

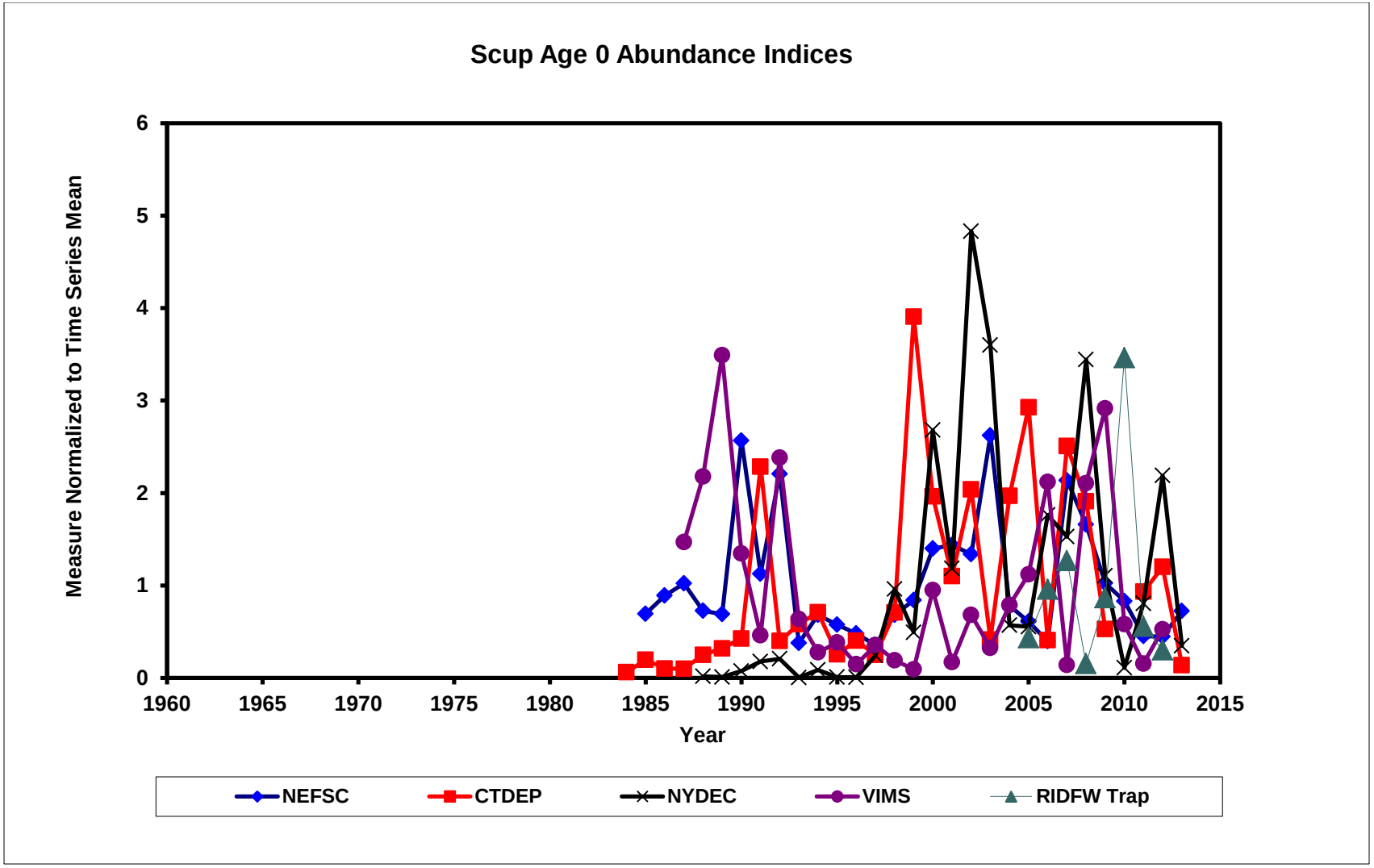

Figure 13. Measures of scup age 0 abundance. Indices normalized to time series means.

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Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: July 8, 2014

TO: Chris Moore, Executive Director

FROM: Kiley Dancy, Staff

SUBJECT: Review of Scup Management Measures for 2015

Executive Summary

In 2012, three-year specifications were recommended for scup, establishing management measures for the 2013-2015 fishing years. Catch and landings limits are already in place for 2015 and may remain unchanged if the Scientific and Statistical Committee (SSC), Council, and ASMFC's Summer Flounder, Scup, and Black Sea Bass Board determine that the previously recommended Acceptable Biological Catch (ABC) for 2015 (33.77 mil lb; 15,320 mt) is still appropriate. Similarly, the Monitoring Committee will review recent fishery performance and make a recommendation to the Council and Board regarding any necessary modifications to the implemented 2015 commercial management measures.

Based on the latest stock assessment update in July of 2012, the scup stock is not overfished and overfishing is not occurring. The assessment model estimated spawning stock biomass (SSB) was 419.81 million lb (190,424 mt) in 2011 (207% of the biomass at maximum sustainable yield, SSB_{MSY}).

Staff recommends maintaining the specified ABC (33.77 mil lb) as the basis for management measures in 2015. This ABC resulted in a commercial Annual Catch Limit (ACL) of 26.34 million lb (11,950 mt), and a recreational ACL of 7.43 million lb (3,370 mt). Based on the recommendation of the Monitoring Committee, both the commercial Annual Catch Target (ACT) and the recreational ACT were set equal to their respective sector ACLs for 2015. Last year, the Council recommended that up to 3% of the commercial and recreational quotas be reserved for research set-aside (RSA) in 2015.[1] After adjusting for projected discards and 3% RSA, the 2015 commercial quota is 20.60 mil lb, and the recreational harvest limit is 6.60 mil lb (Table 1).

Staff does not recommend any changes to the current commercial minimum fish size (9 inch-TL), gear requirements, or possession limits.

[1]The Council is scheduled to have a separate discussion at the August 2014 meeting regarding the future of the RSA program.

Table 1: Current multi-year catch and landings limits for scup in 2014 and 2015. (Numbers may not add precisely due to rounding error.)

Management Measure	Current (2014)		2015		Basis
	mil lb.	mt	mil lb.	mt	
ABC	35.99	16,325	33.77	15,320	Projections
ABC Landings Portion	29.87	13,550	28.03	12,716	Projections
ABC Discards Portion	6.12	2,775	5.74	2,604	Projections
Commercial ACL (=ACT)	28.07	12,734	26.34	11,950	78% of ABC (per FMP)
Comm. discards (projected)	5.45	2,471	5.11	2,318	89% of ABC discards portion, based on 2009-2011 average % discards by sector
RSA deduction (3%)	0.68	308	0.64	289	3% of pre-RSA Comm. Quota
Commercial quota (adjusted)	21.95	9,955	20.60	9,343	Comm. ACT less discards and RSA
Recreational ACL (=ACT)	7.92	3,592	7.43	3,370	22% of ABC (per FMP)
Rec. discards (projected)	0.67	304	0.63	286	11% of ABC discards portion, based on 2009-2011 average % discards by sector
RSA deduction (3%)	0.22	99	0.20	93	3% of pre-RSA RHL
Recreational Harvest Limit (adjusted)	7.03	3,188	6.60	2,991	Rec. ACT less discards and RSA

Introduction

The Magnuson-Stevens Act (MSA) requires each Council's Scientific and Statistical Committee (SSC) to provide ongoing scientific advice for fishery management decisions, including recommendations for Acceptable Biological Catch (ABC), prevention of overfishing, and achieving maximum sustainable yield. The Council's catch limit recommendations for the upcoming fishing year(s) cannot exceed the ABC recommendation of the SSC. In addition, the Monitoring Committees established by the Fishery Management Plan (FMP), are responsible for developing recommendations for management measures designed to achieve the recommended catch limits.

Multi-year specifications may be set for scup for up to three years at a time. For fishing year 2015, the SSC previously recommended an ABC for scup as part of the multi-year specifications setting process for the 2013-2015 fishing years. The SSC recommended an ABC that addresses scientific uncertainty, while the Monitoring Committee recommended an annual catch target (ACT) and management measures that address management uncertainty. Both the SSC and Monitoring Committee will review the measures currently implemented and determine if any changes may be warranted. Based on the SSC and Monitoring Committee recommendations, the Council will make a recommendation to the National Marine Fisheries

Service (NMFS) Greater Atlantic Regional Administrator, if changes to the specifications are believed to be warranted. Because the FMP is cooperatively managed with the Atlantic States Marine Fisheries Commission, the Commission's Summer Flounder, Scup, and Black Sea Bass Board will meet jointly with the Council to revisit scup management measures. In this memorandum, information is presented to assist the SSC and Monitoring Committee in developing recommendations for the Council and Board to consider for the 2015 fishing year for scup.

Additional relevant information about the fishery and past management measures is presented in the Fishery Performance Report for scup developed by the Council and Commission Advisory Panels, as well as in the corresponding Scup Information Document prepared by Council staff.

Catch and Landings Update

According to the Scup Data Update for 2014, commercial landings in 2013 were 17.88 mil lb (8,108 mt), and recreational landings were 5.34 mil lb (2,424 mt). The 2014 commercial landings as of the week ending April 27, 2014 indicate that 67% of the Winter I (January-April) quota had been landed. As of the week ending June 21, 2014, the coastwide landings report indicated that 32% of the Summer period quota has been landed (Table 2).

Table 2: The 2014 scup summer period quota and the amount of scup landed by commercial fishermen in the summer period, in each state as of week ending June 21, 2014.

State	Cumulative Landings (lb)[a]	2014 Summer Quota (lb)	Percent of Quota (%)	Set-Aside Landings (lb)
ME	0	--	--	0
NH	0	--	--	0
MA	343,241	--	--	267
RI	1,326,998	--	--	20,062
CT	82,542	--	--	0
NY	784,365	--	--	86,846
NJ	166,040	--	--	0
DE	1	--	--	0
MD	2,808	--	--	0
VA	29,924	--	--	0
NC	5,446	--	--	0
Other	0	--	--	0
Totals	**2,741,365**	**8,548,264**	**32**	**107,175**

[a] Quotas adjusted for research set-aside and overages. Source: NMFS Weekly Quota Report for week ending June 21, 2014.

Stock Status and Biological Reference Points

The most recent benchmark assessment on scup was peer-reviewed and accepted in December 2008 by the DPSWG Peer Review Panel. Documentation associated with this assessment and previous stock assessments, such as reports on stock status, including annual assessment and reference point update reports, Stock Assessment Workshop (SAW) reports, and Stock Assessment Review Committee (SARC) panelist reports, are available online at the NEFSC website: http://www.nefsc.noaa.gov/saw/.

The biological reference points for scup include a fishing mortality threshold of $F_{MSY} = F_{40\%}$ (as F_{MSY} proxy) = 0.177 and $SSB_{MSY} = SSB_{40\%}$ (as SSB_{MSY} proxy) = 202.92 million lb (92,044 mt; 2008 Data Poor Stock Working Group Peer Review Panel). The minimum stock size threshold, one-half SSB_{MSY}, is estimated to be 101.46 million lb (46,022 mt).

The July 2012 assessment update indicates that the scup stock is not overfished and overfishing is not occurring relative to the biological reference points. Fishing mortality in 2011 was estimated to be 0.034, below the fishing mortality threshold reference point (F_{MSY} = 0.177). SSB in 2011 was about 420 million lb (190,424 mt).

Regulatory Review

In July 2012, the SSC met to specify an ABC for scup for fishing year 2013, and to consider specifying multi-year ABCs for up to three years. The SSC recommended three-year ABCs for scup, for 2013, 2014, and 2015 based on a constant fishing mortality rate.

The overfishing limit (OFL) for 2013 was 47.80 million lb (21,680 mt), defined by the fishing mortality threshold of F=0.177 and projected biomass in 2013 (432.63 million lb, 196,236 mt; 212% of SSB_{MSY}). Based on the 2012 projected SSB/SSB_{MSY} = 212%, Council risk policy P* = 0.4, and a lognormal distribution with of CV = 100%, the SSC set an ABC of 38.71 million lb (17,557 mt) for 2013. A constant fishing mortality rate approach was applied to derive the ABCs for 2014 and 2015. The fishing mortality rate associated with the 38.71 mil lb (17,557 mt) removal in 2013 was 0.142. This rate, applied in 2014 and 2015, resulted in ABCs of 35.99 mil lb (16,325 mt) and 33.77 mil lb (15,320 mt), respectively.

In September 2013, the SSC reviewed the existing multi-year ABCs for scup and determined that available scientific evidence was not compelling enough to warrant a change to its ABC recommendations for 2014 and 2015.

The SSC considered scup to be a level 3 assessment, and considered the following to be the most significant sources of uncertainty:

- While older age scup (age 3+) are represented in the catch used in the assessment model, most indices used in the model do not include ages 3+. As a result, the dynamics of the older ages of scup are driven principally by catches and inferences regarding year class strength;
- Uncertainty exists with respect to the estimate of natural mortality (M) used in the assessment;
- Uncertainty in the stock status results from uncertainties in the estimates of both the stock's biomass and the biological reference point proxy used for F_{MSY};
- The SSC assumed that OFL has a lognormal distribution with a CV = 100%, based on a meta-analysis of survey and SCA accuracies;

- Recruitment appears high in recent years, but it is unclear how these recent high levels would compare to historical levels of recruitment;
- Survey indices are particularly sensitive to scup availability, which results in high inter-annual variability;
- Uncertainties resulting from the application of trawl calibration coefficients (ALBATROSS IV vs BIGELOW) and their influence on the selectivity pattern and results of the assessment; and
- The projection on which the ABC was determined was based on an assumption that the quota would be landed in 2012, 2013, and 2014.

Management measures in the commercial fishery other than quotas and harvest limits (i.e., minimum fish size, GRAs, etc.) have remained generally constant in recent years with the exception of the increase in the Winter I possession limit from 30,000 lb in 2011 to 50,000 lb in 2012, and the increase in the Winter II possession limit from 2,000 lb in 2013 to 12,000 lb in 2014.

Basis for 2014 and 2015 ABC Recommendation

Input from the Council's Visioning and Strategic Planning processes as well as from the Advisory Panel Fishery Performance Reports highlight stakeholder interest in increasing the stability of fishery management measures. Multi-year specifications were set for scup from 2013-2015, with the understanding that recent fishery data would be reviewed in interim years to identify any potentially critical issues in the fishery or problems with maintaining the implemented measures. Available data described in this memo as well as in the staff Fishery Information Document, the Advisory Panel Fishery Performance Report, and the Scup Data Update for 2014 do not suggest any major issues that would necessitate revising the current measures. Therefore, staff recommends scup catch limits and commercial management measures remain unchanged from those previously specified for 2015.

Other Management Measures

Recreational and Commercial ACLs

The acceptable biological catch (ABC) ABC is equivalent to the total allowable catch (TAC) and the sum of the commercial and recreational ACL equals the ABC (Figure 1).

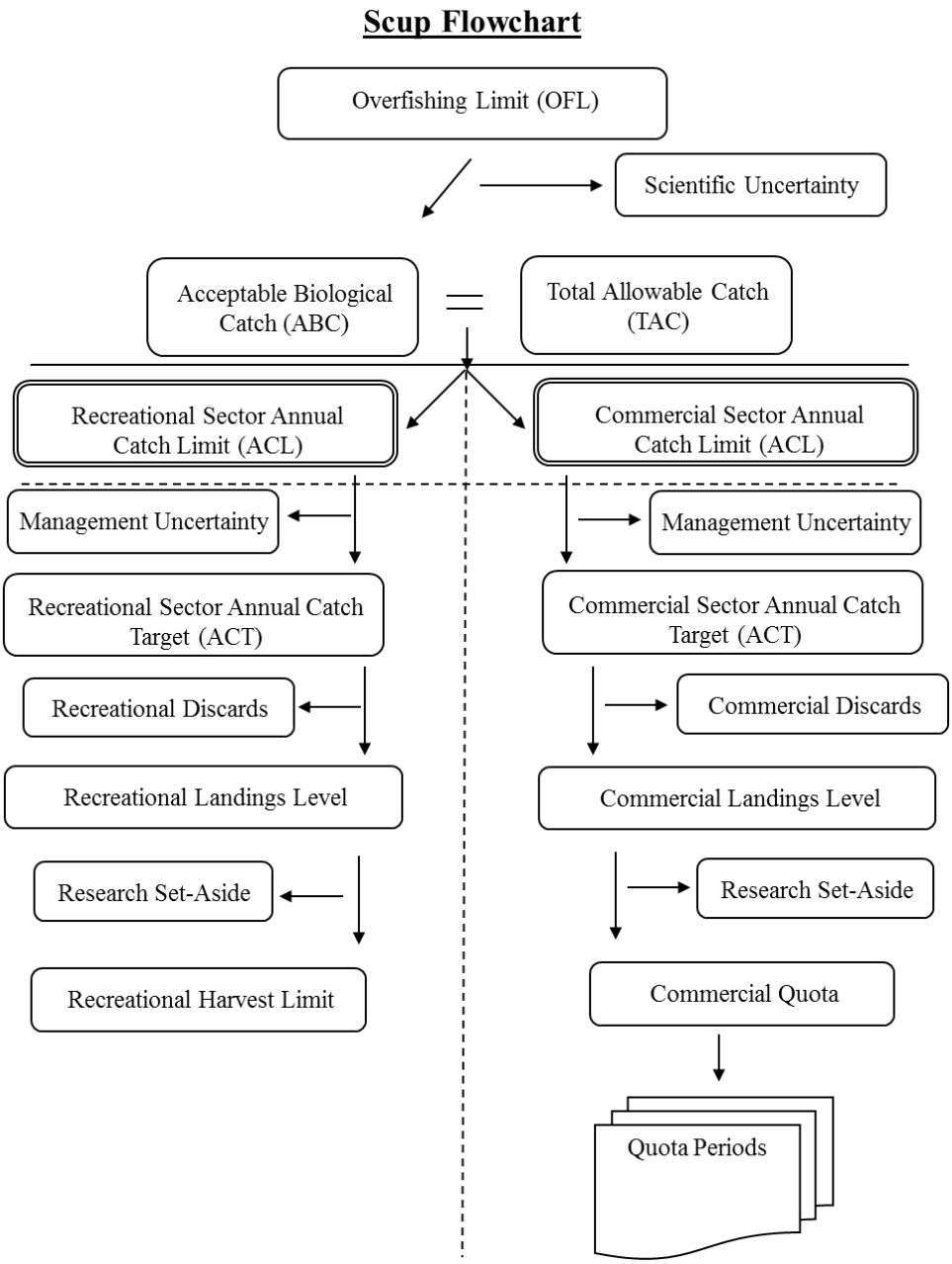

Figure 1: Flowchart for scup catch and landings limits.

The ABCs in place are comprised of both landings and discards. Based on the allocation percentages in the FMP, 78% of the catch is allocated to the commercial fishery, and 22% to the recreational. Discards were apportioned based on the contribution from each fishing sector using the 2009-2011 average ratios; 89% of the dead discards are attributable to the commercial fishery, 11% to the recreational (Table 1).

Annual Catch Targets

The Scup Monitoring Committee is responsible for recommending ACTs for the Council to consider. The relationship between the recreational and commercial ACTs and other catch components are given in Figure 1. The Monitoring Committee may provide other recommendations relevant to setting catch limits consistent with the MSA. The Monitoring Committee is responsible for considering all relevant sources of management uncertainty in the scup fishery and providing the technical basis, including any formulaic control rules, for any reduction in catch when recommending an ACT. The ACTs, technical basis for ACT recommendations, and sources of management uncertainty would be described and provided to the Council.

Management uncertainty is comprised of two parts: uncertainty in the ability of managers to control catch and uncertainty in quantifying the true catch (i.e., estimation errors). Management uncertainty can occur because of a lack of sufficient information about the catch (e.g. due to late reporting, underreporting, and/or misreporting of landings or bycatch) or because of a lack of management precision (i.e., the ability to constrain catch to desired levels).

The recent year sector-specific landings performance indicates that although the recreational fishery had previously been exceeding the recreational harvest limits, in the three years following significant quota increases, the recreational fishery has been well under the harvest limits. The commercial fishery similarly has been well under the commercial quotas in recent years (Table 3). Staff recommends no modifications to the current ACTs, which are set equal to the sector-specific ACLs for 2015.

Table 3: Scup commercial and recreational fishery performance relative to quotas and harvest limits, 2009-2013.

Year	Commercial Landings (mil lb)	Commercial Quota (mil lb)	Percent Overage(+)/ Underage(-)	Recreational Landings (mil lb)	Recreational Harvest Limit (mil lb)	Percent Overage(+)/ Underage(-)
2009	8.20	8.37	-2%	2.94	2.59	+14%
2010	10.73	10.68	0%	5.74	3.01	+91%
2011	15.03	20.36	-26%	3.66	5.74	-36%
2012	14.88	27.91	-47%	4.17	8.45	-51%
2013	17.88	23.53	-24%	5.34	7.55	-29%
5-yr Avg.	-	-	-20%	-	-	-2%

Commercial Quotas and Recreational Harvest Limit

The catch-based allocations (i.e., 78% commercial, 22% recreational) were maintained in the calculation of the sector-specific ACLs and ACTs such that the sum of the sector-specific TALs (total allowable landings) is equal to overall TAL (Table 1). Based on the implemented ACLs and ACTs given above and a 3% research set-aside deduction, the adjusted commercial quota in 2015 is 20.60 million lb (9,343 mt), and the adjusted recreational harvest limit is 6.60 million lb (2,991 mt).

The commercial quota is divided into three periods. These are Winter I (January-April; 45.11%), Summer (May-October; 38.95%), and Winter II (November-December; 15.94%). Therefore, the current

period quotas for 2014 are 9.29 million lb (4,214 mt) for Winter 1, 8.02 million lb (3,638 mt) for Summer, and 3.28 million lb (1,465 mt) for Winter II.

Specific management measures that will be used to achieve the harvest limit for the recreational fishery in 2015 will not be determined until after the first four waves of 2014 recreational landings are reviewed. These data will be available in October of 2014. The Monitoring Committee will meet in November to review these landings data and make recommendations regarding any necessary changes in the recreational management measures (i.e., possession limit, minimum size, and season). Given the performance of the recreational fishery relative to the recreational harvest limit in recent years, management measures (i.e., minimum size, possession limits, and seasons) should be implemented that are designed to achieve the recreational ACT while preventing the recreational ACL from being exceeded.

Possession Limits

The Winter I possession limit for 2014 is 50,000 lb, until 80 percent of the landings are reached, at which point the possession limit drops to 1,000 lb. This possession limit was first put in place in 2012, and represented an increase from the 2011 Winter I possession limit of 30,000 lb.

Effective in 2014, the Winter II possession limit has been increased to 12,000 lb, from the previous Winter II possession limit of 2,000 lb. This is an initial possession limit that increases if a transfer of quota occurs between Winter I and Winter II. In that case, the Winter II possession limit increases at 1,500 lb intervals for every 500,000 lb of scup transferred, i.e., if 1.0 million lb is transferred then the limit would be increased by 3,000 lb to result in a 15,000 lb possession limit. The possession limits were chosen as an appropriate balance between the economic concerns of the industry (i.e., landing enough scup to make the trip economically viable) and the need to ensure the equitable distribution of the quota over the period. Table 3 in the Advisory Panel Information Document summarizes the results of a threshold analysis giving the total number of vessels, trips, and landings for a given threshold (pounds of scup) in both winter periods of 2011-2013, as well as Winter I for 2014. These data indicate that since the implementation of the increased Winter I trip limit in 2012, there has been a moderate, steady increase in the number of trips and the number of associated pounds landed above the 30,000 lb threshold. However, trips landing scup in excess of 30,000 lb continue to comprise a very small percentage of overall trips in Winter I (0.3% of Winter I trips in 2013, and 0.4% of Winter I trips in 2014). The increased trip limit for the Winter II period was implemented in May 2014 and will be in place for Winter II in 2014. Based on this analysis, staff recommends no changes in possession limits in Federal waters.

Table 4 in the Scup AP Information Document gives commercial scup landings, ex-vessel value, and average price per pound, by period, for 2007 to 2013. A price-volume relationship for scup was described in Amendment 14 to the FMP. The increase in commercial supply in 2010 in response to less restrictive quotas may have driven the slight decrease in price in 2010. As such, managers should consider the potential impacts of changes in volume on price in the commercial fishery.

Commercial Gear Regulations and Minimum Fish Size

Amendment 8 to the Summer Flounder, Scup, and Black Sea Bass FMP contains provisions that allow for changes in the minimum fish size and minimum net mesh. Current commercial regulations for scup require a 9 inch-TL minimum fish size in the commercial fishery and the following gear requirements for

otter trawls: minimum mesh size of 5 inch for the first 75 meshes from the terminus of the net and for codends constructed with fewer than 75 meshes, a minimum mesh size of 5 inch throughout the net. The threshold level used to trigger the minimum mesh requirements is 500 lbs of scup from November 1 through April 30 and 200 lb or more of scup from May 1 through October 31. In 2005, the Scup Monitoring Committee reviewed information on discards and did not recommend changes to the regulations. Recent discard estimates have remained substantially lower than the large discard event in 2002 which occurred prior to the implementation of the current regulations. Therefore, staff does not recommend a change in the gear requirements for otter trawls.

In 2012, industry members proposed a reduction in the minimum fish size to 8 inch-TL. Staff remains concerned that a drop in the minimum fish size would reduce yields and spawning potential if smaller fish are targeted. In 2005, staff provided a supplemental memo that reviewed the available information on scup maturity, mesh selectivity, and discards. This information was reviewed and at the time, the Monitoring Committee did not recommend any changes based on this information. In 2012, the Monitoring Committee commented that a reduction to 8 inches would be unlikely to have a considerable impact on the assessment and spawning capacity, however, concerns remained at the Monitoring Committee and Council levels regarding the lack of discard data for the pot/trap and hook and line fisheries, potential for reduced spawning capacity, and possible increased targeting of smaller scup. As such, staff recommends no changes to the minimum fish size and net mesh requirements.

Gear Restricted Areas (GRAs)

Gear restricted areas (GRA) were implemented by NMFS in 2000 to reduce discards of scup in small mesh fisheries. The scup GRAs were originally implemented and previously modified through the specifications process. In 2000, they were modified in size to include areas farther south that were identified as areas of potential scup and *Loligo* interactions, and in 2005, the boundary of the southern GRA was moved 3 longitudinal minutes to the west based on recommendations from the Monitoring Committee. No modifications were made to the GRAs in 2006 through 2013. As described in Amendment 14 to the Summer Flounder, Scup, and Black Sea Bass FMP, modifications to scup GRAs must be done through a Framework Adjustment. In 2013, the Council initiated a Framework Adjustment to analyze potential modifications to the GRAs. Action on this Framework has been postponed until completion of the Council's Deep Sea Corals amendment due to potentially conflicting alternatives currently contained in each action.

Pots and Traps Escape Vents

Current regulations require a circular escape vent of 3.10 inch, a square escape vent of 2.25 inch, or a rectangular escape vent of an equivalent size. A Council and Commission sponsored workshop in 2005 reviewed several vent size studies and did not make any recommendations for changes as they relate to scup. Therefore, staff recommends no changes to escape vent size requirements in scup pots.

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Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: July 30, 2014

TO: Council

FROM: Kiley Dancy, Staff

SUBJECT: Review of Summer Flounder Management Measures for 2015

The following materials are enclosed for Council consideration of the above subject:

1) Summer Flounder Advisory Panel Information Document (June 2014)
2) Memo from North Carolina Division of Marine Fisheries on Flynet Fishery (June 2014)
3) Summer Flounder Fishery Performance Report (July 2014)
4) Summer flounder data update for 2014 (July 2014)
5) Staff Memo (July 2014)

Two additional documents can be found behind the black sea bass tab:

6) Scientific and Statistical Committee Meeting Report (July 2014)
7) Monitoring Committee meeting summary (July 2014)

To summarize the recommendations contained in these two documents, neither the SSC nor the Monitoring Committee found any compelling evidence to recommend any changes to the implemented 2015 specifications for summer flounder.

Summer Flounder Advisory Panel Information Document[1]

June 2014

Management System

The Fishery Management Plan (FMP) for summer flounder became effective in 1988, and established the management unit for summer flounder (*Paralichthys dentatus*) as the U.S. waters in the western Atlantic Ocean from the southern border of North Carolina northward to the U.S.-Canadian border. The FMP also established measures to ensure effective management of the summer flounder resource. There are two management entities that work cooperatively to develop fishery regulations for this species: the Atlantic States Marine Fisheries Commission (ASMFC) and the Mid-Atlantic Fishery Management Council (MAFMC), in conjunction with the National Marine Fisheries Service (NMFS) as the federal implementation and enforcement entity. This cooperative management endeavor was developed because a significant portion of the catch is taken from both state (0-3 miles offshore) and Federal waters (3-200 miles offshore).

The commercial and recreational fisheries are managed using catch and landings limits, commercial quotas, recreational harvest limits, minimum fish sizes, gear regulations, permit requirements, and other provisions as prescribed by the FMP. Summer flounder was under a stock rebuilding strategy beginning in 2000 until it was declared rebuilt in 2011. The Summer Flounder FMP, including subsequent Amendments and Frameworks, are available on the Council website at: http://www.mafmc.org/fisheries/fmp/sf-s-bsb.

Basic Biology

Detailed information on summer flounder life history and habitat requirements can be found in the document titled "Essential Fish Habitat Source Document: Summer Flounder, *Paralichthys dentatus*, Life History and Habitat Characteristics" (Packer et al. 1999), available at: http://www.nefsc.noaa.gov/nefsc/habitat/efh/. Information contained in that document is summarized below.

Summer flounder spawn during the fall and winter over the open ocean areas of the continental shelf. From October to May, larvae and postlarvae migrate inshore, entering coastal and estuarine nursery areas. Juveniles are distributed inshore and in many estuaries throughout the range of the species during spring, summer, and fall. Adult summer flounder exhibit strong seasonal inshore-offshore movements, normally inhabiting shallow coastal and estuarine waters during the warmer months of the year and remaining offshore during the colder months.

[1]Data employed in the preparation of this document are from unpublished National Marine Fisheries Service (NMFS) Dealer, Vessel Trip Reports (VTRs), Permit, and Marine Recreational Statistics (MRFSS/MRIP) databases, as of May 2014, unless otherwise noted.

Summer flounder habitat includes pelagic waters, demersal waters, saltmarsh creeks, seagrass beds, mudflats, and open bay areas from the Gulf of Maine through North Carolina. They are opportunistic feeders, and their prey includes a variety of fish and crustaceans. While the natural predators of adult summer flounder are not fully documented, larger predators (e.g., large sharks, rays, and monkfish) probably include summer flounder in their diets.

Male and female growth rates vary substantially, with males growing more slowly. Males rarely live longer than 10 years, whereas females may live for up to 20 years (Bolz et al. 1999) and attain weights of about 25 lbs. Based on an analysis of NEFSC Fall Survey maturity data from 1992-1997, the median length at maturity (50^{th} percentile, L_{50}) was estimated as 27.0 cm (10.6 inches) for male summer flounder, 30.3 cm (11.9 inches) for female summer flounder, and 27.6 cm (10.9 inches) for the sexes combined (NEFSC 2008). The median age of maturity (50^{th} percentile, A_{50}) for summer flounder was determined to be 1.1 years for males, 1.4 years for females, and 1.2 years for both sexes combined (NEFSC 2008).

Status of the Stock

An age-structured assessment program (ASAP) was used in the 2013 peer-reviewed summer flounder stock benchmark stock assessment (57^{th} Stock Assessment Workshop; NEFSC 2013). The final report, as well as the Stock Assessment Review Committee (SARC) panelist reports, is available online at the NEFSC website: http://www.nefsc.noaa.gov/saw/reports.html. Previous stock assessment reports, assessment updates, and peer review panelist reports are also available at the site above.

The 2013 benchmark assessment indicated that the summer flounder stock was not overfished or subject to overfishing in 2012, relative to the new biological reference points derived from the SAW 57 assessment. Fishing mortality (F) was estimated to be 0.285 in 2012, below the updated threshold fishing mortality reference point of F_{MSY} = 0.309 (Figure 1). Spawning Stock Biomass (SSB) was estimated to be 113.0 million lb (51,238 mt) in 2012, 18% below the updated SSB_{MSY} = 137.6 million lb (62,394 mt).

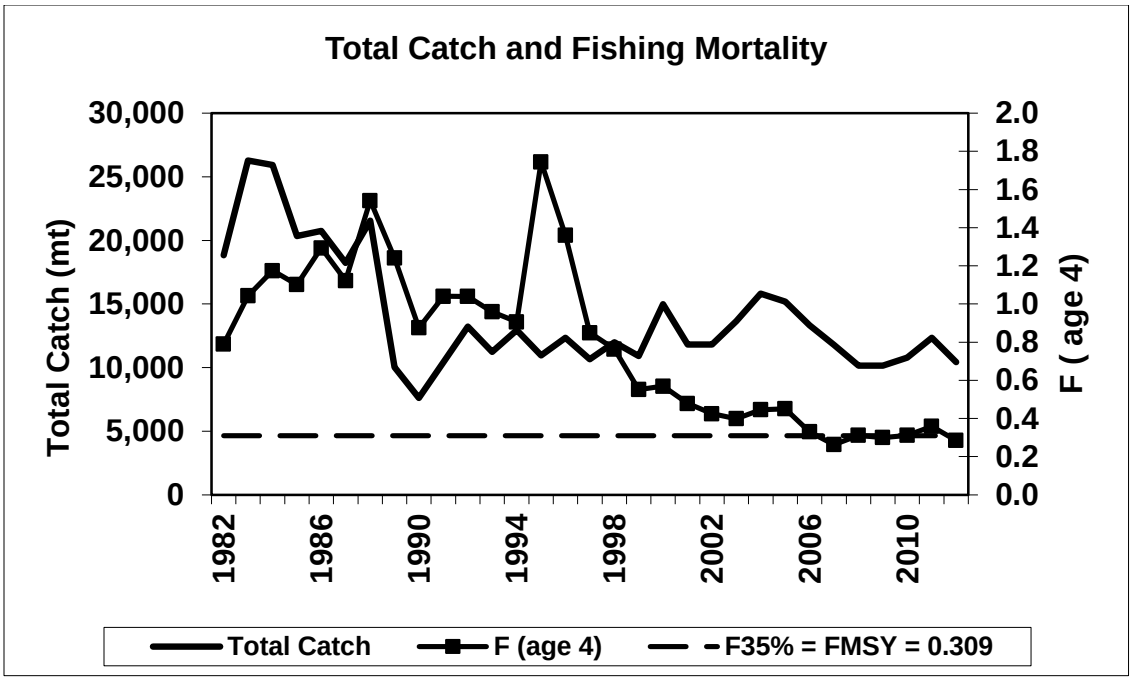

Figure 1: Total fishery catch and fully-recruited fishing mortality (F, peak at age 4) of summer flounder. The horizontal dashed line is the 2013 SAW/SARC57 fishing mortality reference point proxy. Source: NEFSC 2013.

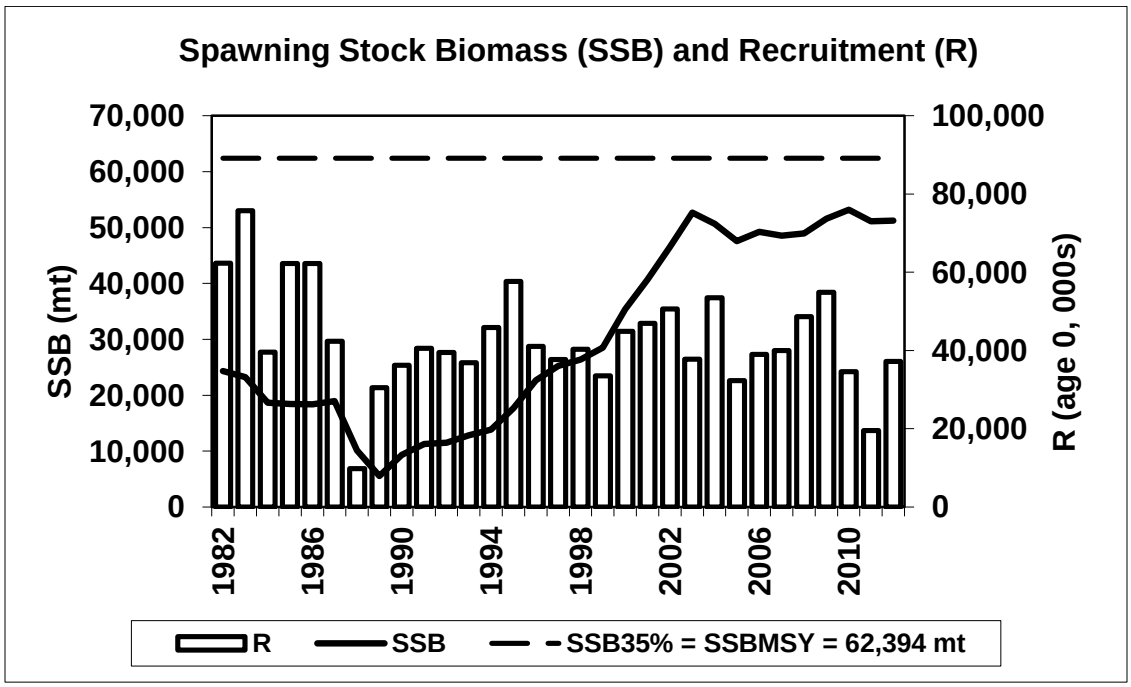

Figure 2: Summer flounder spawning stock biomass (SSB; solid line) and recruitment at age 0 (R; vertical bars) by calendar year. The horizontal dashed line is the 2013 SAW/SARC57 biomass reference point proxy. Source: NEFSC 2013.

Fishery Performance

There are significant commercial and recreational fisheries for summer flounder. The summer flounder stock is managed primarily using output controls (catch and landings limits), with 60 percent of the landings being allocated to the commercial fishery as a commercial quota and 40 percent allocated to the recreational fishery as a recreational harvest limit.

Table 1 summarizes the summer flounder management measures for the 2003-2015 fishing years. Acceptable biological catch (ABC) levels have been identified for this stock since 2009, and recreational and commercial annual catch limits (ACLs), with a system of overage accountability for each ACL, were first implemented in 2012. It should be noted that catch limits include both projected landings and discards, whereas the commercial quotas and recreational harvest limits are landings based (i.e., harvest).

Total (commercial and recreational) landings declined in the early 1980's, dropping to a low of 14.4 million lb in 1990, and in 2013 were about 19.6 million lb total (Figure 3).

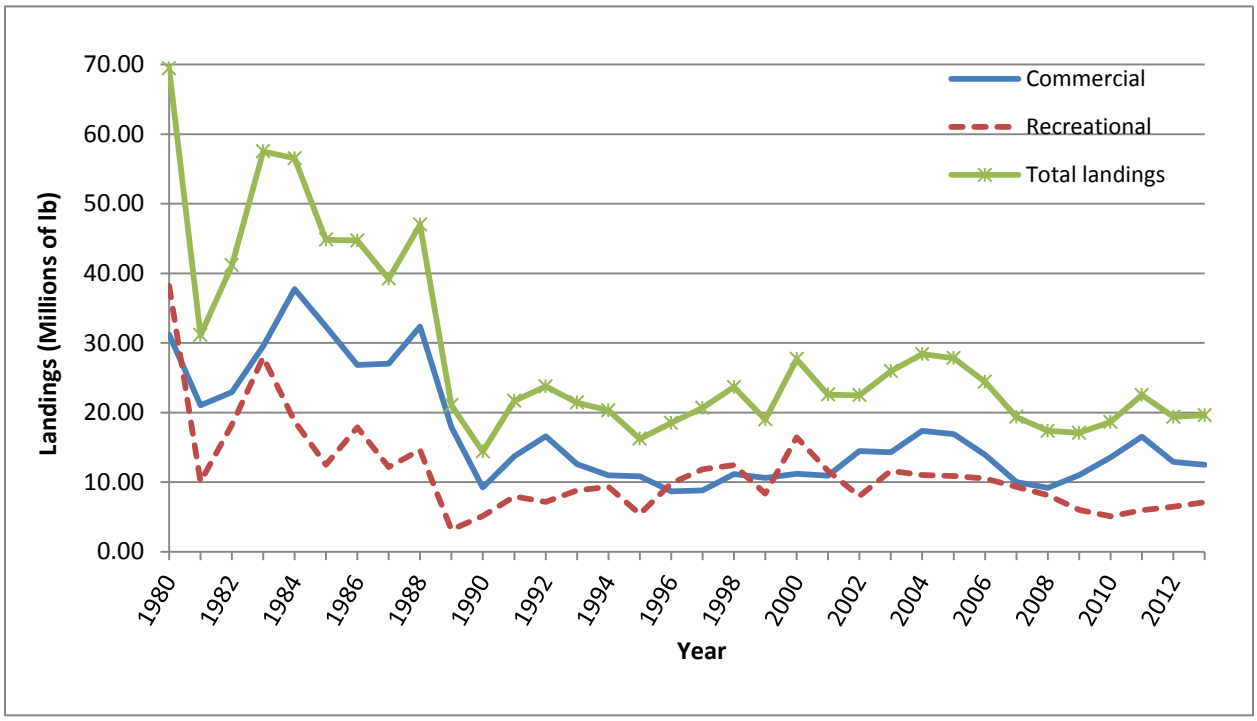

Figure 3: Commercial and Recreational U.S. Summer Flounder Landings (Pounds) from Maine-North Carolina, 1980-2013.

Table 1: Summary of summer flounder management measures and landings for 2003 through 2015.

Management measures	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015 [a]
ABC (m lb)	NA	NA	NA	NA	NA	NA	21.50	25.5	33.95	25.58	22.34	21.94	22.77
TAC (m lb)	NA	NA	NA	NA	NA	NA	20.90	25.5	33.95	25.58	22.34	21.94	22.77
Commercial ACL	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.00	12.11	12.87	13.34
Com. quota-adjusted (m lb)[b]	13.87	16.76	17.90	13.94	9.79	9.32	10.74	12.79	17.38	12.73	11.44	10.51	10.77
Com. landings	14.30	17.37	16.91	13.92	10.02	9.21	11.05	13.55	16.57	12.91	12.49	NA	NA
Recreational ACL	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.58	10.23	9.07	9.44
Rec. harvest limit-adjusted (m lb)[b]	9.28	11.21	11.98	9.29	6.68	6.21	7.16	8.59	11.58	8.49	7.63	7.01	7.16
Rec. landings	11.64	11.02	10.92	10.51	9.34	8.15	6.03	5.11	5.96	6.49	7.12	NA	NA
Com. fish size (in)	14	14	14	14	14	14	14	14	14	14	14	14	14
Com. Min. mesh size (in, diamond) [c]	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Recreational measures[d]	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	NA

[a]These reflect the regulations currently implemented for summer flounder in 2015, however, the Council and ASFMC will review recent fishery data in August 2014 and may revise as necessary. [b]Adjusted for Research Set-Aside and projected discards. [c]Whole Net. [d]State- or region-specific conservation equivalency (CE) measures. NA=Not applicable or not yet available.

Commercial Fishery

In Federal waters, commercial fishermen holding a moratorium permit may fish for summer flounder. Permit data for 2013 indicates that 824 vessels held commercial permits for summer flounder. The commercial quota is divided among the states based on the allocation percentages given in Table 2, and each state sets measures to achieve their state-specific commercial quotas.

Table 2: State-by-state percent share of commercial summer flounder allocation.

State	Allocation (%)
ME	0.04756
NH	0.00046
MA	6.82046
RI	15.68298
CT	2.25708
NY	7.64699
NJ	16.72499
DE	0.01779
MD	2.03910
VA	21.31676
NC	27.44584
Total	100

National Marine Fisheries Service statistical areas are shown in Figure 4, with areas that accounted for more than 5 percent of the summer flounder catch in 2013 highlighted. VTR data suggest that statistical area 537 was responsible for the highest percentage of the catch, with statistical area 612 having the majority of trips that caught summer flounder (Table 3).

Table 3: Statistical areas that accounted for at least 5 percent of the summer flounder catch in 2013, with associated number of trips. Source: NMFS VTR data.

Statistical Area	Summer Flounder Catch (percent)	Summer Flounder Trips (N)
537	31.15	1,609
616	14.01	483
526	9.52	107
613	8.23	1,768
612	7.66	1,806

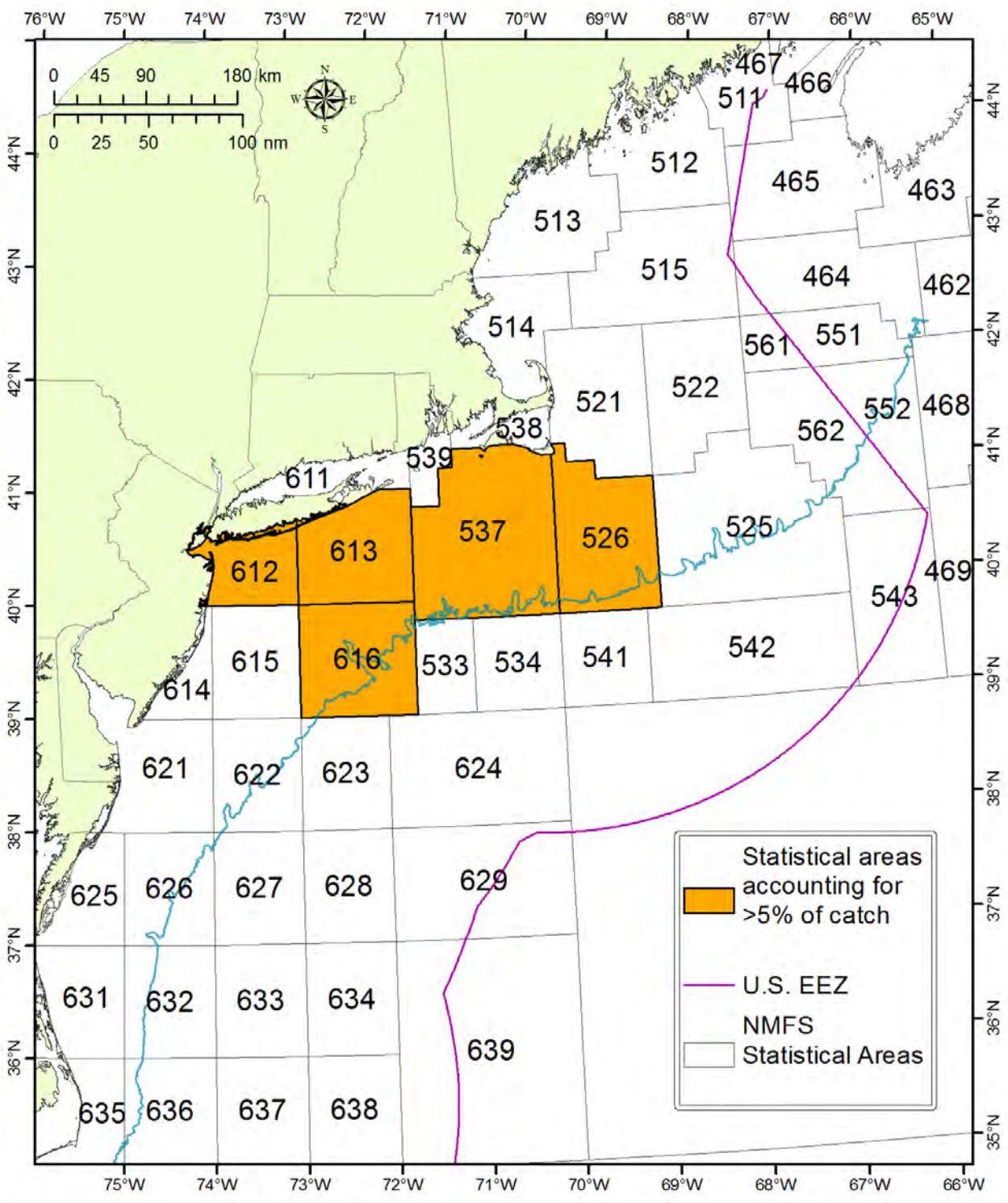

Figure 4: National Marine Fisheries Service Statistical Areas, showing statistical areas accounting for more than 5% of the commercial summer flounder catch in 2013.

Based on VTR data for 2013, the bulk of the summer flounder landings were taken by bottom otter trawls (97 percent), followed by bottom scallop trawls (1 percent), with other gear types (e.g. hand lines, scallop dredges, sink gill nets) each accounting for 1 percent or less of landings. Current regulations require a 14 inch total length minimum fish size in the commercial fishery and a 5.5 inch diamond or 6 inch square minimum mesh in the entire net for vessels possessing more than the threshold amount of summer flounder, i.e., 200 lb in the winter and 100 lb in the summer.

Summer flounder ex-vessel revenues based on dealer data have ranged from $14.3 to $30.2 million for the 1994 through 2013 period. The mean price for summer flounder (unadjusted) has ranged from a low of $1.34/lb in 2002 to a high of $2.38/lb in 2008 (Figure 5). In 2013, 12.49 million pounds of summer flounder were landed generating $29.2 million in revenues ($2.34/lb).

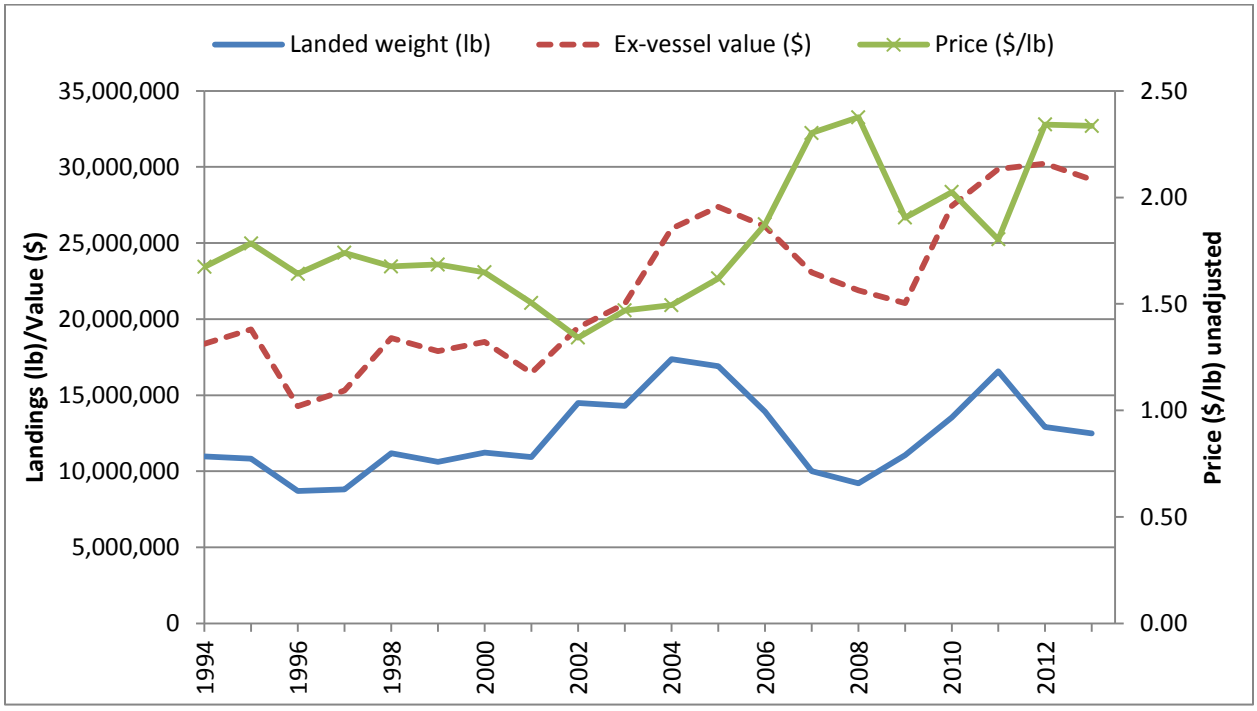

Figure 5: Landings, ex-vessel value, and price (unadjusted) for summer flounder, Maine through North Carolina, 1994-2013.

To examine recent landings patterns among ports, 2013 NMFS dealer data are used. The top commercial landings ports for summer flounder by pounds landed are shown in Table 4. A "top port" is defined as any port that landed at least 100,000 lb of summer flounder. Related data for the recreational fisheries are shown in subsequent sections. However, due to the nature of the recreational database, it is inappropriate to desegregate to less than state levels. The ports and communities that are dependent on summer flounder are fully described in Amendment 13 to the FMP. Additional information can be found in the document titled "Community Profiles for the Northeast US Fisheries":
http://www.nefsc.noaa.gov/read/socialsci/pdf/communityProfiles/introduction.pdf/.

Table 4: Top ports of landing (in lb) for summer flounder (FLK), based on NMFS 2013 dealer data. Since this table includes only the "top ports," it may not include all of the landings for the year.

Port	Landings of FLK (lb)	# FLK Vessels
NEWPORT NEWS, VA	2,197,269	48
HAMPTON, VA	1,921,458	46
POINT JUDITH, RI	1,917,483	132
CHINCOTEAGUE, VA	1,209,445	43
PT. PLEASANT, NJ	945,652	51
MONTAUK, NY	545,491	83
CAPE MAY, NJ	449,450	60
NEW BEDFORD, MA	424,614	70
BELFORD, NJ	340,146	19
BEAUFORT, NC	285,310	25
STONINGTON, CT	194,683	20
LONG BEACH/BARNEGAT LIGHT, NJ	187,421	27
WOODS HOLE, MA	174,334	27
OCEAN CITY, MD	172,981	15
HAMPTON BAY, NY	169,473	30
MATTITUCK, NY	123,959	4
NANTUCKET, MA	100,979	12

Among the states from Maine through North Carolina, New York had the highest number of Federally permitted dealers (57) who bought summer flounder in 2013 (Table 5). All dealers bought approximately $29.2 million worth of summer flounder in 2013.

Table 5: Dealers reporting buying summer flounder, by state in 2013. Note: C = Confidential.

Number of Dealers	MA	RI	CT	NY	NJ	DE	MD	VA	NC
	39	38	16	57	34	C	4	19	29

Recreational Fishery

There is a significant recreational fishery for summer flounder in state waters, which occurs seasonally when the fish migrate inshore during the warm summer months. To manage this fishery, state-specific conservation equivalency was developed and has been used every year since 2001 (Table 1). Under conservation equivalency, state- or region- specific measures are developed through the ASMFC, and are submitted to NMFS. If NMFS considers the combination of the state- or region- specific measures to be "equivalent" to the coastwide measures, they may then waive the coastwide regulation in Federal waters. Those fishermen fishing in Federal waters are then subject to the measures of the state in which they land summer flounder. Typically, conservation equivalency has been implemented on a state-specific basis. For 2014, the ASFMC voted to implement regional-based conservation equivalency measures, given in Table 6.

Table 6: Summer flounder recreational fishing measures in 2014, by state, under regional conservation equivalency. 2014 regions include: 1) Massachusetts, 2) Rhode Island, 3) Connecticut, New York, and New Jersey, 4) Delaware, Maryland, PRFC, and Virginia, and 5) North Carolina.[2]

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
CT Shore Program (45 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	(Tentatively) May 23-September 27
Delaware	16	4 fish	All year
Maryland	16	4 fish	All year
Potomac River Fish. Commission (PRFC)	16	4 fish	All year
Virginia	16	4 fish	All year
North Carolina	15	6 fish	All year

Recreational data have been available through the Marine Recreational Information Program (MRIP) since 2004, and prior to 2004 were available through the Marine Recreational Fishery Statistics Survey (MRFSS). Recreational catch and landings for summer flounder peaked in 1983 and were at the lowest levels in 1989 (Table 7).

[2] Under regional conservation equivalency, each region must have the same minimum size limit, bag limit, and same number of open days in their season.

Table 7: Recreational summer flounder landings data from the NMFS recreational statistics databases, 1981-2013.

Year	Catch ('000 of fish)	Landings ('000 of fish)	Landings ('000 lb)
1981	13,579	9,567	10,081
1982	23,562	15,473	18,233
1983	32,062	20,996	27,969
1984	29,785	17,475	18,765
1985	13,526	11,066	12,490
1986	25,292	11,621	17,861
1987	21,023	7,865	12,167
1988	17,171	9,960	14,624
1989	2,677	1,717	3,158
1990	9,101	3,794	5,134
1991	16,075	6,068	7,960
1992	11,910	5,002	7,148
1993	22,904	6,494	8,831
1994	17,725	6,703	9,328
1995	16,308	3,326	5,421
1996	18,994	6,997	9,820
1997	20,027	7,167	11,866
1998	22,086	6,979	12,477
1999	21,378	4,107	8,366
2000	25,384	7,801	16,468
2001	28,187	5,294	11,637
2002	16,674	3,262	8,008
2003	20,532	4,559	11,638
2004	20,336	4,316	11,022
2005	25,806	4,027	10,915
2006	21,400	3,950	10,505
2007	20,732	3,108	9,337
2008	22,897	2,350	8,151
2009	24,085	1,806	6,030
2010	23,722	1,501	5,108
2011	21,559	1,840	5,956
2012	16,528	2,272	6,490
2013	15,789	2,457	7,124

When anglers are intercepted through the surveys conducted for the recreational statistics programs, they are asked about where the majority of their fish were caught (i.e., inland, state waters (<=3 miles), exclusive economic zone (EEZ; > 3 miles)). While these data are somewhat imprecise, they do provide a general indication of where the majority of summer flounder are landed recreationally. These data indicate that on average, about 90 percent of the landings (in numbers of fish) have occurred in state waters over the past ten years, and about 77 percent of landings came from state waters in 2013 (Table 8).

Table 8: Percentage of summer flounder recreational landings (MRIP Type A+B1 in number of fish) by area (state vs. Federal waters), Maine through North Carolina, 2004-2013. Area information is self-reported based on where the majority of fishing activity occurred per angler trip.

Year	State <= 3 mi	EEZ > 3 mi
2004	87.7%	12.3%
2005	81.2%	18.8%
2006	90.4%	10.0%
2007	88.9%	11.1%
2008	96.8%	3.5%
2009	90.8%	9.2%
2010	92.3%	7.7%
2011	95.4%	4.7%
2012	87.8%	12.3%
2013	77.1%	22.9%
Avg. 2004 - 2013	88.9%	11.3%
Avg. 2011 - 2013	86.8%	13.3%

Table 9: State contribution (as a percentage) to total recreational landings of summer flounder, (MRIP Type A+B1 in number of fish), from Maine through North Carolina, 2012 and 2013.

State	2012	2013
Maine	0.0%	0.0%
New Hampshire	0.0%	0.0%
Massachusetts	3.3%	1.3%
Rhode Island	4.5%	5.2%
Connecticut	2.8%	11.0%
New York	22.4%	20.4%
New Jersey	49.7%	48.7%
Delaware	2.0%	2.0%
Maryland	1.0%	2.0%
Virginia	11.4%	7.6%
North Carolina	2.8%	1.8%
Total	**100%**	**100%**

In 2013, there were 791 recreational vessels (i.e., party and charter vessels) that held summer flounder Federal recreational permits. Many of these vessels also hold recreational permits for scup and black sea bass. Landings by mode indicate that private/rental fishermen are responsible for the majority of summer flounder landings (Table 10).

Table 10: The number of summer flounder landed from Maine through North Carolina by mode, 1981-2013.

Year	Shore	Party/Charter	Private/Rental
1981	3,145,685	1,362,253	5,058,634
1982	1,120,527	5,936,005	8,416,175
1983	3,963,678	3,574,224	13,458,399
1984	1,355,597	2,495,734	13,623,844
1985	786,186	1,152,247	9,127,757
1986	1,237,032	1,608,908	8,774,920
1987	406,094	1,150,095	6,308,572
1988	945,862	1,134,356	7,879,445
1989	180,268	141,318	1,395,174
1990	261,899	413,241	3,118,444
1991	565,402	597,609	4,904,635
1992	275,472	375,244	4,351,389
1993	342,226	1,013,463	5,138,354
1994	447,183	836,361	5,419,147
1995	241,904	267,348	2,816,468
1996	206,929	659,878	6,130,181
1997	255,063	930,635	5,981,122
1998	316,312	360,777	6,302,003
1999	213,444	300,807	3,592,740
2000	569,613	648,754	6,582,710
2001	226,994	329,701	4,736,914
2002	154,960	261,552	2,845,644
2003	203,719	389,140	3,965,814
2004	200,367	463,777	3,652,355
2005	104,294	498,611	3,424,556
2006	154,416	315,934	3,479,936
2007	98,419	499,161	2,509,999
2008	79,338	171,950	2,098,582
2009	62,693	176,999	1,566,491
2010	59,810	160,108	1,281,546
2011	34,850	137,786	1,667,241
2012	106,342	169,476	1,996,407
2013	132,684	208,207	2,116,398
% of Total, 1981-2013	9%	14%	78%
% of Total, 2009-2013	4%	9%	87%

The NMFS angler expenditure survey summarizes a variety of costs associated with recreational fishing in the Northeast (Table 11). In addition, Steinback et al., 2009 summarized the reasons for fishing, with a majority of anglers (about 85 percent) fishing either mostly or fully for recreational purposes (Table 12).

Table 11: Average daily trip expenditures by recreational fishermen in the Northeast region by mode, in 2011. Source: Lovell et al. 2013.

Expenditures	$		
	Party/Charter	Private/Rental	Shore
Auto Fuel	24.92	13.50	13.25
Auto Rental	0.43	0.00	0.09
Bait	0.47	4.98	5.09
Boat Rental	0.52	18.40	0.00
Charter Fees	113.44	0.05	0.00
Crew Tips	9.95	0.00	0.00
Fish Processing	0.01	0.00	0.00
Food from Grocery Stores	12.09	6.11	6.22
Food from Restaurants	11.25	2.28	4.07
Gifts & Souvenirs	3.57	0.03	0.57
Ice	0.56	1.04	0.57
Lodging	17.42	1.35	7.69
Parking & Site Access	0.67	0.82	1.27
Public Transportation	1.56	0.05	0.15
Tournament Fees	3.77	0.00	0.00
Total	**200.63**	**48.62**	**38.96**

Table 12: Purpose of Marine Recreational Fishing in the Northeast. Source: Steinback et al., 2009.

	Percent	Number of anglers in 2005 (thousands)
All for food or income	2.1	92.4
Mostly for food or income	<1.0	34.3
Both for recreation and for food or income	11.7	514.8
Mostly for recreation	13.2	580.8
All for recreation	72.2	3,176.8

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North Carolina Department of Environment and Natural Resources
Division of Marine Fisheries

Pat McCrory
Governor

John E. Skvarla, III
Secretary

Memorandum

To: Kiley Dancy, MAFMC

From: Tom Wadsworth, NCDMF

Date: June 25, 2014

Subject: Species composition and landings from the 2013 North Carolina flynet fishery

North Carolina flynet landings totaled 5,787 lb in 2013 and species caught included croaker, scup and longfin squid. Landings by species are not reported because the data are confidential and cannot be distributed to sources outside the NC Division of Marine Fisheries (North Carolina General Statute 113-170.3 (c)). Confidential data can only be released in a summarized format that does not allow the user to track landings or purchases to an individual. There were no summer flounder landed in the 2013 flynet fishery. Note that flynet landings for all species were markedly lower than in previous years. The low landings in 2013 are likely due to shoaling of Oregon Inlet and the consequent lack of access to important landing ports in 2013. Many 2013 flynet landings by the NC fleet were instead made in Virginia or other states.

Summer Flounder, Scup, and Black Sea Bass Fishery Performance Reports
July 2014

The Mid-Atlantic Fishery Management Council's (Council's) Summer Flounder, Scup, and Black Sea Bass Advisory Panel met jointly with the Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass Advisory Panels on July 1, 2014 to review fishery information documents for all three species and develop Fishery Performance Reports (FPRs) based on advisor perspectives on catch and landings patterns and other trends in these fisheries. **Please note:** Advisor comments described below reflect the broader discussion and are not necessarily consensus statements.

Council Advisory Panel members present: Greg DiDomencio* (NJ), Skip Feller* (VA), Harry Doernte (VA), James Fletcher (NC)

Commission Advisory Panel members present: James Tietje (MA), Robert Busby (NY), Marc Hoffman (NY), Paul Risi (NY), Paul Forsberg (NY), Skip Feller* (VA), Bill Shillingford (NJ), Bob Meimbresse (NJ), Greg DiDomencio* (NJ), Mike Fedosh (NJ)

Others present: Kiley Dancy (MAFMC Staff), Kirby Rootes-Murdy (ASMFC Staff), Mike Luisi (MAFMC/ASMFC), John Boreman (MAFMC SSC)

*Serve on both Council and Commission Advisory Panels.

Summer Flounder

Market and Economic Issues

The closure of Oregon Inlet continues to drastically affect the ability to land summer flounder in North Carolina. The Council and Board should allow for increased commercial landings flexibility between states. One advisor noted that managers are currently managing for the benefit of the resource only, and not considering benefits to the fishermen or consumer.

Management Issues & Management Induced Effort Shifts

In the 2014 recreational measures, the New York/New Jersey/Connecticut region has a 45-day limit on the number of days that can be open during wave 3 (May/June). One advisor remarked that there was confusion about where this limitation originated, and that it has had a negative impact on the for-hire fleet in New York.

Advisors commented that current recreational data collection under MRIP is no different from MRFSS. Similar to last year, advisors noted that the MRIP survey has not advanced to the point where it can adequately capture reductions in effort. One advisor described an effort reduction of about 30% in New York and New Jersey (residual effort reduction from Super storm Sandy in 2012) which is not reflected in the MRIP estimates and will result in estimated landings which could be inflated. All components of the new MRIP methodology need to be implemented.

A few advisors expressed a desire for recreational management to move back to state-by-state conservation equivalency. Others commented that if regional conservation equivalency continues to be used, the Commission should look into splitting certain states into separate regions. The advisors gave the example of possibly splitting the southern portion of New Jersey into a region with the states of Delaware through Virginia, while leaving the northern portion of the state with New York and Connecticut. One reason cited for this is that different sized fish are caught in these areas. One advisor noted that a split in the state of New Jersey would be preferable even if regional management is not continued.

Advisors noted recreational effort shifts based on regulations under regional conservation equivalency. For example, Rhode Island has a higher bag limit compared to Massachusetts. Due to this difference, one advisor noted that Massachusetts is seeing fewer charter trips and catching fewer fish. The bag limit drives the perception of customers and encourages more anglers to come to Rhode Island. Another example is the regional split between Delaware and New Jersey, which is negatively impacting business in Southern New Jersey, as more people are driving to Delaware to fish under a lower size limit. Advisors noted that there will always be issues when regulations differ between bordering states.

Similar to last year, advisors noted that high size limits continue to direct the most fishing pressure on large female summer flounder.

Other Issues

One advisor pointed out that the requirement for aluminum TEDs in North Carolina, rather than allowing pre-stressed cable, was affecting landings to the southern range of the management unit and resulting in major effort shifts. This advisor noted that there are plenty of fish available in south, but management measures such as these TED requirements are preventing landings that would otherwise be occurring in southern areas.

Research Recommendations

Research suggestions proposed by advisors included:

- Research into use of different hook types to reduce discard mortality in the recreational summer flounder fishery.
- Explore wider uses of smartphone applications and other electronic monitoring for voluntary angler surveys.

Summer flounder Data Update for 2014

National Marine Fisheries Service
Northeast Fisheries Science Center
166 Water St.
Woods Hole, MA 02543

Fishery and Survey Data

Reported 2013 landings in the commercial fishery were 5,665 mt = 12.489 million lbs, about 6% over the commercial quota including the RSA (5,350 mt = 11.795 million lbs). Estimated 2013 landings in the recreational fishery were 3,182 mt = 7.015 million lbs, about 92% of the recreational harvest limit (3,459 mt = 7.626 million lbs). Total commercial and recreational landings in 2013 were 8,847 mt = 19.504 million lbs and total commercial and recreational discards were 1,456 mt = 3.210 million lbs, for a total catch in 2013 of 10,303 mt = 22.714 million lbs (Table 1, Figure 1). NEFSC and VMRC commercial port sampling found new maximum observed ages for summer flounder in 2013: a 77 cm age 15, a 74 cm age 16, and a 74 cm age 17 fish.

State and Federal survey biomass index trends were variable, but most decreased from 2012 to 2013 (Figures 2-11). Indices of recruitment (age 0 fish) were generally lower over the last 3 years than in the previous decade (Figures 12-18).

Table 1. Commercial and recreational fishery landings, estimated commercial and recreational dead discard, and total catch (metric tons) as used in the assessment of summer flounder, Maine to North Carolina. Includes MRIP 2004-2013 estimates of recreational catch, and 1982-2003 recreational catch adjusted by the 2004-2011 MRIP to MRFSS ratio for each catch type.

	Commercial			Recreational			Total		
Year	Landings	Discard	Catch	Landings	Discard	Catch	Landings	Discard	Catch
1982	10,400	n/a	10,400	8,163	284	8,447	18,563	284	18,847
1983	13,403	n/a	13,403	12,527	361	12,888	25,930	361	26,291
1984	17,130	n/a	17,130	8,405	399	8,804	25,535	399	25,934
1985	14,675	n/a	14,675	5,594	88	5,682	20,269	88	20,357
1986	12,186	n/a	12,186	8,000	555	8,555	20,186	555	20,741
1987	12,271	n/a	12,271	5,450	502	5,952	17,721	502	18,223
1988	14,686	n/a	14,686	6,550	328	6,878	21,236	328	21,564
1989	8,125	456	8,581	1,417	43	1,460	9,542	499	10,041
1990	4,199	898	5,097	2,300	225	2,525	6,499	1,122	7,621
1991	6,224	219	6,443	3,566	412	3,978	9,790	631	10,421
1992	7,529	2,151	9,680	3,201	332	3,533	10,730	2,483	13,213
1993	5,715	701	6,416	3,956	874	4,830	9,671	1,575	11,246
1994	6,588	1,535	8,123	4,178	660	4,838	10,766	2,195	12,961
1995	6,977	821	7,798	2,428	723	3,151	9,405	1,545	10,950
1996	5,861	1,436	7,297	4,398	656	5,054	10,259	2,092	12,351
1997	3,994	806	4,800	5,314	535	5,849	9,308	1,341	10,649
1998	5,076	634	5,710	5,588	705	6,293	10,664	1,339	12,003
1999	4,820	1,660	6,480	3,747	683	4,430	8,567	2,343	10,910
2000	5,085	1,617	6,702	7,376	915	8,291	12,461	2,532	14,993
2001	4,970	405	5,375	5,213	1,225	6,438	10,183	1,630	11,813
2002	6,573	922	7,495	3,586	746	4,332	10,159	1,668	11,827
2003	6,450	1,144	7,594	5,213	847	6,060	11,663	1,991	13,654
2004	8,228	1,606	9,834	4,974	1,013	5,987	13,202	2,619	15,821
2005	7,826	1,484	9,310	4,929	950	5,879	12,755	2,434	15,189
2006	6,262	1,482	7,744	4,804	768	5,572	11,066	2,250	13,316
2007	4,489	2,110	6,599	4,199	1,002	5,201	8,688	3,112	11,800
2008	4,143	1,162	5,305	3,689	1,154	4,843	7,832	2,316	10,148
2009	4,848	1,446	6,294	2,716	1,140	3,856	7,564	2,586	10,150
2010	5,930	1,466	7,396	2,317	1,066	3,383	8,247	2,532	10,779
2011	7,511	1,096	8,607	2,645	1,093	3,738	10,156	2,189	12,345
2012	5,911	718	6,629	2,853	815	3,668	8,764	1,533	10,297
2013	5,665	712	6,377	3,182	744	3,958	8,847	1,456	10,303

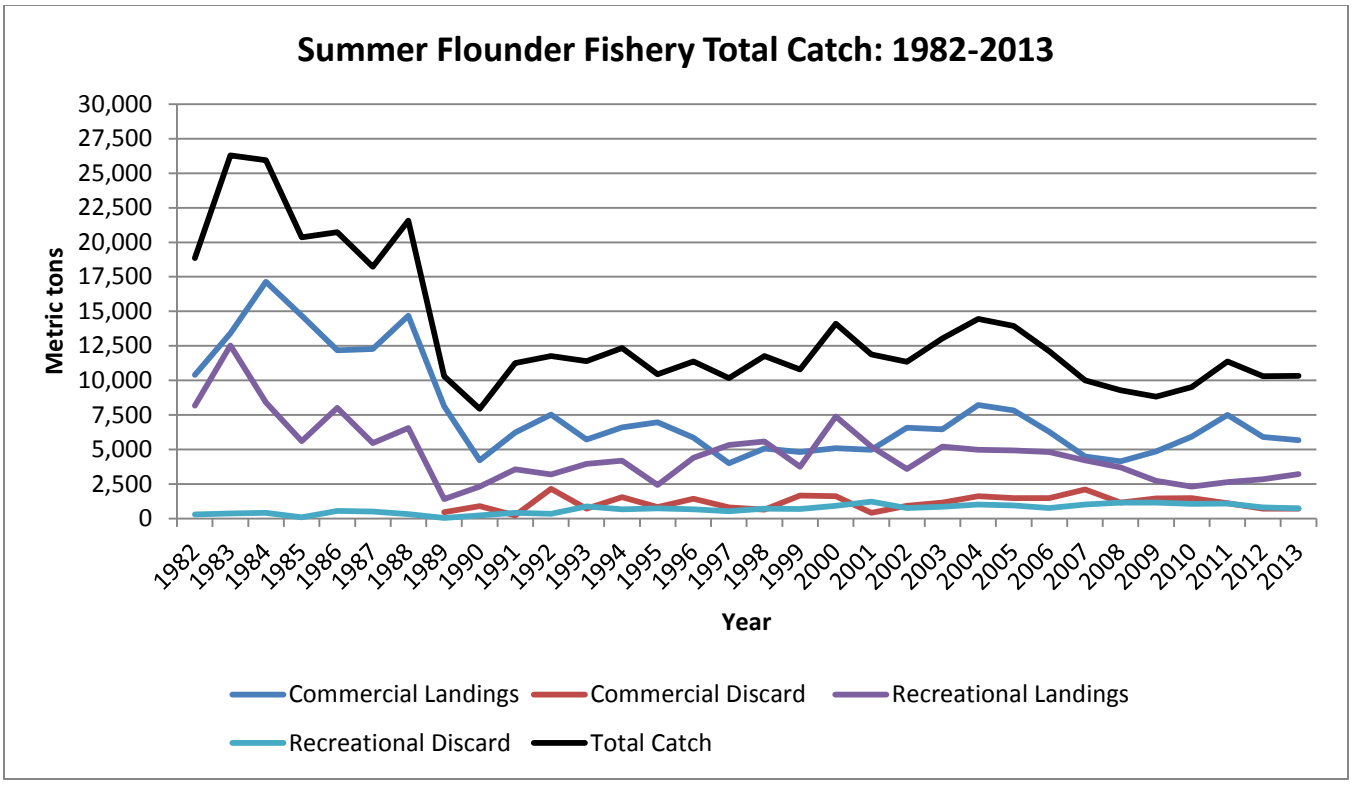

Figure 1. Summer flounder fishery total catch.

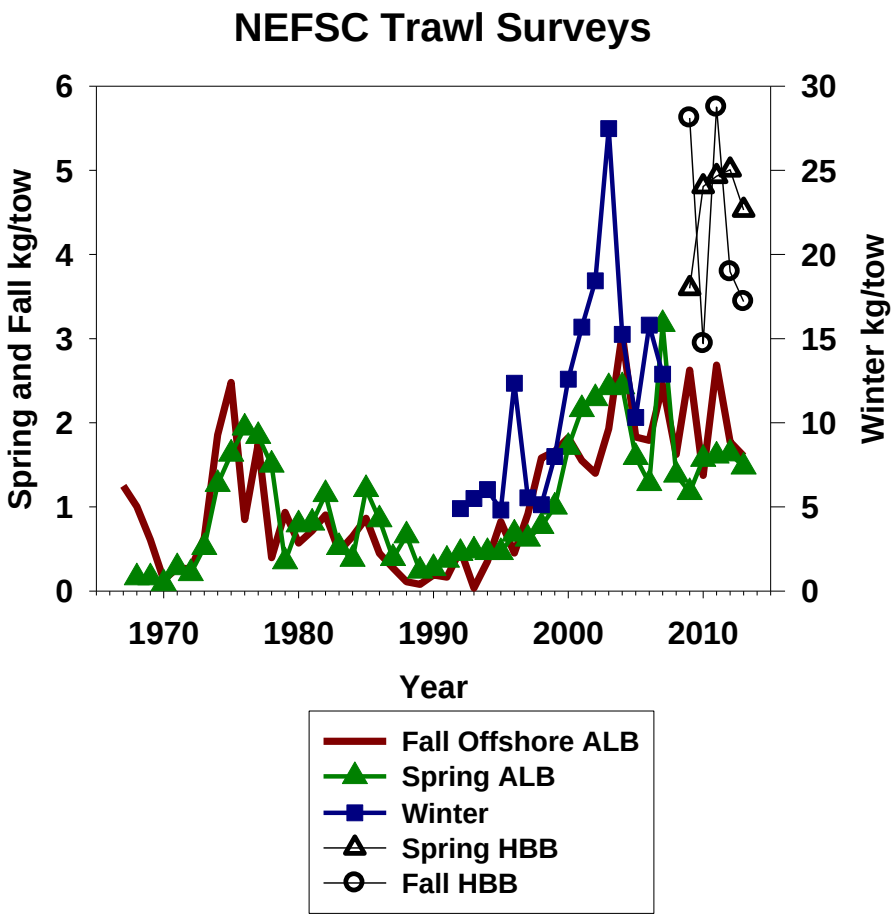

Figure 2. NEFSC trawl survey biomass indices for summer flounder. 'ALB' indices are calibrated FSV Albatross IV indices; 'HBB' indices are uncalibrated FSV Bigelow indices.

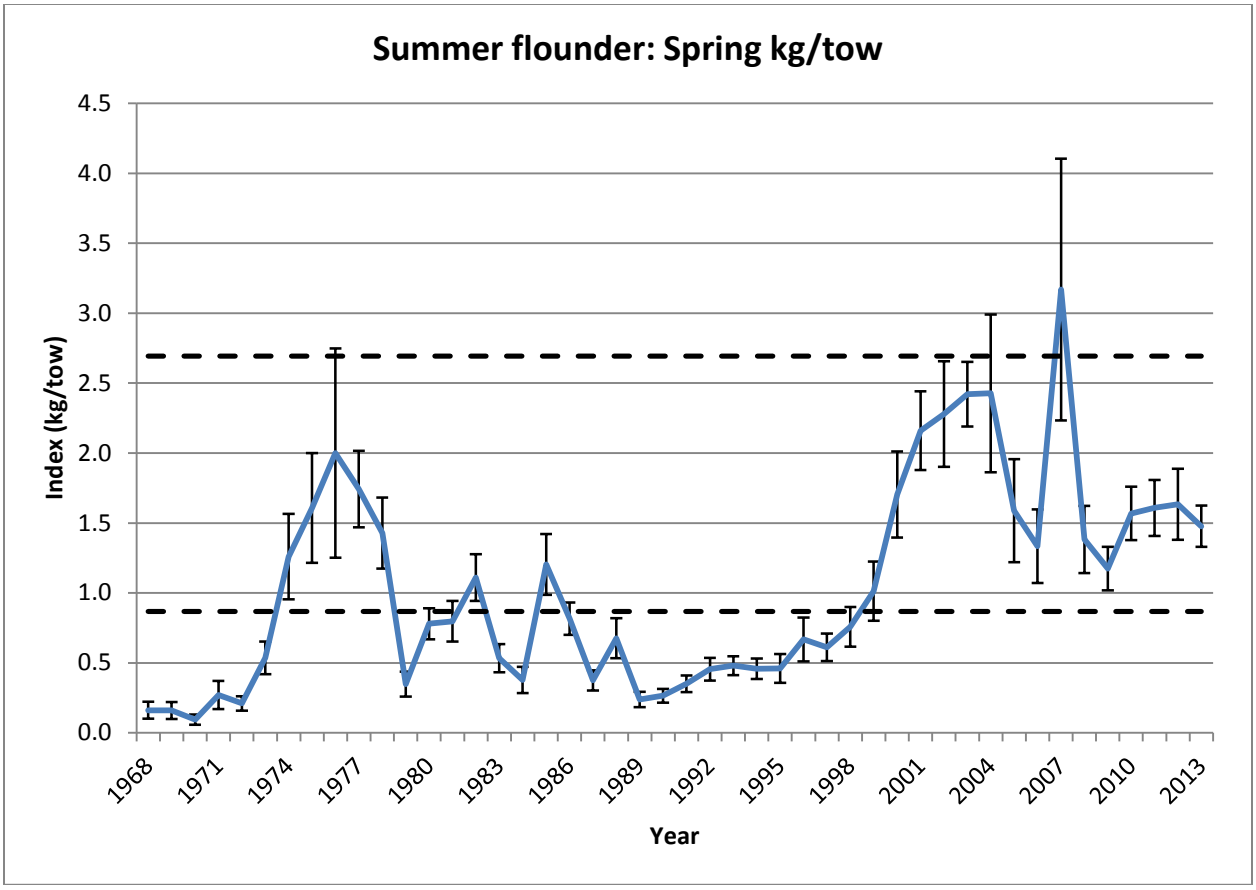

Figure 3. NEFSC spring trawl survey indices of summer flounder biomass. Whiskers around each annual index represent +/- one standard deviation. Dashed lines represent 80% confidence intervals around the 2007-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing overfishing.

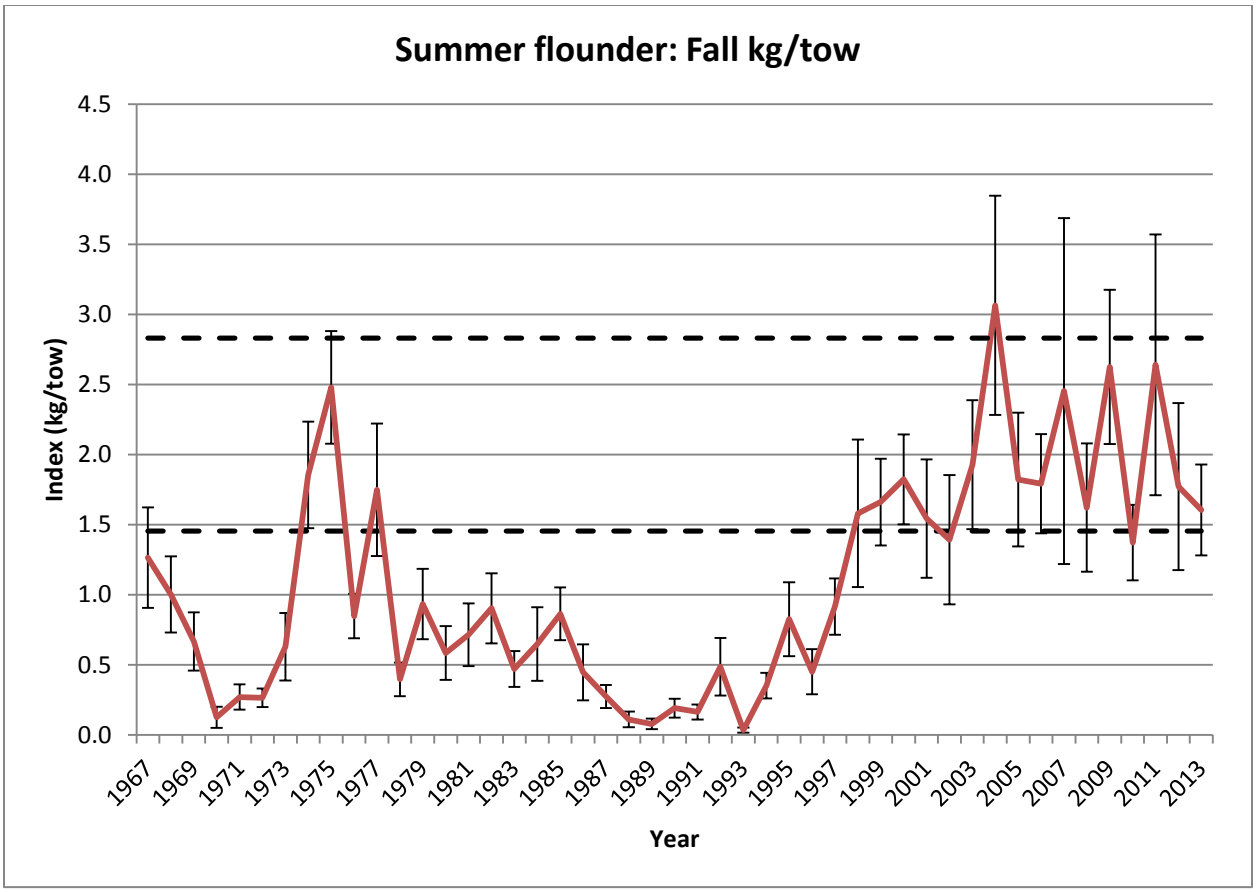

Figure 4. NEFSC fall trawl survey indices of summer flounder biomass. Whiskers around each annual index represent +/- one standard deviation. Dashed lines represent 80% confidence intervals around the 2007-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing overfishing.

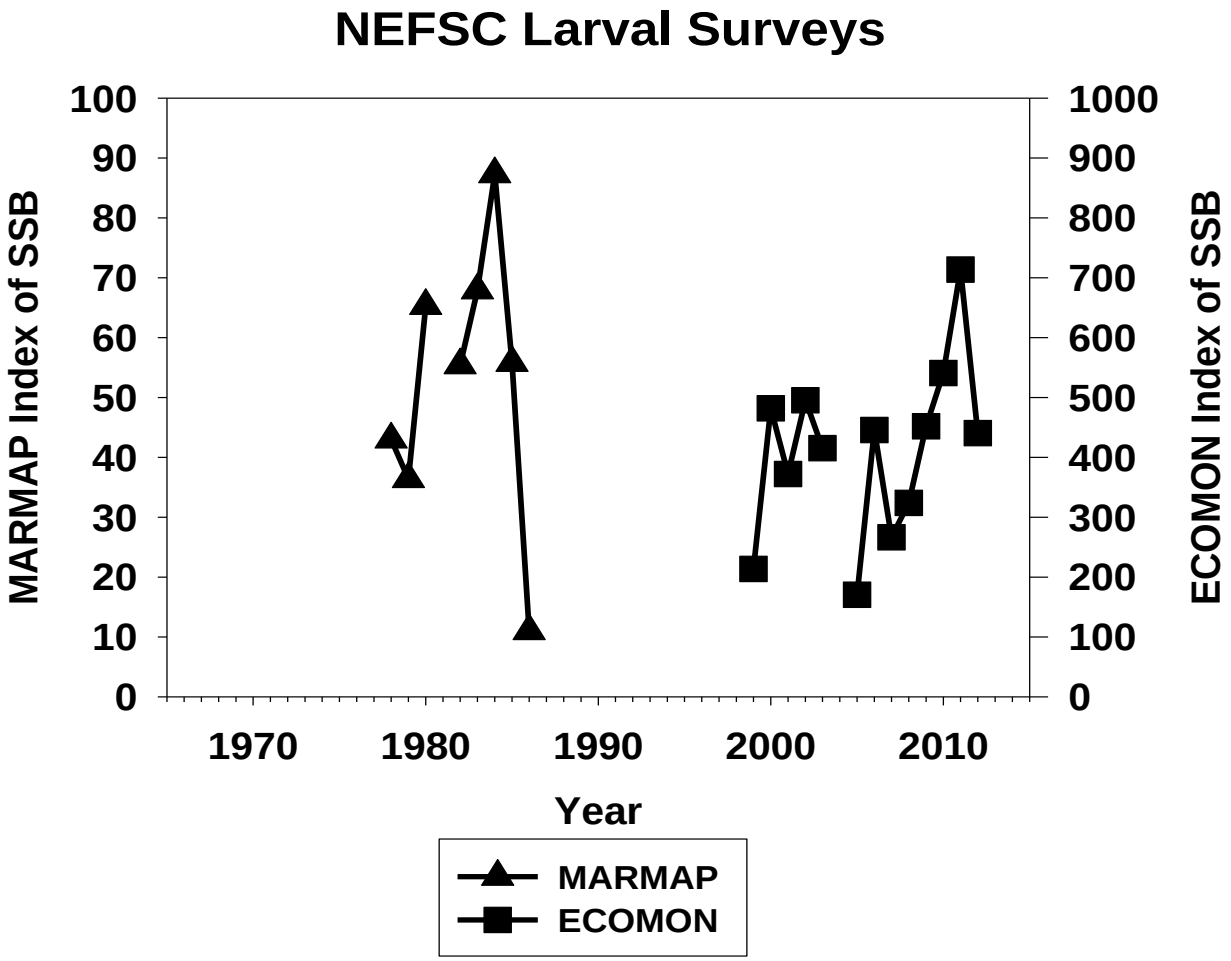

Figure 5. NEFSC larval survey indices of summer flounder spawning stock biomass (SSB). Index not available for 2013.

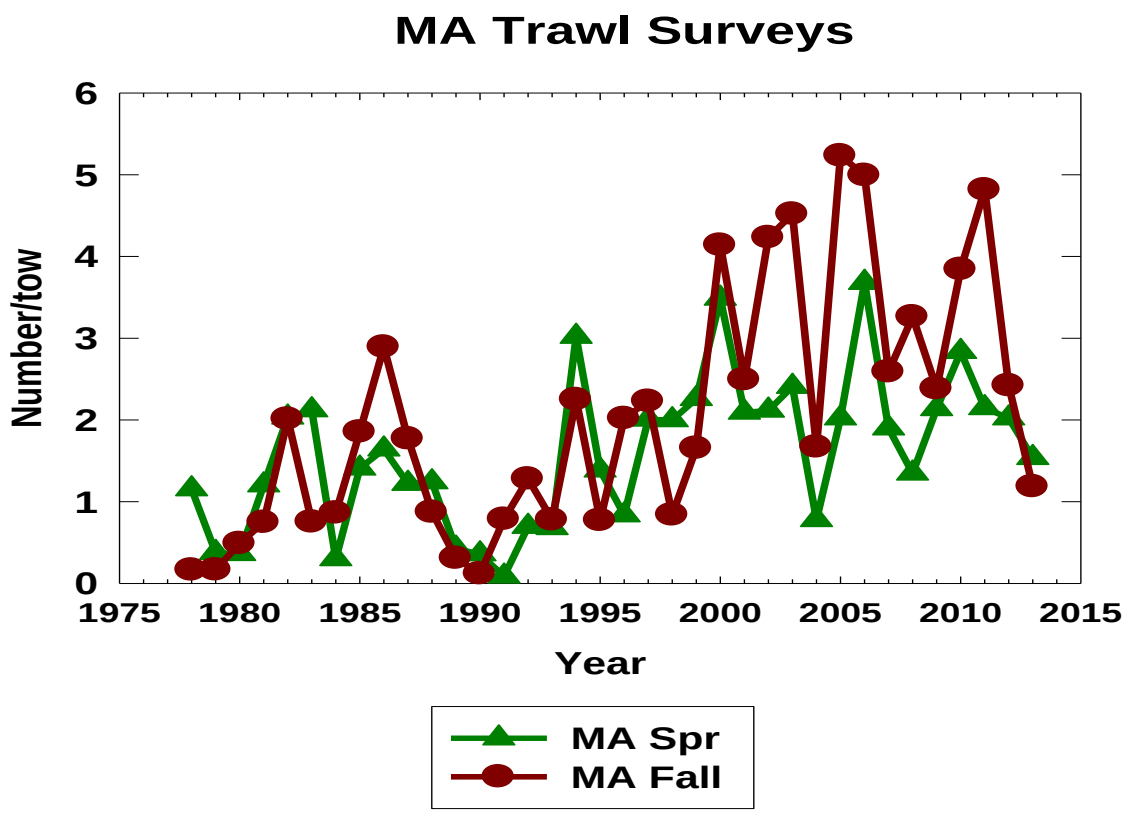

Figure 6. MADMF trawl survey indices for summer flounder.

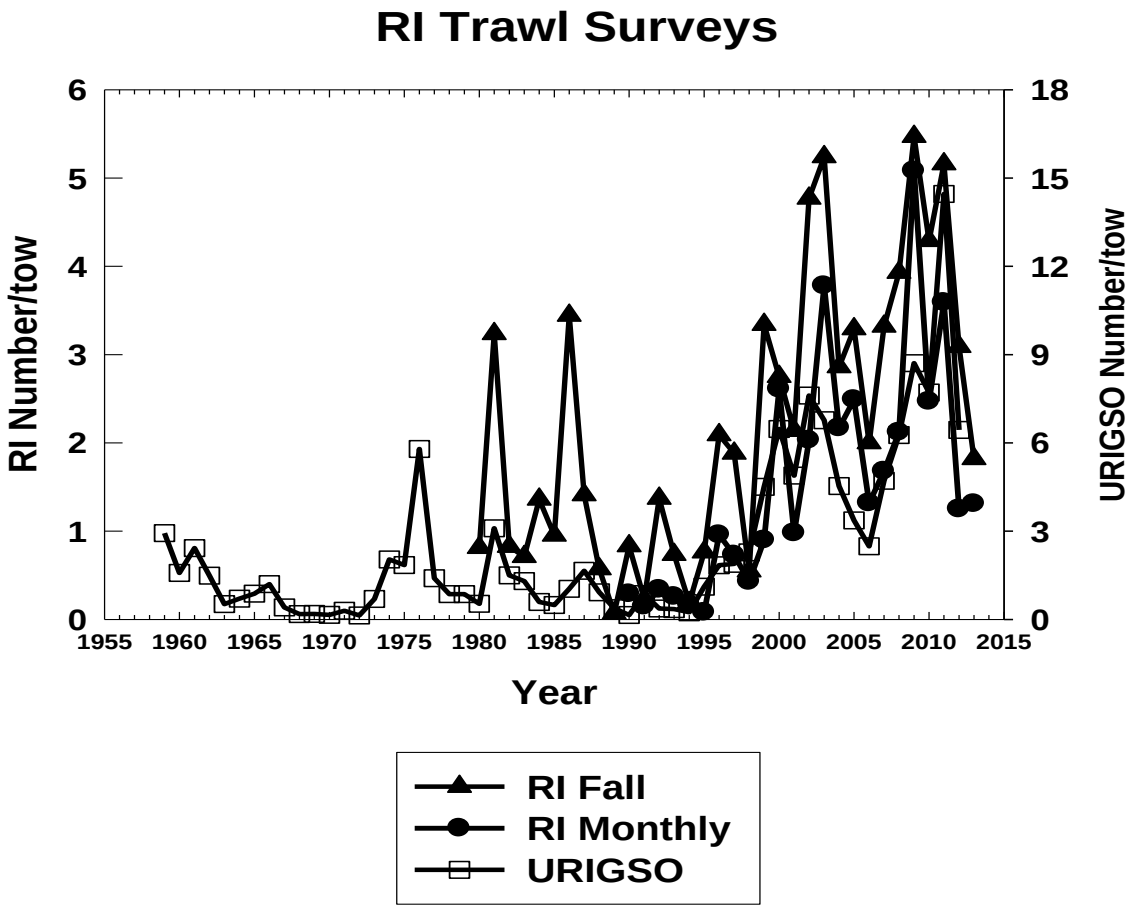

Figure 7. RIDFW and URIGSO trawl survey indices for summer flounder. URIGSO index not available for 2013.

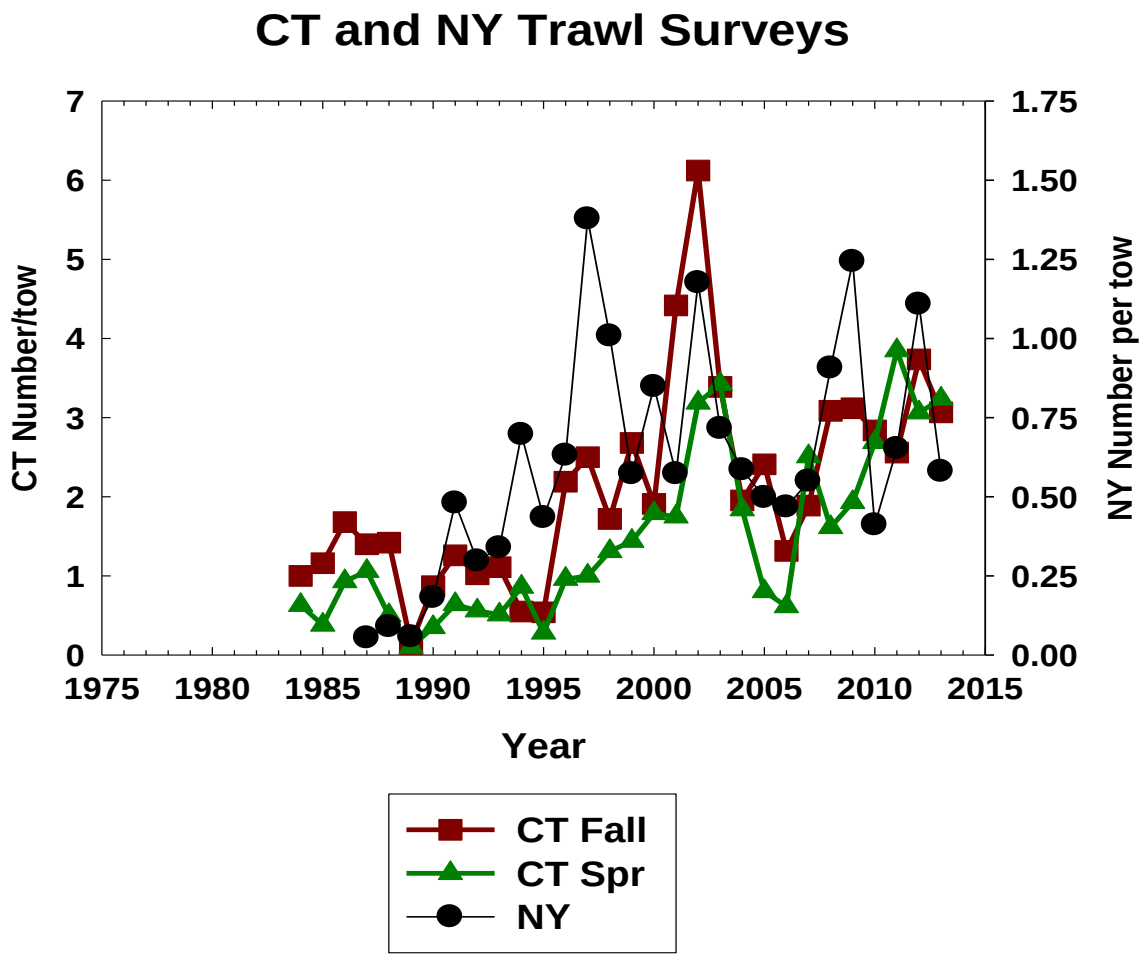

Figure 8. CTDEP and NYDEC trawl survey indices for summer flounder.

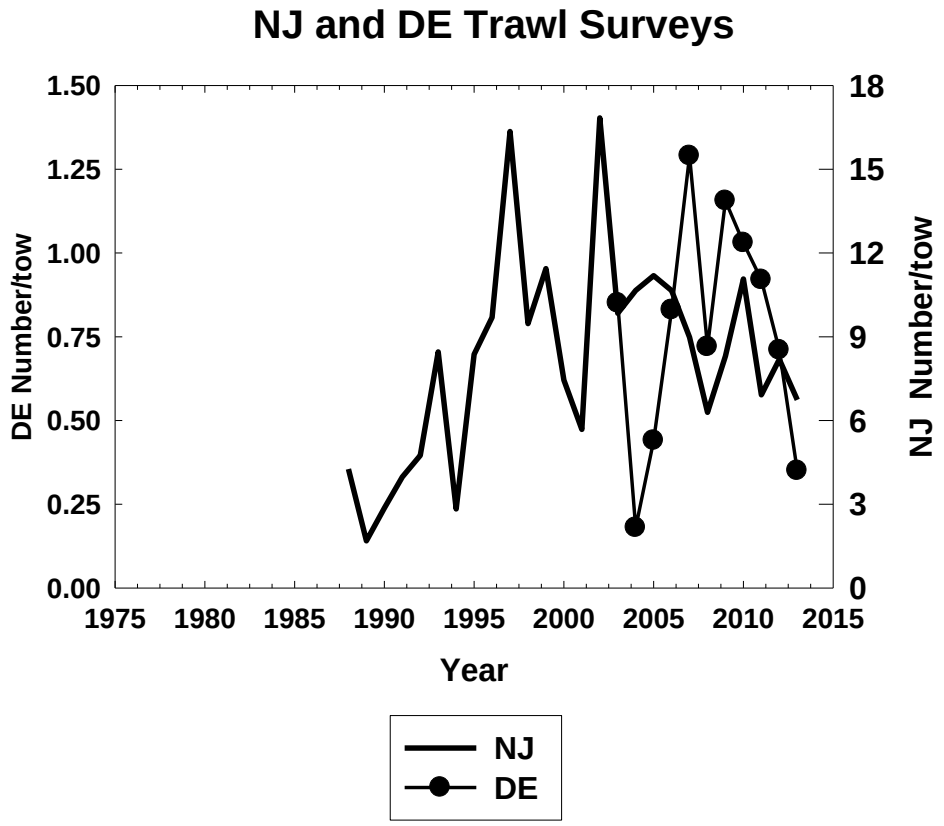

Figure 9. NJDMF and DEDFW trawl survey indices for summer flounder.

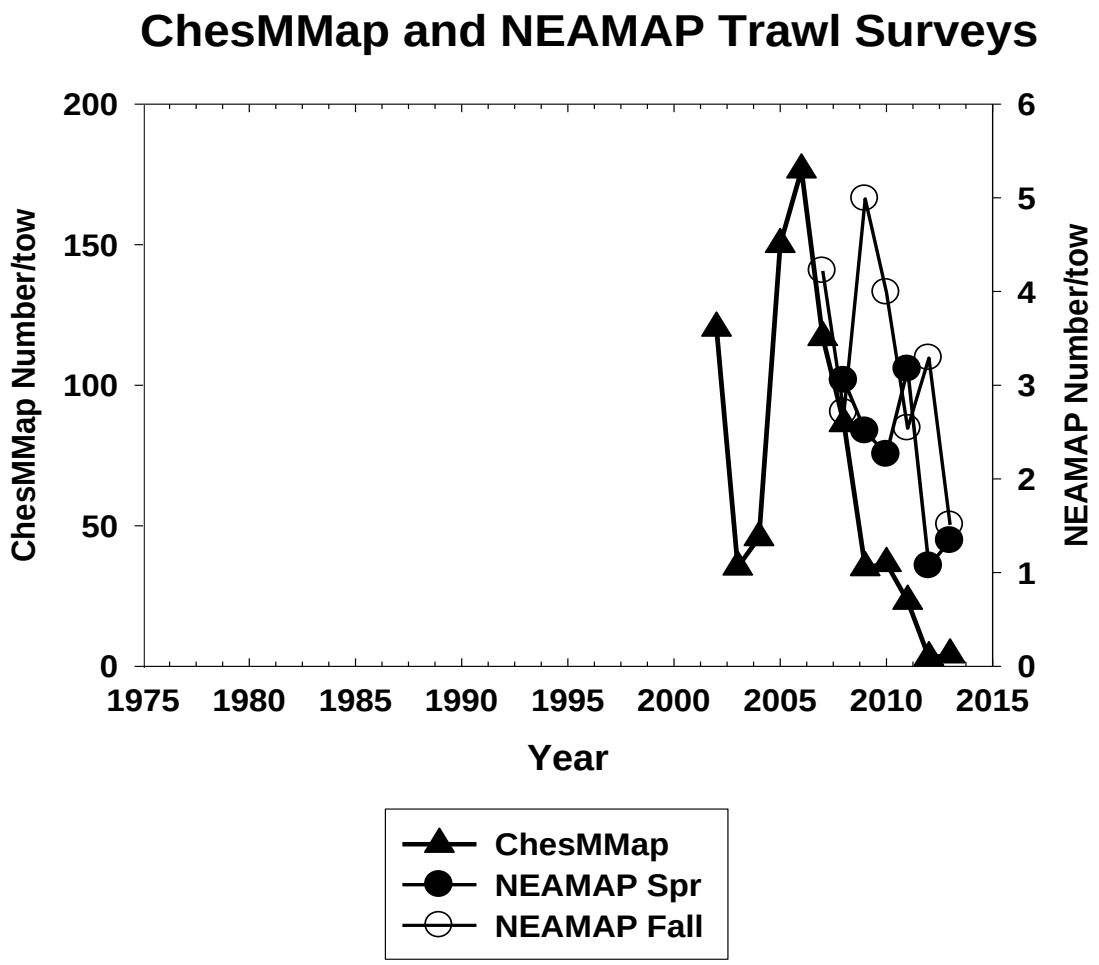

Figure 10. VIMS (ChesMMAP and NEAMAP) trawl survey indices for summer flounder.

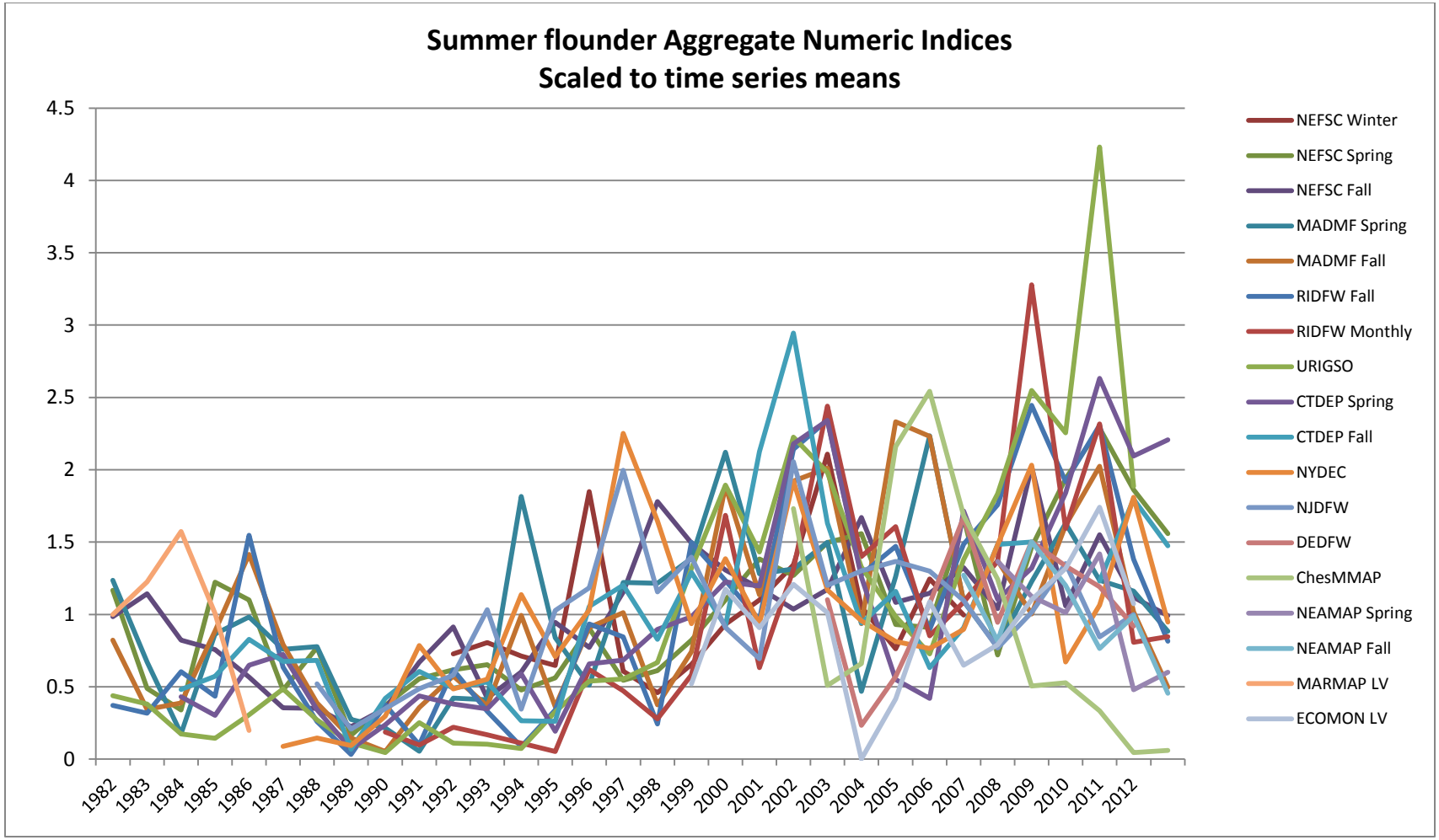

Figure 11. Summer flounder aggregate indices of numeric abundance through 2013.

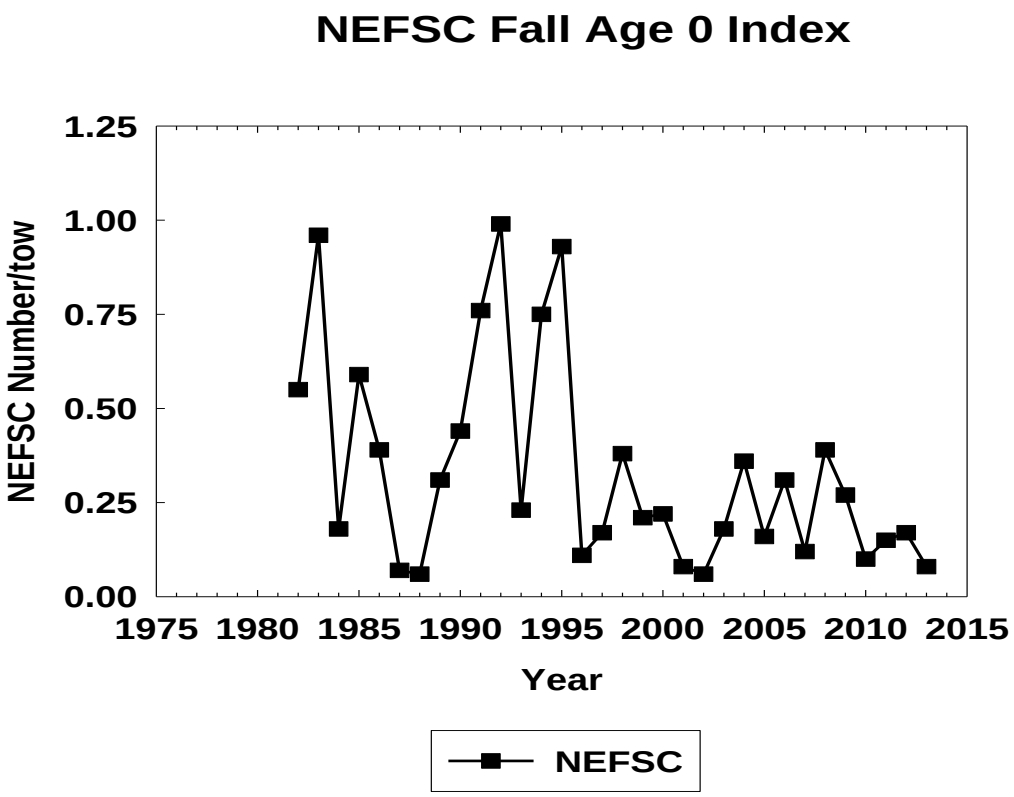

Figure 12. NEFSC age 0 abundance indices for summer flounder.

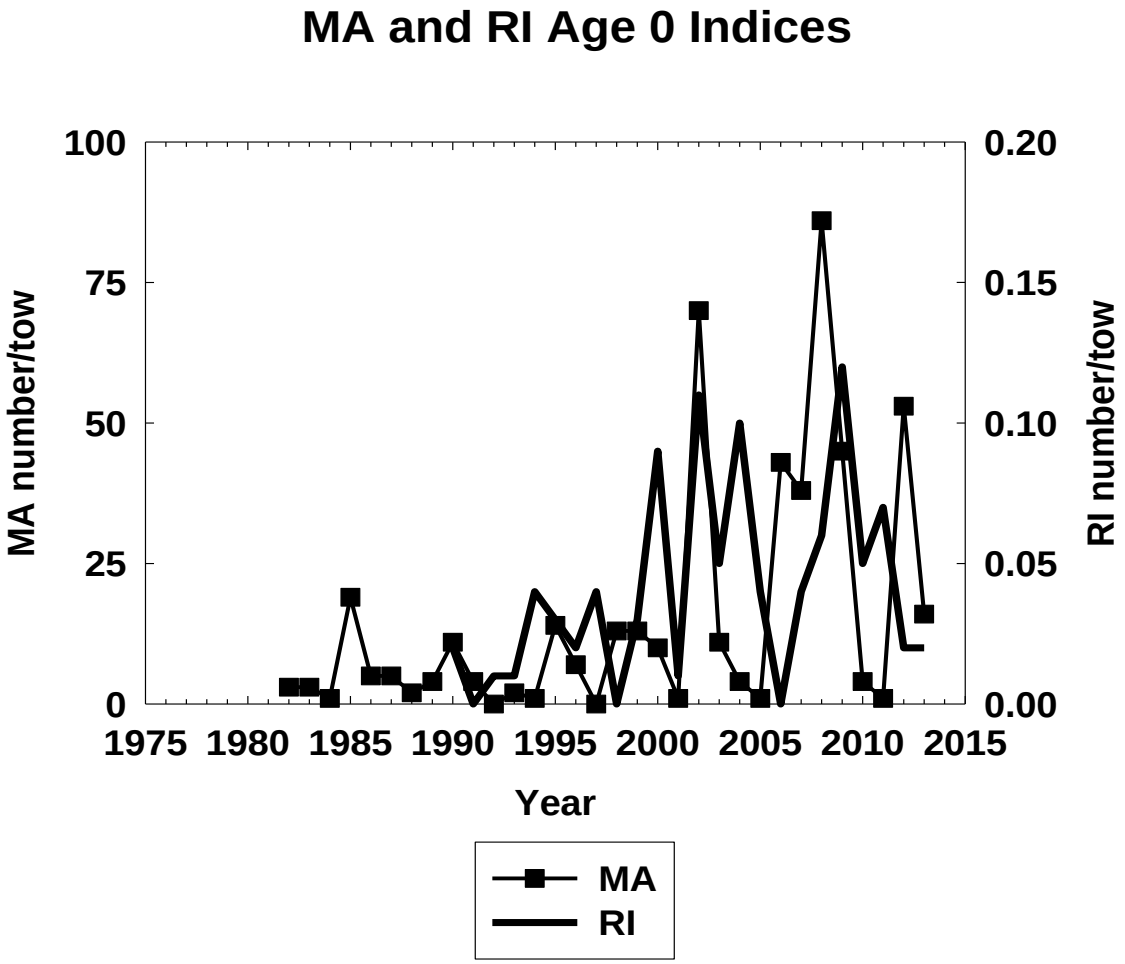

Figure 13. MADMF and RIDFW age 0 abundance indices for summer flounder.

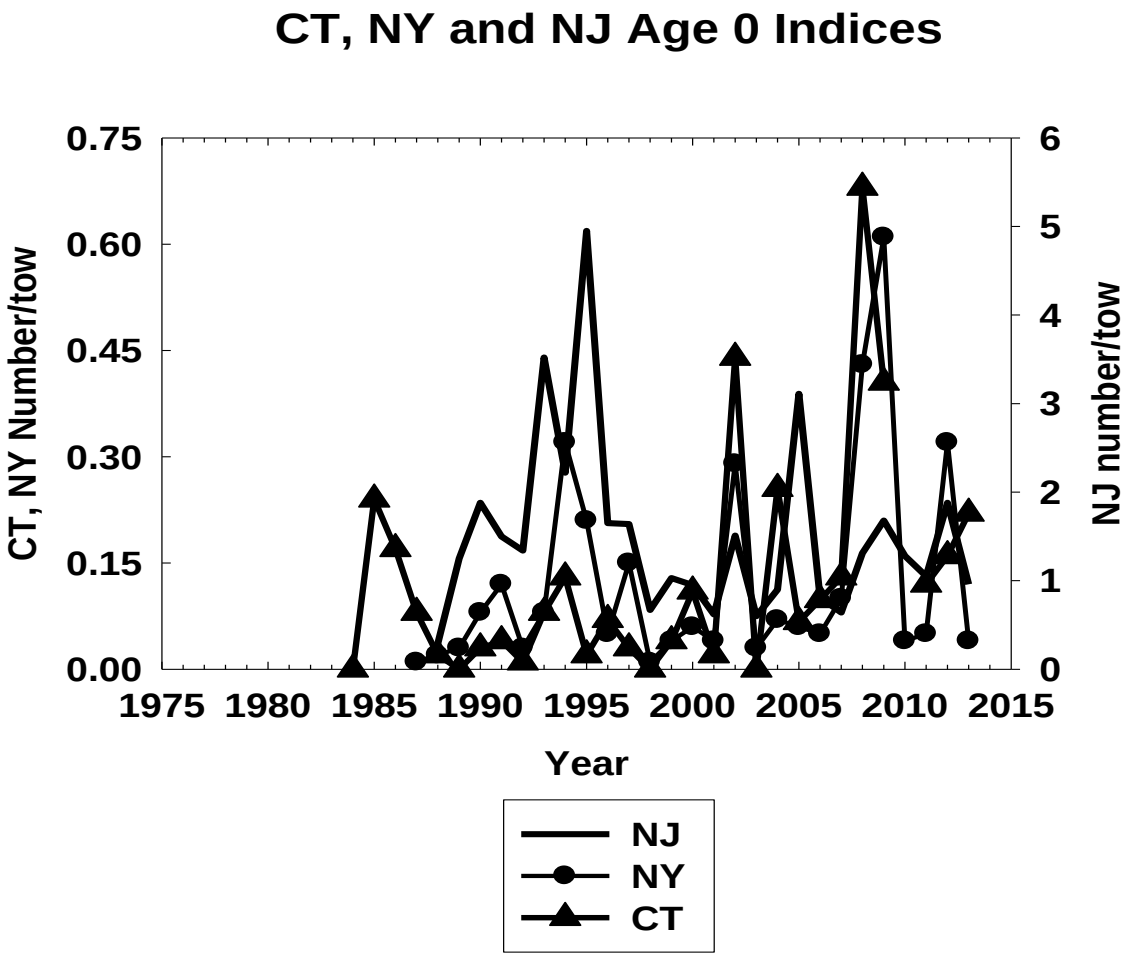

Figure 14. CTDEP, NYDEC, and NJDFW age 0 abundance indices for summer flounder.

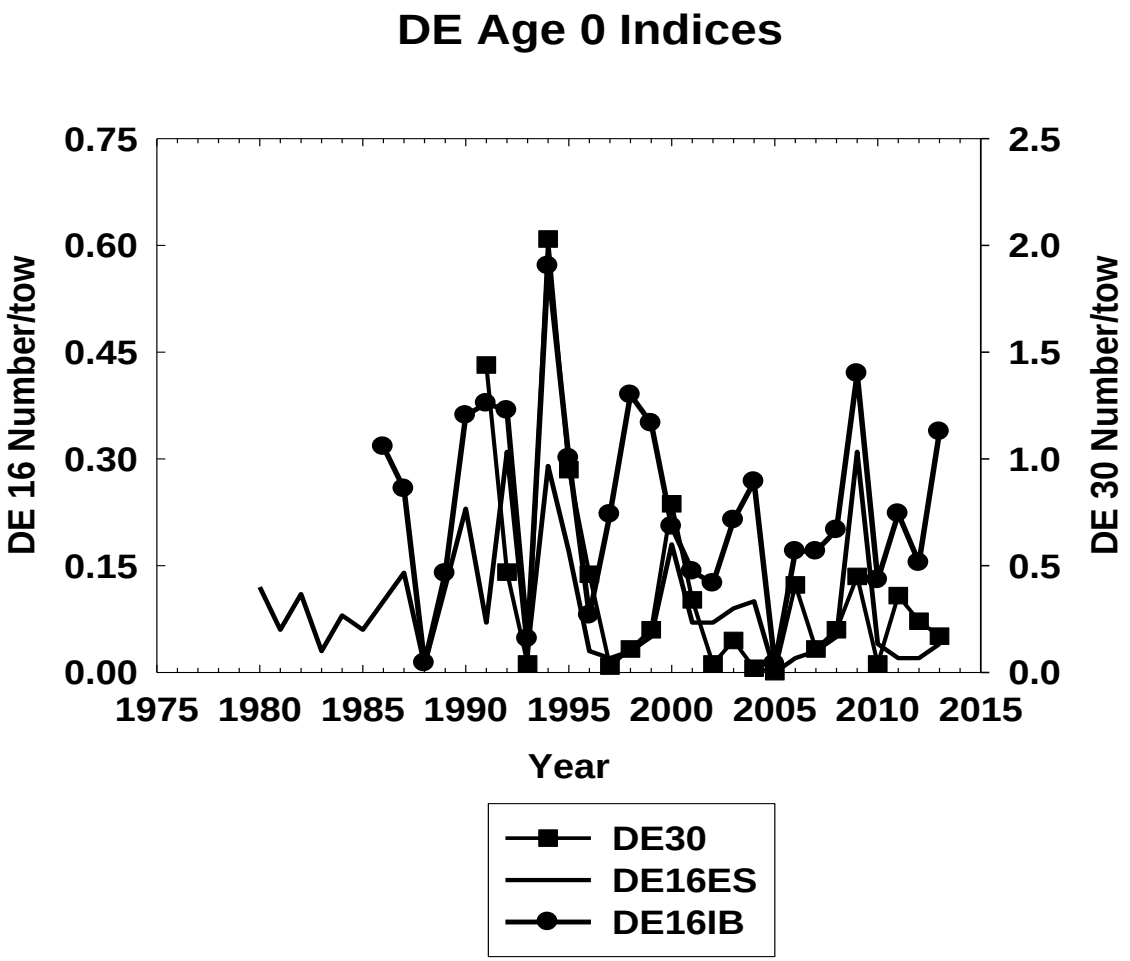

Figure 15. DEDFW age 0 abundance indices for summer flounder.

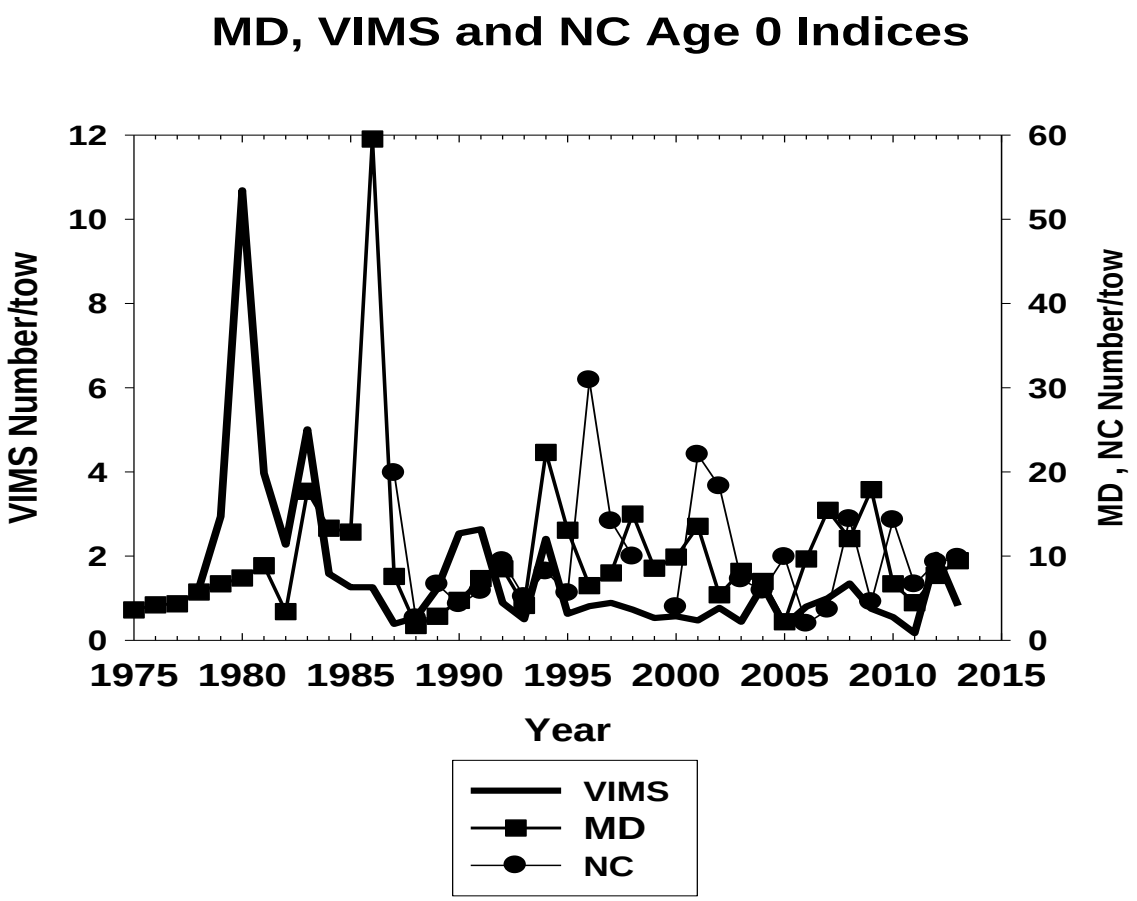

Figure 16. MDDNR, VIMS, and NCDMF age 0 abundance indices for summer flounder.

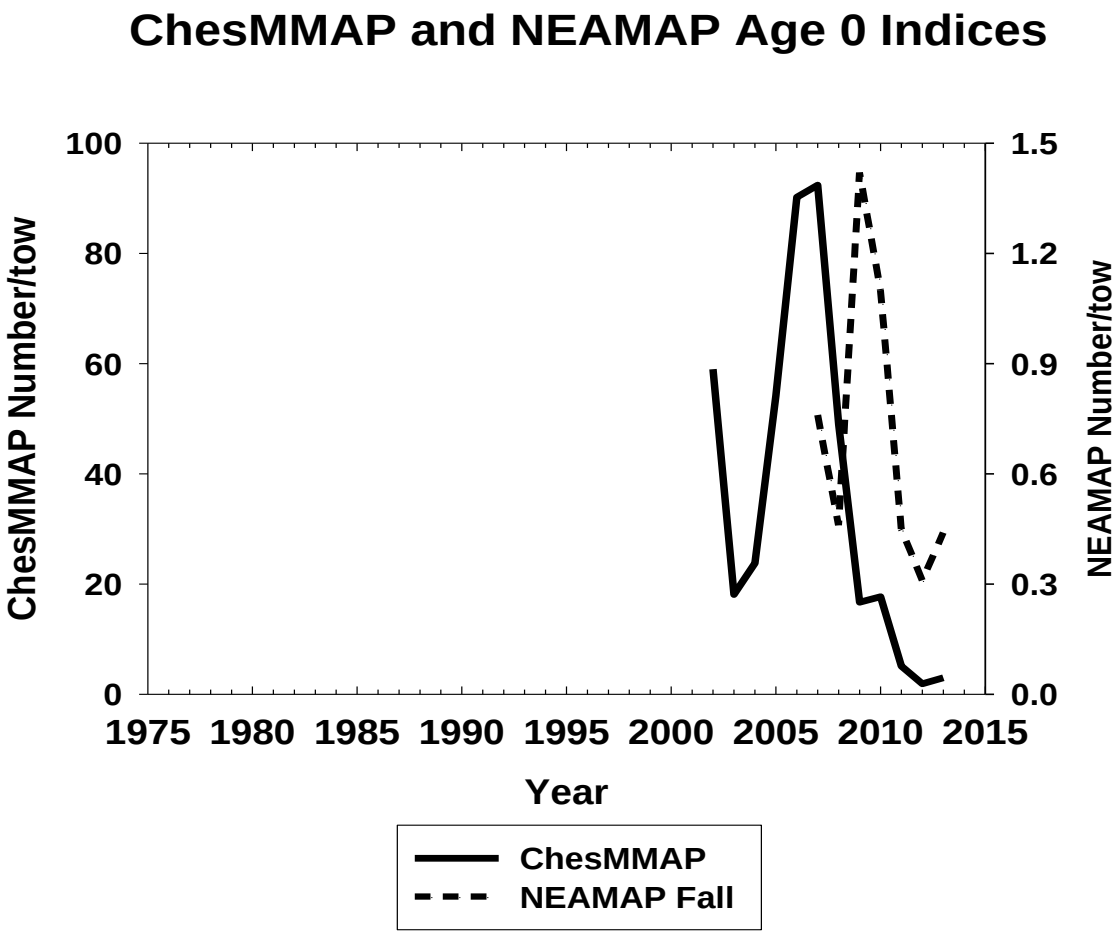

Figure 17. ChesMMAP and NEAMAP age 0 abundance indices for summer flounder.

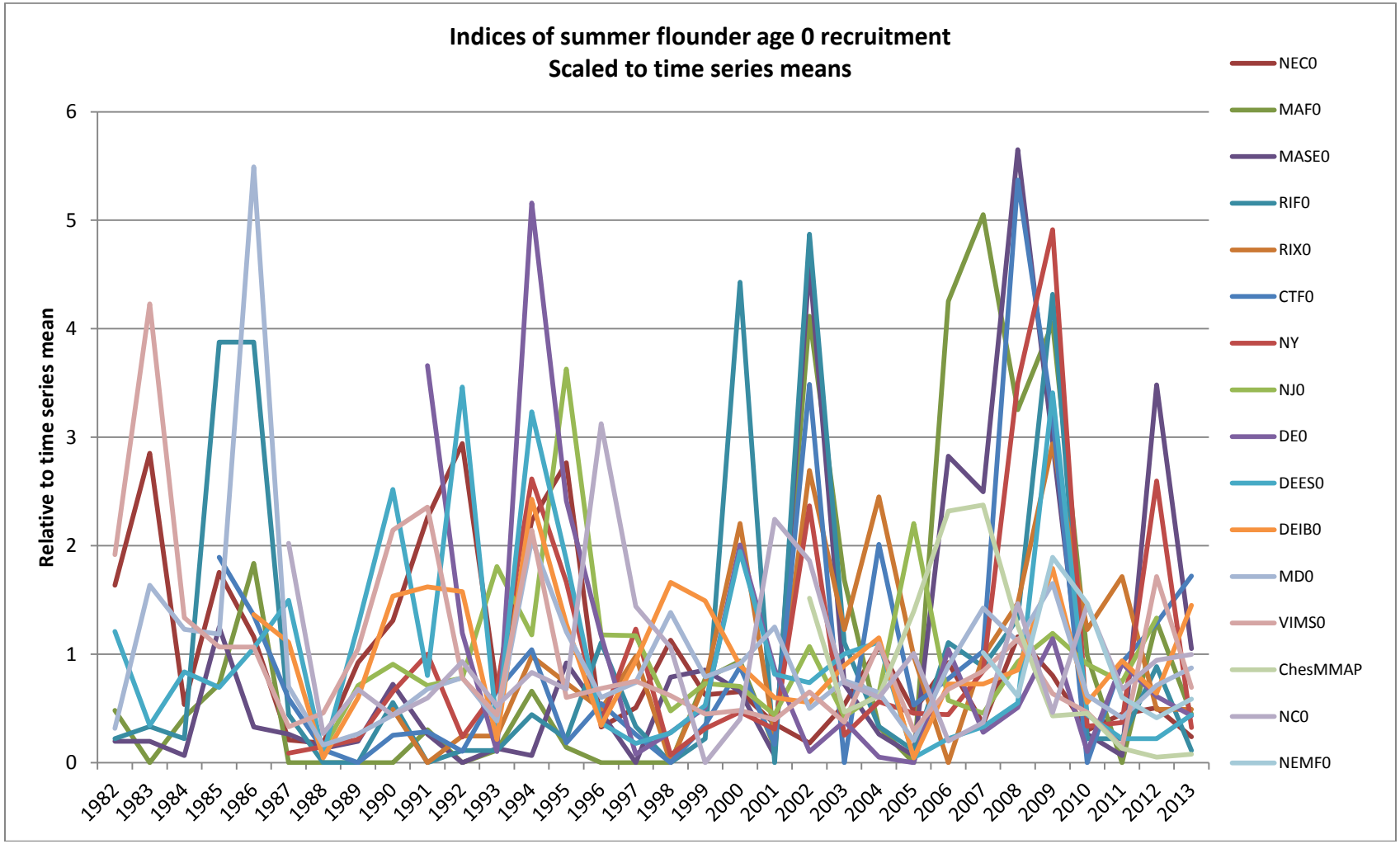

Figure 18. Summer flounder age 0 recruitment indices through 2013.

Mid-Atlantic Fishery Management Council
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Phone: 302-674-2331 | Toll Free: 877-446-2362 | FAX: 302-674-5399 | www.mafmc.org
Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: July 8, 2014

TO: Chris Moore, Executive Director

FROM: Kiley Dancy, Staff

SUBJECT: Review of Summer Flounder Management Measures for 2015

Executive Summary

In 2013, two-year specifications were implemented for summer flounder, establishing management measures for the 2014 and 2015 fishing years. Catch and landings limits are already in place for 2015 and may remain unchanged if the Scientific and Statistical Committee (SSC), Council, and ASMFC's Summer Flounder, Scup, and Black Sea Bass Board determine that the previously recommended Acceptable Biological Catch (ABC) for 2015 (22.77 mil lb; 10,329 mt) is still appropriate. Similarly, the Monitoring Committee will review recent fishery performance and make a recommendation to the Council and Board regarding any necessary modifications to the implemented 2015 commercial management measures.

Based on the results of the benchmark stock assessment conducted in July 2013, the summer flounder stock was not overfished and overfishing was not occurring in 2012. The model-estimated spawning stock biomass (SSB) was 112.96 million lb (51,238 mt) in 2012 (82% of the biomass at maximum sustainable yield, SSB_{MSY}).

Staff recommends maintaining the specified ABC (22.77 mil lb) as the basis for management measures in 2015. This ABC resulted in a commercial Annual Catch Limit (ACL) of 13.34 million lb (6,049 mt), and a recreational ACL of 9.44 million lb (4,280 mt). Based on the recommendation of the Monitoring Committee, both the commercial Annual Catch Target (ACT) and the recreational ACT were set equal to their respective sector ACLs for 2015. Last year, the Council recommended that up to 3% of the commercial and recreational quotas be reserved for research set-aside (RSA) in 2015.[1] After adjusting for projected discards and 3% RSA, the 2015 commercial quota is 10.74 mil lb, and the recreational harvest limit is 7.16 mil lb (Table 1).

Staff does not recommend any changes to the current minimum fish size (14 inch total length), gear requirements, or exemption programs (small mesh and North Carolina flynet). States that allocate 15% of their commercial quota to bycatch fisheries should continue to do so, and all other states should consider measures which reduce bycatch.

[1]The Council is scheduled to have a separate discussion at the August 2014 meeting regarding the future of the RSA program.

Table 1: Current multi-year catch and landings limits for summer flounder in 2014 and 2015.

Management Measure	2014		2015		Basis
	mil lb.	mt	mil lb.	mt	
ABC	21.94	9,950	22.77	10,329	Projections
ABC Landings Portion	18.06	8,191	18.45	8,368	Projections
ABC Discards Portion	3.88	1,759	4.32	1,961	Projections
Commercial ACL (=ACT)	12.87	5,837	13.34	6,049	60% of ABC landings portion (per FMP) + 52% of ABC discards portion
Comm. discards (projected)	2.03	923	2.27	1,028	52% of ABC discards portion, based on 2010-2012 average % discards by sector
RSA deduction (3%)	0.33	147	0.33	151	3% of pre-RSA Comm. Quota
Commercial quota (adjusted)	10.51	4,767	10.74	4,870	Comm. ACT less discards and RSA
Recreational ACL (=ACT)	9.07	4,113	9.44	4,280	40% of ABC landings portion (per FMP) + 48% of ABC discards portion
Rec. discards (projected)	1.84	836	2.06	933	48% of ABC discards portion, based on 2010-2012 average % discards by sector
RSA deduction (3%)	0.22	98	0.22	100	3% of pre-RSA RHL
Recreational Harvest Limit (adjusted)	7.01	3,178	7.16	3,247	Rec. ACT less discards and RSA

Introduction

The Magnuson-Stevens Act (MSA) requires each Council's Scientific and Statistical Committee (SSC) to provide ongoing scientific advice for fishery management decisions, including recommendations for ABC, preventing overfishing, and maximum sustainable yield. The Council's catch limit recommendations for the upcoming fishing year(s) cannot exceed the ABC recommendation of the SSC. In addition, the Monitoring Committees established by the Fishery Management Plan (FMP) are responsible for developing recommendations for management measures designed to achieve the recommended catch limits.

Multi-year specifications may be set for summer flounder for up to three years at a time. For fishing year 2015, the SSC previously recommended an ABC for summer flounder as part of multi-year specifications for the 2014 and 2015 fishing years. The SSC recommended an ABC that addresses scientific uncertainty, while the Monitoring Committee recommended an annual catch target (ACT) and management measures that address management uncertainty. Both the SSC and Monitoring Committee will review the measures currently implemented and determine if any changes may be warranted. Based on the SSC and Monitoring Committee recommendations, the Council will make a recommendation to the National Marine Fisheries Service (NMFS) Greater Atlantic Regional Administrator, if changes are believed to be warranted.

Because the FMP is cooperatively managed with the Atlantic States Marine Fisheries Commission, the Commission's Summer Flounder, Scup, and Black Sea Bass Board will meet jointly with the Council to revisit summer flounder management measures. In this memorandum, information is presented to assist the SSC and Monitoring Committee in developing recommendations for the Council and Board to consider for the 2015 fishing year for summer flounder.

Additional relevant information about the fishery and past management measures is presented in the Fishery Performance Report for summer flounder developed by the Council and Commission Advisory Panels, as well as in the corresponding Summer Flounder Fishery Information Document prepared by Council staff.

Catch and Landings Update

Reported 2013 landings in the commercial fishery were approximately 12.49 mil lb (5,665 mt), and recreational landings in 2013 were 7.01 mil lb (3,182 mt). The 2014 commercial landings as of the week ending June 21, 2014, indicate that 62% of the coastwide commercial quota has been landed (Table 2).

Table 2: The 2014 state-by-state quotas and the amount of summer flounder landed by commercial fishermen, in each state as of week ending June 21, 2014.

State	Cumulative Landings (lb)	Quota (lb)[a]	Percent of Quota (%)	Research Set-Aside Landings (lb)
ME	0	4,998	0	0
NH	3	48	6	0
MA	198,425	688,593	29	384
RI	1,116,165	1,648,193	68	79,799
CT	125,749	237,206	53	0
NY	358,924	724,301	50	28,147
NJ	830,537	1,765,169	47	0
DE	0	0	0	0
MD	105,203	214,298	49	0
VA	1,448,660	2,388,012	61	0
NC	2,258,807	2,729,195	83	0
Other	0	0	0	0
Totals	**6,442,473**	**10,400,013**	**62**	**108,330**

[a]Quotas adjusted for research set-aside and overages. Source: NMFS Weekly Quota Report for week ending June 21, 2014.

Biological Reference Points and Stock Status

The most recent peer-reviewed assessment for summer flounder was a benchmark stock assessment conducted in the summer of 2013 at the Stock Assessment Workshop/Stock Assessment Review Committee (SAW/SARC 57).[2] This assessment included updated biological reference points for summer flounder. The fishing mortality threshold is F_{MSY} = $F_{35\%}$ (as the F_{MSY} proxy) = 0.309. The biomass reference point is SSB_{MSY} = $SSB_{35\%}$ (as the SSB_{MSY} proxy) = 137.56 million lb (62,394 mt). The minimum stock size threshold, one-half SSB_{MSY}, is estimated to be 68.78 million lb (31,197 mt).

The 2013 benchmark assessment utilizes an age-structured assessment model called ASAP. Documentation on this assessment and previous stock assessments, such as reports on stock status, including annual assessment and reference point update reports, Stock Assessment Workshop (SAW) reports, and Stock Assessment Review Committee (SARC) panelist reports, are available online at the NEFSC website: http://www.nefsc.noaa.gov/saw/.

Results of the July 2013 benchmark assessment indicate that the summer flounder stock was not overfished and overfishing was not occurring in 2012 relative to the biological reference points from the 2013 SAW/SARC 57. The fishing mortality rate has been below 1.0 since 1997 and was estimated to be 0.285 in 2012, below the threshold fishing mortality reference point F_{MSY} = 0.309. SSB was estimated to be 113.0 million lb (51,238 mt) in 2012, about 82% of SSB_{MSY} = 137.6 million lb (62,394 mt). NMFS declared the summer flounder stock rebuilt in 2010, based on the 2011 assessment update.

Regulatory Review

In September 2013, the SSC met to reconsider a previously implemented ABC for summer flounder for fishing year 2014, and consider specifying multi-year ABCs for up to three years. The SSC recommended three-year ABCs for summer flounder, for fishing years 2014-2016. However, the Council and Board recommended only two years of specifications (2014-2015), in order to align multi-year specifications timelines for summer flounder, scup, and black sea bass.

The 2014 overfishing limit (OFL) was determined to be 26.76 million lb (12,138 mt), based on an F_{MSY} proxy of F = 0.309 ($F_{35\%}$) and 2013 projected biomass. The approach used for specifying ABC assumes that the ABC would be caught in the preceding year. The SSB in the current year is then updated based on the presumed catch, and the resulting SSB estimate is multiplied by the F_{MSY} proxy to provide the OFL for the current year. The Council's risk policy was applied to the OFL to calculate the ABC. For 2014, the ABC associated with the OFL is 21.94 million lb (9,950 mt), based on the 2013 projected B/B_{MSY} = 91%, Council risk policy P* = 0.360, and a lognormal distribution with a CV = 60%.

For 2015, the overfishing limit (OFL) was determined to be 27.06 million lb (12,275 mt), based on an F_{MSY} proxy of F = 0.309 ($F_{35\%}$) and 2014 projected biomass. The Council's risk policy was applied to the OFL to calculate the ABC. For 2015, the ABC associated with the OFL is 22.77 million lb (10,329 mt), based on the 2014 projected B/B_{MSY} = 95%, Council risk policy P* = 0.378, and a lognormal distribution with a CV = 60%.

[2] Northeast Fisheries Science Center. 2013. 57th Northeast Regional Stock Assessment Workshop (57th SAW) Assessment Summary Report. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 13-14; 39 p.

The SSC considered summer flounder to be a level 3 assessment. In past level 3 assessments, the SSC has used a default CV for the OFL of 100%, based on a meta-analysis of statistical catch-at-age models. However, the SSC noted that the latest summer flounder stock assessment is considerably more accurate than other assessments of Mid-Atlantic stocks and, therefore, use of the default CV=100% was likely inappropriate. Accordingly, the SSC determined that it would use a CV = 60%.

The SSC considered the following to be the most significant sources of uncertainty associated with the determination of the OFL and ABC:

- The potential for sex-specific differences in life history parameters.
- The existence of spatially distinct size distributions.
- NEFSC surveys and PMAFS fishery sampling confirm sexually-dimorphic and time-varying spatial differences in growth that are not fully accounted for in the stock assessment because not all fishery and survey catches are fully and independently sampled by sex.
- Landings from commercial fishery assume no under-reporting of summer flounder landings so should be considered minimal estimates.
- The current assumption for M remains an ongoing source of uncertainty. M is highly influential on assessment results and impacts nearly all aspects of the assessment and evaluation of status.
- The stock-recruitment relationship could not be defined internally in the model and thus an F_{MSY} proxy was used to calculate the OFL.

Management measures in the commercial fishery other than quotas and harvest limits (i.e., minimum fish size, gear requirements, etc.) have remained generally constant since 1999.

Basis for 2015 Staff Recommendation

Input from the Council's Visioning and Strategic Planning processes as well as from the Advisory Panel Fishery Performance Reports highlight stakeholder interest in increasing the stability of fishery management measures. Last year, multi-year specifications were set for summer flounder for 2014 and 2015, with the understanding that recent fishery data would be reviewed in 2014 to identify any potentially critical issues in the fishery or problems with maintaining the implemented measures. Available data described in this memo as well as in the staff Fishery Information Document, the Advisory Panel Fishery Performance Report, and the 2014 Summer Flounder Data Update do not suggest any major issues that would necessitate revising the current measures. Therefore, staff recommends summer flounder catch limits and commercial management measures remain unchanged from those previously specified for 2015.

Other Management Measures

Recreational and Commercial ACLs

As defined by the Omnibus ACLs and AMs Amendment, the ABC is equivalent to the total allowable catch (TAC), and is equal to the sum of the commercial and recreational ACLs (Figure 1). The ABC for 2015 is comprised of both landings and discards. Based on the allocation percentages in the FMP, 60% of the landings are allocated to the commercial fishery, and 40% to the recreational fishery. Discards are apportioned based on the contribution from each fishing sector using a 3-year moving average percentage; from 2010-2012, on average, 48% of dead discards were attributable to the recreational fishery, and 52% to the commercial fishery (Table 1).

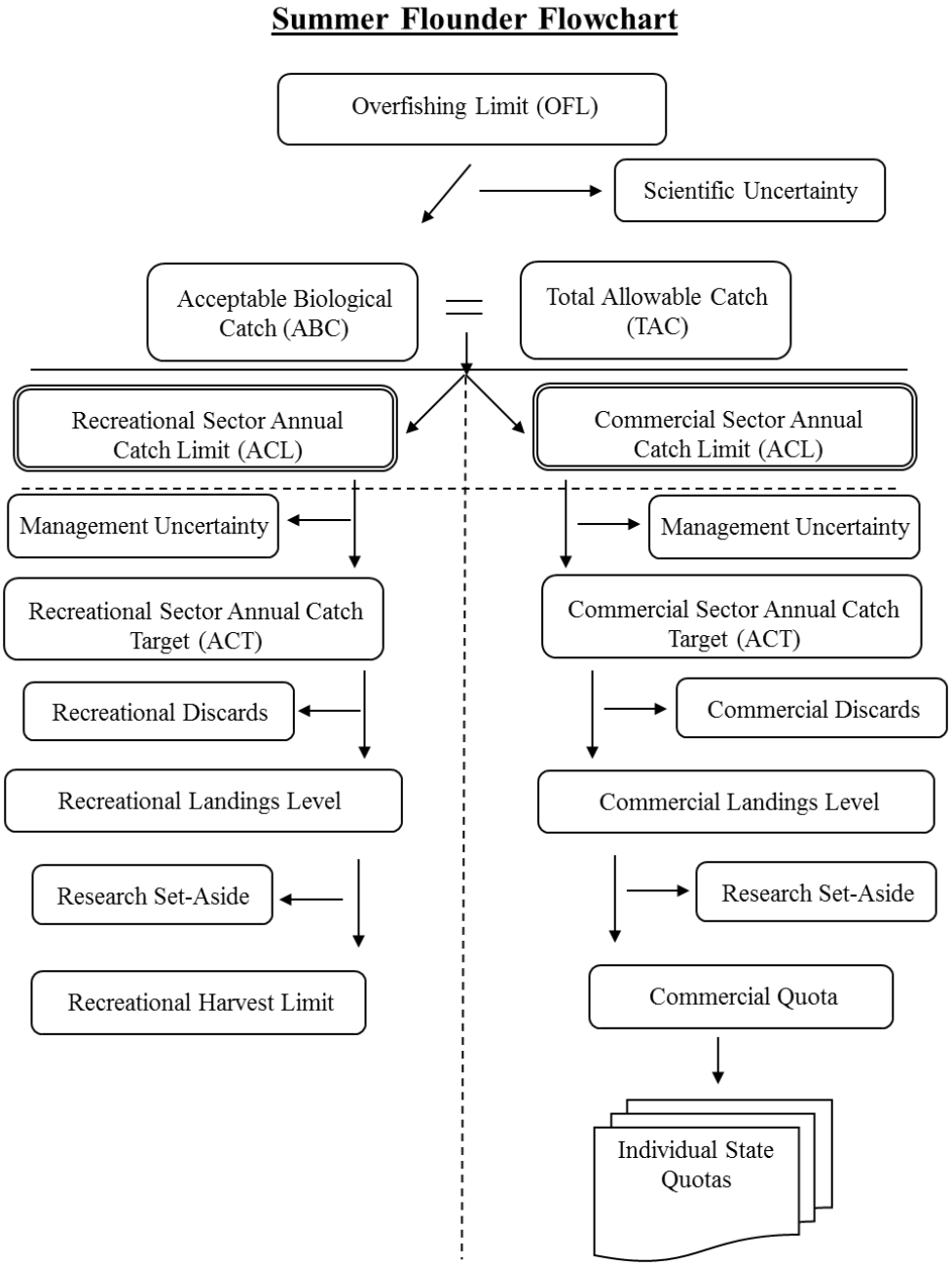

Figure 1: Flowchart for summer flounder catch and landings limits.

Annual Catch Targets

The Summer Flounder Monitoring Committee is responsible for recommending Annual Catch Targets (ACTs) for the Council to consider. The relationships between the recreational and commercial ACTs and other catch components are given in Figure 1. The Monitoring Committee may provide other recommendations relevant to setting catch limits consistent with the Magnuson-Stevens Act. The Monitoring Committee is responsible for considering all relevant sources of management uncertainty in the summer flounder fishery and providing the technical basis, including any formulaic control rules, for any reduction in catch when recommending an ACT. The ACTs, technical basis for ACT recommendations, and sources of management uncertainty would be described and provided to the Council.

Management uncertainty is comprised of two parts: uncertainty in the ability of managers to control catch and uncertainty in quantifying the true catch (i.e., estimation errors). Management uncertainty can occur because of a lack of sufficient information about the catch (e.g., due to late reporting, underreporting, and/or misreporting of landings or bycatch) or because of a lack of management precision (i.e., the ability to constrain catch to desired levels).

The sector-specific landings performance for recent years indicates that recreational fishery landings have consistently been below the recreational harvest limits for the past five years (Table 3). The commercial fishery has reported landings levels generally very near the commercial quotas for the last several years, with the exception of a slightly higher than average overage in 2013 (Table 3). The quota monitoring systems in place are typically effective in allowing timely reactions to landings levels that approach quotas. Staff recommends no modifications to the current ACTs, which are set equal to the sector-specific ACLs for 2015.

Table 3: Summer flounder commercial and recreational fishery performance relative to quotas and harvest limits, 2009-2013.

Year	Commercial Landings (mil lb)[a]	Commercial Quota (mil lb)	Percent Overage(+)/ Underage(-)	Recreational Landings (mil lb)[b]	Recreational Harvest Limit (mil lb)	Percent Overage(+)/ Underage(-)
2009	11.05	10.74	+3%	6.03	7.16	-16%
2010	13.55	12.79	+6%	5.11	8.59	-41%
2011	16.57	17.38	-5%	5.96	11.58	-49%
2012	12.91	12.73	+1%	6.49	8.49	-24%
2013	12.49	11.44	+9%	7.01	7.63	-8%
5-yr Avg.	-	-	+3%	-	-	-28%

[a] Source: NMFS dealer data as of June 3, 2014. [b]Source: NMFS MRIP database as of June 25, 2014.

Commercial Quota, Recreational Harvest Limit, and Research Set-Aside

The landings-based allocations (i.e., commercial 60%, recreational 40%) were maintained in the derivation of the sector-specific ACLs and ACTs, such that the sum of the sector-specific landings levels (total allowable landings or TALs) is equal to overall TAL (Table 1). Based on the implemented ACLs and ACTs given above and a 3% research set-aside deduction, the adjusted commercial quota in 2015 is 10.74 mil lb (4,870 mt), and the adjusted recreational harvest limit is 7.16 mil lb (3,247 mt). The commercial quota is divided amongst the states based on the allocation percentages given in Table 4.

Table 4: The summer flounder allocation formula for the commercial fisheries in each state.

State	Allocation (%)
ME	0.04756
NH	0.00046
MA	6.82046
RI	15.68298
CT	2.25708
NY	7.64699
NJ	16.72499
DE	0.01779
MD	2.03910
VA	21.31676
NC	27.44584
Total	100

Specific management measures that will be used to achieve the harvest limit for the recreational fishery in 2015 will not be determined until after the first four waves of 2014 recreational landings are reviewed. These data will be available in October 2014. The Monitoring Committee will meet in November to review these landings data and make recommendations regarding any necessary changes in the recreational management measures (i.e., possession limit, minimum size, and season). Given the performance of the recreational fishery relative to the recreational harvest limit in recent years, management measures (i.e., minimum size, possession limits, and seasons) should be implemented that are designed to achieve the recreational ACT while preventing the recreational ACL from being exceeded.

Commercial Gear Regulations and Minimum Fish Size

Amendment 2 to the Summer Flounder FMP contains provisions that allow for changes in the minimum fish size and minimum net mesh provisions. Current regulations require a 14-inch total length (TL) minimum fish size in the commercial fishery and a 5.5 inch diamond or 6 inch square minimum mesh in the entire net for vessels possessing more than the threshold amount of summer flounder, i.e., 200 lb in the winter and 100 lb in the summer. The minimum fish size and mesh requirements may be changed through specifications based on the recommendations of the Monitoring Committee. Staff does not recommend any changes to the minimum fish size or mesh provisions.

Exemption Programs

Vessels landing more than 200 lb of summer flounder, east of longitude 72° 30.0'W, from November 1 through April 30, and not using a 5.5" minimum mesh (diamond) or 6" minimum mesh (square) net, are required to obtain a small mesh exemption program (SMEP) permit from NMFS. The FMP requires that sea sampling data be reviewed annually to determine if vessels fishing seaward of the line, with smaller than the required minimum mesh size and landing more than 200 lb of summer flounder, are discarding more than 10% of their summer flounder catch. Staff evaluated the available Northeast Fisheries Observer Program (NEFOP) data for the period from November 1, 2013 to March 25, 2014 (at the time of analysis, observer data were not yet available for trips taken after this date). These data indicate that a total of 343 trips were observed east 72° 30.0'W; 109 of these trips landed summer flounder (Table 5). Of those 109 trips that landed summer flounder, 38 reported using small mesh and 25 landed more than 200 lb of summer flounder. Of those 25 trips, 7 trips discarded more than 10% of their summer flounder catch. The percentage of trips that met all these criteria relative to the total number of observed trips east of 72° 30.0'W is 2.0% (7 trips/343 trips). The prior year percentage of trips that met the criteria was about 1.6%. Based on this information, staff recommends no change in the SMEP program.

In addition, vessels fishing with a two-seam otter trawl flynet are exempt. Specifically, flynets have large mesh in the wings that measure 8 to 64 inches, the belly of the net has 35 or more meshes that are at least 8 inches, and the mesh decreases in size throughout the body of the net to 2 inches or smaller. Only North Carolina has a flynet fishery at present. The supplemental memo from Tom Wadsworth dated June 25, 2014 indicates that no summer flounder were landed in the North Carolina flynet fishery in 2013, and overall flynet landings were low compared to previous years. Therefore, staff recommends no change to this exemption program.

Table 5: Numbers of trips that meet specific criteria based on observer trips from November 1, 2013 to March 25, 2014. Note: Small mesh exemption program permits are required from November 1- April 30; however, data are not yet available for this entire time frame for 2013-2014.

November 1, 2013 – March 25, 2014	**Trips**
Trips with tows east of 72° 30' W Longitude	343
That landed summer flounder	109
That used small mesh	38
That landed more than 200 lb of summer flounder	25
Number that discarded >10% of summer flounder catch	7
Total discards (lb) from those 7 trips	2,167
Total landings (lb) from those 7 trips	8,151
Total catch (lb) from those 7 trips	10,318

Bycatch

Fishermen from a few states have indicated that the commercial regulatory discards associated with the summer flounder quotas are a problem. As such, the states that allocate 15% of their quota to bycatch fisheries should continue to do so, and all other states should consider measures to reduce bycatch.

DRAFT Scoping Document

Comprehensive Summer Flounder Management Amendment to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan

August 2014

Prepared by the
Mid-Atlantic Fishery Management Council (MAFMC or Council)

In cooperation with the
Atlantic States Marine Fisheries Commission (ASMFC or Commission)

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Public Comment Opportunities and Instructions

Public scoping hearings will be held on the following dates:

TBD	TBD - New Bedford, MA ADDRESS
TBD	TBD - Providence, RI ADDRESS
TBD	TBD - East Satauket, NY ADDRESS
TBD	TBD – Brooklyn, NY (?) ADDRESS
TBD	TBD - Dover, DE ADDRESS
TBD	TBD - Belmar, NJ (?) ADDRESS
TBD	TBD - Galloway, NJ ADDRESS
TBD	TBD - Ocean City, MD ADDRESS
TBD	TBD - Newport News, VA ADDRESS
TBD	TBD - Washington, NC ADDRESS
TBD	Internet webinar: http://mafmc.adobeconnect.com/summerflounder_scoping/

Written comments:

In addition to providing information and comments at the above scoping meetings, you may submit written comments by 11:59 p.m., Eastern Standard Time, on **[DATE]** per the notice of intent and scoping, published in the Federal Register here: **[LINK]**

Written comments may be sent by any of the following methods:

- Email to the following address: **[EMAIL].** Include "Summer Flounder Amendment Scoping Comments" in the subject; or
- Mail to Chris Moore, Ph.D., Executive Director, Mid-Atlantic Fishery Management Council, 800 North State Street, Suite 201, Dover, DE 19901. Mark the outside of the envelope "Summer Flounder Amendment Scoping Comments"; or
- Fax to Chris Moore, Ph.D., 302-674-5399. Include "Summer Flounder Amendment Scoping Comments" in the fax.

****The public will be notified via the Federal Register of additional opportunities to comment later in the process, however, this is the first and best opportunity for members of the public to raise concerns related to the scope of issues that will be considered in the amendment.****

Timeline for Completion of Proposed Comprehensive Summer Flounder Amendment[1]

	December 2013	Council initiates amendment
	April-June 2014	Draft action plan developed; Fishery Management Action Team (FMAT) formed; Council's Demersal Committee meets to discuss scoping process
Current Step →	**August 2014**	**Joint Council/Board draft scoping document developed; Council/Board review and consider draft document for public comment**
	Fall 2014	Scoping hearings and public comment period
	Winter 2014/2015	Council and Board identify priority issues for inclusion in the amendment; Issue-specific working groups established; FMAT and working group meetings; FMAT beings development of options
	Spring/Summer 2015	FMAT continues development of options (with working group input); meetings of the FMAT, working groups, Council/Board, Advisory Panel
	Fall 2015/ Winter 2016	Management Board/Council reviews FMAT and working group recommendations for options; DEIS development begins
	Spring/Summer 2016	Range of options refined and approved; DEIS development continues
	Fall 2016	DEIS finalized; Management Board/Council, selects preferred options; public hearings
	Winter 2016 /Spring 2017	Management Board/Council considers public comments; final action; rulemaking and comment periods (5-7 months)

FMAT = Fishery Management Action Team

DEIS = Draft Environmental Impact Statement

[1] **Note:** This timeline is preliminary and subject to change.

Table of Contents

Introduction 5
Why is this action being proposed? 5
Amendment Process and Timeline 5
Background on Summer Flounder Management 6
Description of the Summer Flounder Resource 7
Issues for Public Comment 10
Issue 1: FMP Goals and Objectives 10
Issue 2: Quota Allocation Between the Commercial and Recreational Fisheries 11
Issue 3: Commercial Summer Flounder Management Measures and Strategies 11
Issue 4: Recreational Summer Flounder Management Measures and Strategies 12
Issue 5: Summer Flounder Discards in the Commercial and Recreational Fisheries 13
Other Issues 14
Ecosystem, Habitat, Bycatch, and Protected Species Issues 14
Data Collection Requirements and Protocols 14
References 14
Tables and Figures 15

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Introduction

The Mid-Atlantic Fishery Management Council ("Council") proposes to develop an amendment to the Fishery Management Plan (FMP) for Summer Flounder, Scup, and Black Sea Bass under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The Council would like your input on the range of issues and information that should be considered during development of this amendment. This amendment will consider updating the goals and objectives of the Fishery Management Plan (FMP) as related to summer flounder, as well as consider modifications to any and all current management strategies used in the summer flounder commercial and recreational fisheries. The Council and Commission are seeking your comments on the specific issues identified in this document, as well as any other issues that might be of concern to you regarding summer flounder management.

The summer flounder, scup, and black sea bass fisheries are managed cooperatively by the states through the Atlantic States Marine Fisheries Commission (Commission) in state waters (0-3 miles), and by the Mid-Atlantic Fishery Management Council (Council) and NOAA Fisheries in Federal waters (3-200 miles). The management unit for summer flounder, scup, and black sea bass in US waters is the western Atlantic Ocean from the southern border of North Carolina northward to the US-Canadian border.

Why is this action being proposed?

The Council has initiated this amendment in order to: 1) perform a comprehensive review of all aspects of the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (FMP) related to summer flounder, 2) update the FMP goals and objectives for summer flounder management, and 3) modify management strategies and measures as necessary to achieve those goals and objectives.

A number of issues and concerns relative to summer flounder management have been raised by Commission and Council members, advisors, and other interested stakeholders. The Council received significant input on summer flounder management during the Council's Visioning and Strategic Planning process, conducted from 2011-2013. During this process, input gathered from surveys, port meetings, and other comment opportunities indicated there is significant stakeholder interest in re-examining and updating many of the management strategies and measures currently in place.

In addition, the Commission and Council have also proposed this action to evaluate the need for management response to changing conditions in the summer flounder fishery. This includes addressing apparent shifts in the distribution and center of biomass for the summer flounder stock (possibly related to the effects of rebuilding and/or climate change), as well as changing social and economic drivers for these fisheries. This action was proposed so that the FMP goals, objectives, and management strategies can be assessed in light of these changing fishery conditions, and aligned better with stakeholder priorities.

Amendment Process and Timeline

The Council will first gather information during the scoping period. The scoping process is the first and best opportunity for members of the public to raise concerns related to the scope of issues that will be considered in the comprehensive summer flounder amendment. The Council

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needs your input both to identify management issues and develop effective alternatives. Your comments early in the amendment development process will help us address issues of public concern in a thorough and appropriate manner.

Following the initial phase of information gathering and public comment, the Council and Commission will evaluate potential management alternatives for inclusion in the amendment. The Council and Commission will then develop a draft amendment, incorporating the identified management alternatives, for public review. The Council will also prepare an Environmental Impact Statement (EIS) to analyze the impacts of the management alternatives being considered as required by the National Environmental Policy Act (NEPA). A draft EIS will be distributed for public review. During a 45-day comment period which will include public hearings, the public may comment on any aspect of the draft EIS. Following a review of the comments, the Council will then choose preferred management measures for submission with the Final EIS to the Secretary of Commerce for publishing a proposed and then final rule, both of which have additional comment periods.

This is the public's opportunity to inform the Council and Commission about changes observed in the fishery, things the public feels should or should not be done in terms of management, regulation, enforcement, research, development, enhancement, and any other concerns the public has about the resource or the fishery. The measures outlined in this document are not a list of "preferred alternatives" or measures that the Council will necessarily include in the amendment. No management measures have yet been analyzed for their effectiveness or impacts. Please comment on which management measures may or may not be useful or practical and explain your rationale. Please also comment on any other issues that should be addressed in the amendment. The list of relevant issues may be expanded as suggestions are offered during the scoping process.

A tentative schedule for the completion of the amendment is included at the beginning of this document. Please note these dates are subject to change.

Background on Summer Flounder Management

The Commission created the first Summer Flounder FMP, implemented in 1982. The Council's FMP was implemented in 1988 and was based on the Commission's plan. Since then, twelve of the fourteen amendments that have been developed and approved for the Summer Flounder, Scup, and Black Sea Bass FMP have made changes to Summer Flounder management. A complete list of the amendments, addenda, and framework changes to the Summer Flounder FMP are listed in Table 1.

Amendment 2 (1992), introduced the allocation of the total allowable landings (TAL) to the commercial sector (60% of the TAL) and recreational sector (40% of the TAL) in the form of annual quotas and harvest limits. The initial quota-based management system set state-by-state percent shares of the commercial summer flounder allocation for each year's coastwide quota based on the 1980-1989 commercial landings by state from Maine to North Carolina. This was stipulated in Amendment 2 and revised slightly in Amendment 4 (both in 1993). States manage their quotas using trip limits, gear restrictions, seasons, and Individual Fishing Quotas (IFQs) to best utilize their state quota and meet their fisheries' needs. In Federal waters, commercial fishermen holding a moratorium permit may fish for summer flounder. Permit data for 2013 indicates that 824 vessels held commercial permits for summer flounder.

For the recreational sector, Amendment 2 required each state to adopt the same minimum size and possession limit as established in Federal waters, allowing only for different open seasons. The consistent measures were intended to achieve conservation equivalency in all state and Federal waters throughout the range of the resource. However, states soon found that one set of measures applied coastwide did not achieve equivalent conservation due to the significant geographic differences in summer flounder abundance and size composition. To address this disparity, the FMP was amended via Framework 2 (2001) and Addendum VIII (2003) to allow for the use of state conservation equivalency to manage recreational harvests. Since 2001, the FMP has allowed for, and the Commission and Council have utilized, a state-by-state harvest target, based on the proportion of estimated state recreational landings in 1998 as reported in the Marine Recreational Fisheries Statistical Survey (MRFSS). The individual state targets, as a percentage of the total coastwide recreational harvest limit, are given in Table 3.

Under conservation equivalency, states have the flexibility to tailor their regulations – using minimum size, possession, and season limits – to meet the needs and interests of their fishermen, provided that the targets are not exceeded. Additionally under conservation equivalency, Federal regulations are waived, with anglers subject to the regulations of the state in which they land. The Commission and Council still have the option of deciding annually between coastwide measures and conservation equivalent measures. For 2014, the Council and Commission voted to implement regional-based conservation equivalency measures (Table 4).

Description of the Summer Flounder Resource

Status of the Stock

The summer flounder stock was declared rebuilt in November of 2011 (NEFSC 2011). The 2013 Benchmark Stock Assessment (SAW/SARC 57) includes 2012 commercial and recreational fishery catch data, research survey indices of abundance, and estimates of stock size and fishing mortality. The summer flounder stock was not overfished and overfishing was not occurring in 2012 relative to the new (updated) biological reference points established in the 2013 SAW 57 assessment.

Stock Definition

The Commission and Council FMP for summer flounder defines the management unit as all summer flounder from the southern border of North Carolina northward to the US-Canada border. For assessment purposes, the definition of a unit stock (Wilk et al. 1980) extending from Cape Hatteras north to New England was accepted in the 2013 Benchmark Assessment as well as in previous assessments. The current management unit is consistent with a summer flounder genetics study, which revealed no population subdivision at Cape Hatteras (Jones and Quattro 1999). A study by Kraus and Musick (2001) using tagging data supported a summer flounder stock structure theory of stocks north and south of Cape Hatteras, with the stock north of Cape Hatteras possibly composed of two distinct spawning aggregations, off of New Jersey and Virginia-North Carolina.

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Spawning Stock Biomass (SSB)

Estimated summer flounder SSB has changed significantly over the last 30 years, having increased from 12.1 million pounds in 1989 to a peak of 117.2 million pounds in 2010. In 2012, SSB was estimated to be 112.96 million pounds, 82% of the new biomass target reference point (SSB_{MSY}) = 137.6 million pounds. The 2012 year class is estimated to be about 37 million fish, about 14% below average, but higher than the 2010 (34.6 million fish) and 2011 (19.6 million fish) year classes.

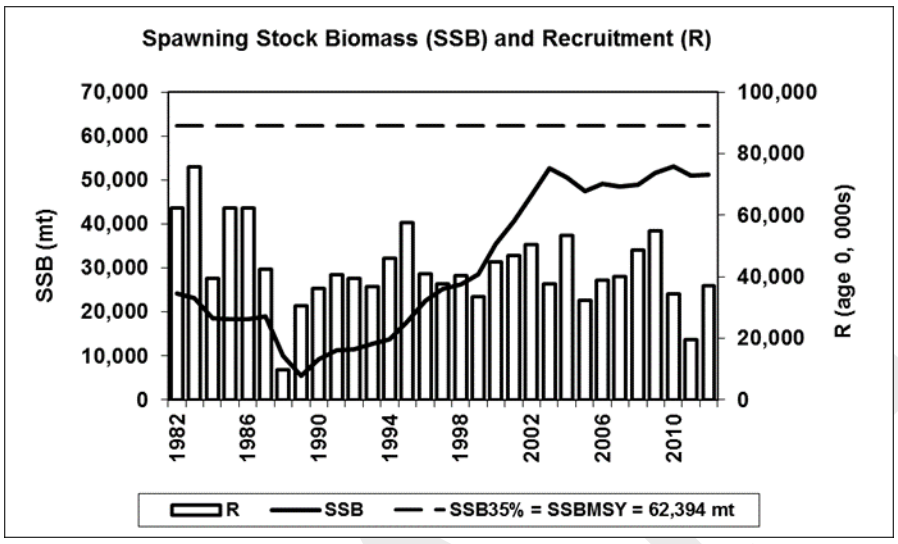

Figure 1. Summer flounder spawning stock biomass (SSB; solid line) and recruitment at age 0 (R; vertical bars) by calendar year. The horizontal dashed line is the 2013 SAW/SARC 57 biomass reference point proxy.

Fishing Mortality

From 1982-1996, the fishing mortality rate (F) on summer flounder ranged between 0.790 and 1.745. Since then, the fishing mortality rate has decreased from 0.849 in 1997 to 0.285 in 2012, below the new fishing mortality threshold reference point = FMSY = $F_{35\%}$ = 0.309.

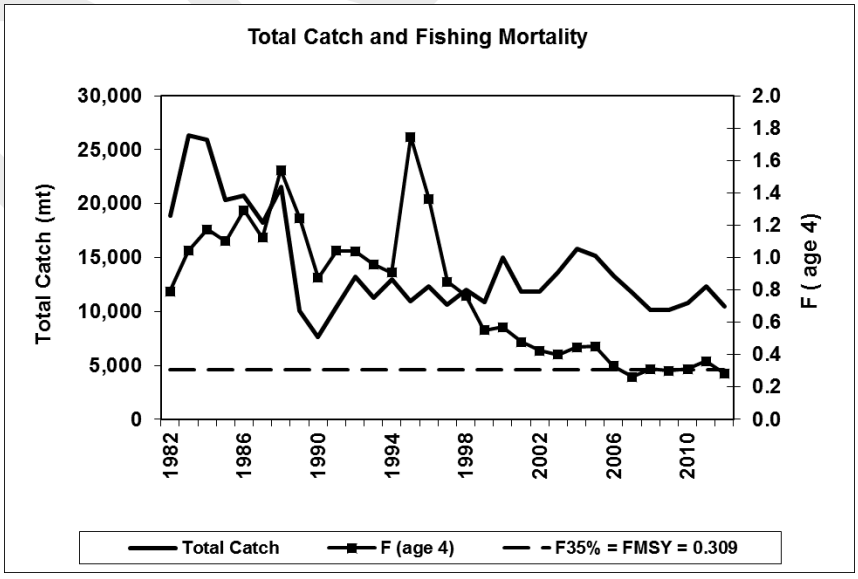

Figure 2. Total fishery catch and fully-recruited fishing mortality (F, peak at age 4) of summer flounder. The horizontal dashed line is the 2013 SAW/SARC57 fishing mortality reference point proxy.

Description of the Fishery

Commercial Fishery

Based on Vessel Trip Report (VTR) data for 2013, the bulk of the summer flounder commercial landings were taken by bottom otter trawls (97 percent), followed by bottom scallop trawls (1 percent), with other gear types (e.g. hand lines, scallop dredges, sink gill nets) each accounting for 1 percent or less of landings. Current regulations require a 14 inch total length minimum fish size in the commercial fishery and a 5.5 inch diamond or 6 inch square minimum mesh in the entire net for vessels possessing more than the threshold amount of summer flounder, i.e., 200 lbs. in the winter and 100 lbs. in the summer. Summer flounder ex-vessel revenues based on dealer data have ranged from $14.3 to $30.2 million for the 1994 through 2013 period. The mean price for summer flounder (unadjusted) has ranged from a low of $1.34/lb. in 2002 to a high of $2.38/lb. in 2008 (Figure 1). In 2013, 12.49 million pounds of summer flounder were landed generating $29.2 million in revenues ($2.34/lb.).

Recreational Fishery

There is a significant recreational fishery for summer flounder in state waters, which occurs seasonally when the fish migrate inshore during the warm summer months. The majority of recreational harvest over last 30 years has been by the states of New York and New Jersey (Table 5). When anglers are intercepted through the surveys conducted for the recreational statistics programs, they are asked about where the majority of their fish were caught (i.e., inland, state waters (<=3 miles), exclusive economic zone (EEZ; > 3 miles)). While these data are somewhat imprecise, they do provide a general indication of where the majority of summer flounder are landed recreationally. These data indicate that on average, about 90 percent of the landings (in numbers of fish) have occurred in state waters over the past ten years — about 77 percent of landings came from state waters in 2013 (Table 6). Additionally fish are primarily landed by private and rental boats (Table 7).

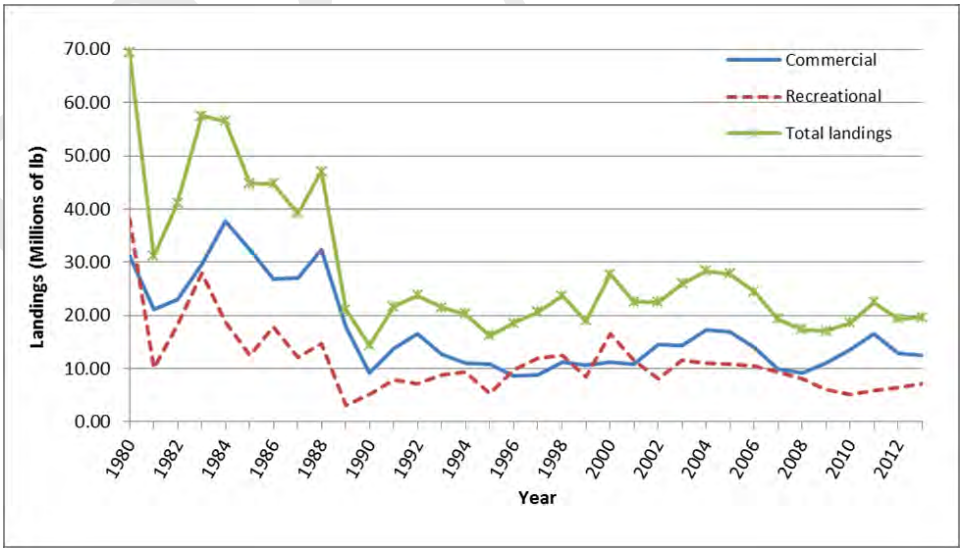

Figure 3. Commercial and Recreational U.S. Summer Flounder Landings (lbs) from Maine- North Carolina, 1980-2013.

Issues for Public Comment

Public comment is sought on a range of issues that may be considered in the draft amendment. The issues listed below are not necessarily exhaustive, but are intended to focus the public comment and provide the Commission and Council with the input necessary to develop the amendment. The public is encouraged to submit comments on the issues listed below as well as any other issues that should be addressed in the amendment.

ISSUE 1: FMP Goals and Objectives

Background

Amendment 2 (1993) contains the first set of shared objectives of the FMP between the Commission and Council. The six goals of the FMP are the following:

1. Reduce fishing mortality in the summer flounder fishery to assure that overfishing does not occur.

2. Reduce fishing mortality on immature summer flounder to increase spawning stock biomass.

3. Improve the yield from the fishery.

4. Promote compatible management regulations between State and Federal jurisdictions.

5. Promote uniform and effective enforcement of regulations.

6. Minimize regulations to achieve the management objectives stated above.

Statement of the Problem

As the management of summer flounder over the last 20 years has changed through amendments, framework adjustments, and addendums, the management objectives have remained the same. During this period, the status of the stock has changed, as well as attributes of the fisheries that the resource supports. Given these changes, do the management objectives still capture the needs and goals of the FMP?

Management Questions

- **Are the existing objectives appropriate for managing the summer flounder fishery?**
- **If these are not appropriate, what should the goals and objectives be?**

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ISSUE 2: QUOTA ALLOCATION BETWEEN THE COMMERCIAL AND RECREATIONAL FISHERIES

Background

Since Amendment 2 (1993), the annual quotas have been derived from the total allowable landings (TAL) with 60% for the commercial fishery and 40% for the recreational fishery.

Statement of the Problem

While the designation of the 60/40 split in 1993 was determined based on the historical significance of the summer flounder fishery, the characteristics and participation in both the commercial and recreational fisheries has changed over the last 20 years.

Management Questions

- **Is the existing allocation between the commercial and recreational sectors based on the annual TAL appropriate for managing the summer flounder fishery?**
- **If not, how should the current allocations be revised?**

ISSUE 3: COMMERCIAL SUMMER FLOUNDER MANAGEMENT MEASURES AND STRATEGIES

Background

Amendment 2 (1993) set the commercial state-by-state quotas based on commercial landings between 1980 and 1989. Since then a series of amendments, frameworks, and addendums has further specified the season length, allowable gear types, permits, monitoring and reporting requirements, and exemption programs.

Statement of the Problem

To address and update the commercial management of summer flounder, the following items may be considered within this amendment for revision in the FMP:

- Commercial fishing gear requirements and restrictions, including, but not limited to: mesh requirements, net dimensions, bycatch reduction devices, head and footrope lengths
- Minimum fish size requirements
- Possession limit and trigger requirements
- Time/area closures and exemption programs
- Licensing
- Commercial quota allocation strategies
- Landings flexibility (regional, coastwide, other)

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ISSUE 3: COMMERCIAL SUMMER FLOUNDER MANAGEMENT MEASURES AND STRATEGIES (Continued)

Management Questions

- **Are the existing commercial sector management measures appropriate for managing the summer flounder fishery?**
- **If not, how should current measures and requirements be revised?**

ISSUE 4: RECREATIONAL SUMMER FLOUNDER MANAGEMENT MEASURES AND STRATEGIES

Background

Amendment 2 (1993) introduced the annual specification of a coastwide Recreational Harvest Limit (RHL) for states with a declared interest in the fishery. Under conservation equivalency, State-by-state shares of the annual RHL and subsequent state-by-state measures were first implemented in 2001 and based on the 1998 coastwide recreational harvest.

Statement of the Problem

The interim solution of state-by-state conservation equivalency based on estimated state harvests in 1998 succeeded, initially, in mitigating the disparity in conservation burden among states, but the approach is increasingly being viewed as an inadequate long-term solution, given recent changes in resource status and fishery performance. Further, the 1998-based allocation formula set forth by the FMP does not reflect changes in socio-economic patterns over the past fifteen years, particularly with regard to the number and distribution of anglers along the coast.

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To address and update the recreational management of summer flounder, the following items may be considered within this amendment for revision in the FMP;

- Recreational bag limits, size limits, and seasonal limits
- Recreational fishing gear requirements and restrictions
- Inter-jurisdictional management processes and strategies (including use of state-by-state or regional Conservation Equivalency vs. Coastwide measures)
- Management strategies specific to the party/charter (for-hire) recreational fleet
- Management strategies specific to private recreational anglers
- Recreational quota allocation strategies (by state, fishing sector, other)

Management Questions

- **Are the existing recreational sector requirements appropriate for managing the summer flounder fishery?**
- **If not, what are appropriate requirements for managing the recreational summer flounder fishery?**

ISSUE 5: SUMMER FLOUNDER DISCARDS IN THE COMMERCIAL AND RECREATIONAL FISHERIES

Background

Over the last 30 years, discards in the recreational and commercial summer flounder fisheries have persisted. In the recreational sector, released alive fish (MRIP B2) have increased from 30% of total recreational catch in 1981 to 84% (Table 8). For the commercial sector, commercial discards have constituted 8% of the total catch since 1982, with commercial discard loses in the otter trawl and scallop dredge fisheries having accounted for approximately 14% of the total commercial catch (NEFSC 2013).

Statement of the Problem

To address concerns over the discard rates as raised by managers and stakeholders, this amendment will consider changes to the summer flounder FMP regarding the management of discards in the commercial and recreational fisheries.

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OTHER ISSUES:

- ***ECOSYSTEM, HABITAT, BYCATCH, AND PROTECTED SPECIES ISSUES***

Statement of the Problem
To address the changes in the distribution and abundance of summer flounder, this amendment will consider changes to the summer flounder FMP regarding the ecosystem, habitat and protected species associated with the summer flounder fishery.

- ***DATA COLLECTION REQUIREMENTS AND PROTOCOLS***

Statement of the Problem
To address the changes in the technological and communications systems over the last 30 years in both commercial and recreational fisheries, this amendment will consider changes to the summer flounder FMP regarding the data collection requirements and protocols.

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Tables and Figures

Table 1. Summary of Management Actions taken in the FMP, including Amendments, Addenda, and Framework adjustments to the FMP.

Year	Document	Plan Species	Management Action(s)
1982	ASMFC FMP	Summer flounder	Established management plan for summer flounder
1988	MAFMC FMP	Summer flounder	Established management plan for summer flounder
1991	Amendment 1	Summer flounder	Established an overfishing definition for summer flounder
1993	Amendment 2	Summer flounder	Established rebuilding schedule, commercial quotas, recreational harvest limits, size limits, gear restrictions, permits, and reporting requirements for summer flounder; created the Summer Flounder Monitoring Committee
1993	Amendment 3	Summer flounder	Revised the exempted fishery line for summer flounder; increased the large mesh net threshold for summer flounder; established otter trawl retention requirements for large mesh use in the summer flounder fishery
1993	Amendment 4	Summer flounder	Revised state-specific shares for summer flounder commercial quota allocation
1993	Amendment 5	Summer flounder	Allowed states to combine or transfer summer flounder commercial quota
1994	Amendment 6	Summer flounder	Set criteria for allowance of multiple nets on board commercial vessels for summer flounder; Established deadline for publishing catch limits, Established commercial management measures for summer flounder.
1995	Amendment 7	Summer flounder	Revised the fishing mortality rate reduction schedule for summer flounder.
1996	Amendment 8	Summer flounder and scup	Incorporated Scup FMP into Summer Flounder FMP Established scup management measures, including commercial quotas, recreational harvest limits, size limits, gear restrictions, permits, and reporting requirements.
1996	Amendment 9	Summer flounder and black sea bass	Incorporated Black Sea Bass into Summer Flounder FMP; Established black sea bass measures, including commercial quotas, recreational harvest limits, size limits, gear restrictions, permits, and reporting requirements.

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Table 1 *(continued)*:

Year	Document	Plan Species	Management Action(s)
1997	Amendment 10	Summer flounder, scup, and black sea bass	Modified commercial minimum mesh requirements; Continued commercial vessel moratorium; Prohibited transfer of summer flounder at sea; Established special permit for party/charter sector for summer flounder
1998	Amendment 11	Summer flounder, scup, and black sea bass	Modified certain provisions related to vessel replacement and upgrading, permit history transfer, splitting, and permit renewal regulations
1999	Amendment 12	Summer flounder, scup, and black sea bass	Revised FMP to comply with the Sustainable Fisheries Act and established framework adjustment process
2001	Framework 1	Summer flounder, scup, and black sea bass	Established quota set-aside for research for summer flounder, scup, and black sea bass
2001	Addendum 3	Summer flounder	Recreational specification for the Summer Flounder and Scup fisheries in 2001
2001	Framework 2	Summer flounder	Established state-specific conservation equivalency measures
2003	Framework 3	Scup	Allowed the rollover of winter scup quota; Revised the start date for summer quota period for scup fishery
2003	Framework 4	Scup	Established system to transfer scup at sea
2003	Amendment 13	Summer flounder, scup, and black sea bass	Addressed disapproved sections of Amendment 12; revised black sea bass commercial quota system; addressed other black sea bass management measures; updated Essential Fish Habitat (EFH) requirements for all three species
2003	Addendum 8	Summer flounder	Established state-specific targets for recreational landings derived from the coastwide harvest limit based on each state's proportion of landings in 1998
2006	Framework 6	Summer flounder	Established region-specific conservation equivalency measures for summer flounder
2007	Framework 7	Summer flounder, scup, and black sea bass	Built flexibility into process to define and update status determination criteria for each plan species
2007	Amendment 16	Summer flounder, scup, and black sea bass	Standardized bycatch reporting methodology
2007	Amendment 14	Scup	Established a rebuilding schedule for scup; Scup GRAs made modifiable through a framework adjustment process

Table 1 *(continued)*:			
Year	**Document**	**Plan Species**	**Management Action(s)**
2011	Amendment 15	Summer flounder, scup, and black sea bass	Established Annual Catch Limits (ACLs) and Accountability Measures (AMs)
2013	Amendment 19	Summer flounder, scup, and black sea bass	Revised recreational Accountability Measures for each plan species
2014	Addendum 25	Summer flounder and black sea bass	Set regional management for summer flounder recreational management in 2014; ad hoc regional management for black sea bass in 2014, with the option of extending into 2015
	MAFMC		
	ASMFC		
	Joint ASMFC/MAFMC		

Table 2. 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%

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Table 3. Recreational summer flounder harvest by state in 1998 and the proportion of harvest conservation equivalency was based on for management between 2001-2013.

State	1998 estimated harvest (thousands of fish)	Percent of the 1998 harvest
Massachusetts	383	5.5%
Rhode Island	395	5.7%
Connecticut	261	3.7%
New York	1,230	17.6%
New Jersey	2,728	39.1%
Delaware	219	3.1%
Maryland	206	3.0%
Virginia	1,165	16.7%
North Carolina	391	5.6%

Table 4. 2014 Atlantic States Marine Fisheries Commission Approved State-by-State Conservation Equivalent Recreational Measures for Summer Flounder.

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
CT shore program 45 designed 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	Tentatively May 23-September 27
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

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Table 5. Percentage of Summer Flounder Recreational Harvest (MRIP Type A+B1 in numbers of fish) Maine-North Carolina from 1981-2013.

Year	ME	NH	MA	RI	CT	NY	NJ	DE	MD	VA	NC
1981	0.0	0.0	0.8	1.2	0.8	18.7	44.8	1.6	1.9	23.0	7.2
1982	0.0	0.0	7.4	2.1	0.9	10.6	25.6	5.2	1.2	35.9	11.1
1983	0.0	0.0	2.0	0.4	2.7	16.9	35.1	3.0	4.0	31.3	4.5
1984	0.0	0.0	1.2	0.6	1.8	17.3	51.8	4.4	3.0	10.0	9.8
1985	0.0	0.0	0.3	1.6	1.7	10.8	70.0	1.3	0.9	5.5	7.9
1986	0.0	0.0	9.8	9.1	4.2	13.8	47.6	0.9	1.7	4.4	8.6
1987	0.0	0.0	3.8	2.2	2.8	19.5	44.0	2.0	7.8	14.4	3.5
1988	0.0	0.1	2.0	1.4	0.8	20.1	44.8	4.3	6.9	13.1	6.6
1989	0.0	0.4	1.1	5.1	1.6	18.4	23.2	5.9	11.6	20.5	12.2
1990	0.0	0.7	0.8	1.1	0.5	25.7	38.5	3.6	4.6	11.1	13.5
1991	0.0	0.0	0.8	1.3	1.1	16.6	50.0	2.9	4.7	19.2	3.5
1992	0.0	0.0	1.1	1.4	2.2	9.2	56.0	5.7	6.4	13.9	4.1
1993	0.0	0.0	2.1	2.1	1.2	18.6	49.8	5.7	3.7	11.0	5.9
1994	0.0	0.0	2.5	2.6	4.7	27.7	42.2	3.4	1.2	9.9	5.8
1995	0.0	0.0	3.2	3.6	5.7	17.4	39.2	3.0	4.2	19.2	4.5
1996	0.0	0.0	1.3	5.1	4.0	11.3	47.5	6.9	2.2	16.8	5.0
1997	0.0	0.0	3.1	3.5	3.4	16.8	52.2	2.8	0.9	13.2	4.0
1998	0.0	0.0	5.5	5.7	3.7	17.6	39.1	3.1	3.0	16.7	5.6
1999	0.0	0.0	4.3	10.5	5.2	18.5	36.6	4.4	5.5	9.2	5.8
2000	0.0	0.0	4.9	10.3	4.8	21.4	38.7	4.3	3.3	7.4	4.8
2001	0.0	0.0	2.9	5.1	2.9	13.2	39.1	2.8	2.6	25.3	6.2
2002	0.0	0.0	4.8	5.8	2.9	21.3	30.3	3.3	2.1	23.7	5.8
2003	0.0	0.0	3.9	4.5	3.6	33.8	39.1	2.3	0.9	9.9	1.9
2004	0.0	0.0	5.2	5.8	5.0	23.7	37.5	2.6	1.0	15.6	3.6
2005	0.0	0.0	6.6	4.1	3.9	28.9	32.3	1.8	2.9	17.0	2.5
2006	0.0	0.0	6.0	6.7	3.5	19.0	39.4	2.2	0.9	19.3	2.8
2007	0.0	0.0	4.4	5.7	3.6	27.9	34.3	3.5	3.3	12.8	4.5
2008	0.0	0.0	9.9	8.7	6.2	25.9	32.4	1.5	2.5	11.1	1.9
2009	0.0	0.0	2.8	4.0	2.5	16.5	45.7	4.8	3.6	16.0	4.1
2010	0.0	0.0	3.0	7.9	2.3	22.3	36.8	3.6	1.7	17.3	5.1
2011	0.0	0.0	3.2	8.8	2.6	20.4	40.0	3.6	0.8	17.3	3.3
2012	0.0	0.0	3.3	4.5	2.8	22.4	49.7	2.0	1.0	11.4	2.8
2013	0.0	0.0	1.2	4.9	11.1	18.3	50.5	2.2	2.1	7.8	1.9
Total Avg.	**0.0**	**0.0**	**3.5**	**4.5**	**3.2**	**19.4**	**41.9**	**3.4**	**3.2**	**15.5**	**5.5**

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Table 6. Percentage summer flounder recreational landings (MRIP Type A+B1 in numbers of fish) by area (state vs. Federal waters), Maine through North Carolina, 2004-2013. Area information is self-reported based on where the majority of fishing activity occurred per angler trip.

Year	State <= 3 mi	EEZ > 3 mi
2004	87.7%	12.3%
2005	81.2%	18.8%
2006	90.4%	10.0%
2007	88.9%	11.1%
2008	96.8%	3.5%
2009	90.8%	9.2%
2010	92.3%	7.7%
2011	95.4%	4.7%
2012	87.8%	12.3%
2013	77.1%	22.9%
Avg. 2004 - 2013	88.9%	11.3%
Avg. 2011 - 2013	86.8%	13.3%

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Table 7. The number of summer flounder landed from Maine through North Carolina by mode, 1981-2013.

Year	Shore	Party/Charter	Private/Rental
1981	3,145,683	1,362,252	5,058,639
1982	1,120,521	5,936,006	8,416,173
1983	3,963,680	3,574,229	13,458,398
1984	1,355,595	2,495,733	13,623,843
1985	786,185	1,152,247	9,127,759
1986	1,237,033	1,608,907	8,774,921
1987	406,095	1,150,095	6,308,572
1988	945,864	1,134,353	7,879,442
1989	180,268	141,320	1,395,177
1990	261,898	413,240	3,118,447
1991	565,404	597,610	4,904,637
1992	275,474	375,245	4,351,387
1993	342,225	1,013,464	5,138,352
1994	447,184	836,362	5,419,145
1995	241,906	267,348	2,816,460
1996	206,927	659,876	6,130,182
1997	255,066	930,633	5,981,121
1998	316,314	360,777	6,302,004
1999	213,447	300,807	3,592,741
2000	569,612	648,755	6,582,707
2001	226,996	329,705	4,736,910
2002	154,958	261,554	2,845,647
2003	203,717	389,142	3,965,811
2004	200,368	463,776	3,652,354
2005	104,295	498,614	3,424,557
2006	154,414	315,935	3,479,934
2007	98,418	499,160	2,510,000
2008	79,339	171,951	2,098,583
2009	62,691	176,997	1,566,490
2010	59,812	160,109	1,281,546
2011	34,849	137,787	1,667,240
2012	106,342	96,386	1,996,407
2013	132,684	208,207	2,116,398
% of Total, 1981-2013	9%	14%	78%
% of Total, 2009-2013	4%	9%	87%

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Table 8. Recreational summer flounder landings data from NMFS recreational statistics databases, 1981-2013.

Year	Recreational harvest (A+B1)	Recreational Releases (B2)	Total Catch (A+B1+B2)	Recreational Releases as % of Total Catch
1981	9,566,574	4,012,208	13,578,782	29.5
1982	15,472,701	8,089,316	23,562,017	34.3
1983	20,996,303	11,065,966	32,062,269	34.5
1984	17,475,171	12,309,755	29,784,926	41.3
1985	11,066,190	2,459,731	13,525,921	18.2
1986	11,620,861	13,671,598	25,292,459	54.1
1987	7,864,761	13,158,691	21,023,452	62.6
1988	9,959,660	7,211,078	17,170,738	42.0
1989	1,716,763	959,831	2,676,594	35.9
1990	3,793,585	5,307,236	9,100,821	58.3
1991	6,067,647	10,007,163	16,074,810	62.3
1992	5,002,107	6,907,447	11,909,554	58.0
1993	6,494,043	16,410,096	22,904,139	71.6
1994	6,702,689	11,022,356	17,725,045	62.2
1995	3,325,716	12,981,914	16,307,630	79.6
1996	6,996,987	11,997,418	18,994,405	63.2
1997	7,166,824	12,860,261	20,027,085	64.2
1998	6,979,096	15,106,746	22,085,842	68.4
1999	4,106,995	17,270,721	21,377,716	80.8
2000	7,801,075	17,583,349	25,384,424	69.3
2001	5,293,609	22,893,605	28,187,214	81.2
2002	3,262,156	13,412,134	16,674,290	80.4
2003	4,558,670	15,973,231	20,531,901	77.8
2004	4,316,494	16,019,711	20,336,205	78.8
2005	4,027,467	21,778,113	25,805,580	84.4
2006	3,950,282	17,449,726	21,400,008	81.5
2007	3,107,580	17,623,924	20,731,504	85.0
2008	2,349,874	20,546,974	22,896,848	89.7
2009	1,806,181	22,279,002	24,085,183	92.5
2010	1,501,465	22,220,121	23,721,586	93.7
2011	1,839,877	19,718,824	21,558,701	91.5
2012	2,272,219	14,256,233	16,528,452	86.3
2013	2,419,351	13,138,665	15,558,016	84.4

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Omnibus Amendment to Simplify Vessel Baselines

Including an
Environmental Assessment
Regulatory Impact Review

July 2014

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Amendment 6 to the Atlantic Herring FMP;

Amendment 16 to the Atlantic Sea Scallop FMP;

Amendment 4 to the Deep-Sea Red Crab FMP;

Amendment # to the Mackerel, Squid, and Butterfish FMP;

Amendment 7 to the Monkfish FMP;

Amendment 20 to the Northeast Multispecies FMP;

Amendment # to the Summer Flounder, Scup, and Black Sea Bass FMP;

Amendment # to the Surfclam and Ocean Quahog FMP; and

Amendment # to the Tilefish FMP

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Date adopted by NEFMC:
Date adopted by MAFMC:
Date Draft Submitted:
Date Final Submitted:

Table of Contents

List of Tables iii

List of Figures iv

ACRONYMS v

1.0 INTRODUCTION 1

1.2 History of Vessel Upgrade Restrictions 1

1.3 The 1999 Omnibus Consistency Amendment 2

1.4 Baseline Regulations in 2014 2

Vessel Baseline Administration 4

Baseline Working Group 5

2.0 PURPOSE AND NEED FOR THE ACTION 6

3.0 PROPOSED ACTION AND ALTERNATIVES 6

3.1 Alternative 1 – No Action Alternative 6

3.2 Alternative 2 – Eliminate One-Time Limit on Vessel Upgrades 7

3.3 Alternative 3 – Eliminate Tonnages from Vessel Baselines 8

3.4 Alternative 4 – Eliminate Both Tonnages and Upgrade Limit 8

4.0 AFFECTED ENVIRONMENT 9

4.1 Potentially Impacted Valued Ecosystem Components (VECs) 9

4.2 Physical Environment/Habitat/EFH 10

4.2.1 Gulf of Maine 11

4.2.2 Georges Bank 14

4.2.3 Southern New England/Mid-Atlantic Bight 15

4.2.4 Essential Fish Habitat (EFH) Designations 17

4.2.5 Gear Types and Interactions with Habitat 17

4.3 Target Species 18

4.3.1 Species and Stock Status Descriptions 18

4.4 Non-Target Species and Bycatch 21

4.5 Protected Resources 22

4.5.1 Species Potentially Affected 25

4.5.1.1 Sea Turtles 25

DRAFT

4.5.1.2 Large Cetaceans 27
4.5.1.3 Small Cetaceans 30
4.5.1.4 Pinnipeds 30
4.5.1.5 Atlantic Sturgeon 31
4.5.1.6 Atlantic Salmon (Gulf of Maine DPS) 32
4.5.2 Species and Habitats Not Likely to be Affected 33
4.6 Human Communities/Social-Economic Environment 34
4.6.1 Description of the Fisheries 34
5.0 IMPACTS OF THE ALTERNATIVES 35
5.1 Impact Assessment 35
5.1.1 Evaluation Criteria 35
5.1.3 Data Analysis 36
5.1.4 Impacts of the Alternative 1 – No Action Alternative 44
5.1.5 Impacts of Alternative 2 – Eliminate One-Time Limit on Vessel Upgrades 45
5.1.6 Impacts of Alternative 3 – Eliminate Tonnages from Vessel Baselines 46
5.1.7 Impacts to Alternative 4 – Eliminated Both Tonnages and Upgrade Limit 48
5.2 Cumulative Effects Analysis 50
6.0 LIST OF PREPARERS AND CONTACTS 59
7.0 PERSONS AND AGENCIES CONSULTED 60
8.0 COMPLIANCE WITH APPLICABLE LAWS AND EXECUTIVE ORDERS 60
9.0 REFERENCES 61

DRAFT

List of Tables

Table 1. Baseline Year for Limited Access Fisheries 2
Table 2. Management Measures in NE Limited Access Fisheries 5
Table 3. Status of Target Species 20
Table 4. Status of Non-Target and Bycatch Species 22
Table 5. Species Protected Under the Endangered Species Act and/or Marine Mammal Protection Act that May Occur in the Operations Area[a] 24
Table 6. Fishing Year 2012 Commercial Landings and Value of Affected FMPs[1] 35
Table 7. Impact Definitions and Qualifiers 36
Table 8. Number of Permits Used in Analysis 38
Table 9. Average Limited Access Vessel Size and Horsepower by Fishery 40
Table 10. Average Limited Access Vessel Size and Horsepower by Region and State 41
Table 11. Percent of Limited Access Permits Upgraded[1] 42

DRAFT

List of Figures

Figure 1. Northeast U.S. Shelf Ecosystem 11
Figure 2. Gulf of Maine 12
Figure 3. Vessel Size and Horsepower Frequency By Limited Access Permit Suite 70
Figure 4. Limited Access Black Sea Bass Vessel Size and Horsepower Frequency 72
Figure 5. Limited Access Summer Flounder Vessel Size and Horsepower Frequency 74
Figure 6. Limited Access Scup Vessel Size and Horsepower Frequency 76
Figure 7. Limited Access Atlantic Herring Vessel Size and Horsepower Frequency 78
Figure 8. Limited Access Illex Squid Vessel Size and Horsepower Frequency 80
Figure 9. Limited Access Longfin Squid Vessel Size and Horsepower Frequency 82
Figure 10. Limited Access Atlantic Mackerel Vessel Size and Horsepower Frequency 84
Figure 11. Limited Access Mahogany Quahog Vessel Size and Horsepower Frequency 86
Figure 12. Limited Access Monkfish Vessel Size and Horsepower Frequency 88
Figure 13. Limited Access NE Multispecies Vessel Size and Horsepower Frequency 90
Figure 14. Limited Access Atlantic Sea Scallop Vessel Size and Horsepower Frequency 92
Figure 15. Limited Access Red Crab Vessel Size and Horsepower Frequency 94
Figure 16. New England Limited Access Vessel Size and Horsepower Frequency 96
Figure 17. Mid-Atlantic Limited Access Vessel Size and Horsepower Frequency 98
Figure 18. Maine Limited Access Vessel Size and Horsepower Frequency 100
Figure 19. New Hampshire Limited Access Vessel Size and Horsepower Frequency 102
Figure 20. Massachusetts Limited Access Vessel Size and Horsepower Frequency 104
Figure 21. Rhode Island Limited Access Vessel Size and Horsepower Frequency 106
Figure 22. Connecticut Limited Access Vessel Size and Horsepower Frequency 108
Figure 23. New York Limited Access Vessel Size and Horsepower Frequency 110
Figure 24. New Jersey Limited Access Vessel Size and Horsepower Frequency 112
Figure 25. Pennsylvania Limited Access Vessel Size and Horsepower Frequency 114
Figure 26. Delaware Limited Access Vessel Size and Horsepower Frequency 116
Figure 27. Maryland Limited Access Vessel Size and Horsepower Frequency 118
Figure 28. Virginia Limited Access Vessel Size and Horsepower Frequency 120
Figure 29. North Carolina Limited Access Vessel Size and Horsepower Frequency 122

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ACRONYMS

ABC	Acceptable Biological Catch
ACE	Annual Catch Entitlement
ACL	Annual Catch Limit
ALWTRP	Atlantic Large Whale Take Reduction Plan
AM	Accountability Measure
ANPR	Advanced Notice of Proposed Rulemaking
ASMFC	Atlantic States Marine Fisheries Commission
B_{MSY}	Biomass necessary to produce maximum sustainable yield
CEA	Cumulative Effects Assessment
CEQ	Council on Environmental Quality
cm	Centimeter
Council	New England Fishery Management Council
CPH	Confirmation of permit history
CPUE	Catch per unit of effort
CY	Calendar year
DAS	Days-at-sea
DPS	Distinct population segment
EA	Environmental Assessment
EEZ	Exclusive economic zone
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
ESA	Endangered Species Act
F	Fishing mortality rate
FMP	Fishery management plan
F_{MSY}	Fishing mortality rate that produces the maximum sustainable yield

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FW	Framework
FY	Fishing year
GARM	Groundfish Assessment Review Meeting
GB	Georges Bank
GOM	Gulf of Maine
HPTRP	Harbor Porpoise Take Reduction Plan
kg	Kilogram
km	Kilometer
lbs	Pounds
m	Meter
MAFMC	Mid-Atlantic Fishery Management Council
mm	Millimeter
MMPA	Marine Mammal Protection Act
MSY	Maximum Sustainable Yield
mt	Metric ton
NEFMC	New England Fishery Management Council
NEFSC	Northeast Fisheries Science Center
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRCC	Northeast Region Coordinating Council
PBR	Potential Biological Removal
PSC	Potential Sector Contribution
RMA	Regulated Mesh Area
SAP	Special Access Program
SEFSC	NMFS Southeast Fisheries Science Center

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SNE	Southern New England
SNE/MA	Southern New England/Mid-Atlantic
TAC	Total allowable catch
TED	Turtle exclusion device
U.S.	United States
USFWS	United States Fish and Wildlife Service
VEC(s)	Valued Ecosystem Component(s)
VMS	Vessel Monitoring System
VTR	Vessel trip report
WNA	Western North Atlantic

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1.0 INTRODUCTION

Fishing vessel baseline specifications and upgrade restrictions have been used as a tool in many limited access fisheries to promote conservation of fish species by limiting potential increases in the harvest capacity of the fleet. To reduce fishing mortality and fishing effort, the New England and Mid-Atlantic Fishery Management Councils use various effort controls, such as limits on the amount of time (numbers of days-at-sea (DAS)) that can be fished, trip limits, state quota allocations, and moratoria on issuance of new permits. Vessel upgrade restrictions were intended to control the potential increase in effort and catch that could occur if an individual vessel increased in size or horsepower and, therefore, was able to catch more fish for a given amount of effort. For example, if a vessel were able to land more fish per DAS fished because of an increased size or horsepower, it could undermine the purpose of matching the total DAS allocation to a target Total Allowable Catch (TAC). In the case of hard quotas, a vessel's catch rate per trip could increase because of an upgrade, accelerating the rate the quota is taken and increasing the race to fish. A permit's "baseline vessel" was generally the vessel that was first issued the limited access permit for the fishery. The specifications of this first permitted vessel (length, horsepower, gross tonnage, and net tonnage) became the permit's "baseline specifications" and restrictions were placed on how much a future vessel holding the permit could deviate from these specifications. In this way, baseline specifications and upgrade restrictions were used to limit potential future increases in harvest capacity and prevent them from undermining other management measures targeted at controlling fishing mortality. However, since the time baseline specifications were adopted, many fisheries have implemented other effort controls and annual catch limits (ACLs), which restrict effort and put a cap on total harvest. In addition, replacement and upgrade restrictions can be a costly and time-consuming administrative burden for both the industry and the NOAA National Marine Fisheries Service (NMFS). This action considers eliminating certain baseline restrictions to reduce the administrative and cost burden to industry and NMFS without adversely affecting conservation.

1.2 History of Vessel Upgrade Restrictions

The Mid-Atlantic Council developed the first limited entry program in 1977 for the surfclam/quahog fishery, which included restrictions on replacement vessels. This program required that a replacement vessel be of "substantially similar capacity" in an effort to maintain and not increase the harvest capacity of the fleet at that time. Over the following two decades, additional limited entry programs were implemented by the Mid-Atlantic and the New England Councils. In some cases, restrictions on vessel replacements, upgrades, vessel sales, ownership, permit splitting, and transfers were made consistent across the Fishery Management Plans (FMPs), but in other cases, restrictions were very different. Some FMP provisions were more strict that others. The summer flounder limited access program prohibited any upgrade from being made to an existing vessel and only allowed a vessel to be replaced if it was documented as unseaworthy. The Northeast Multispecies and Atlantic Sea Scallop FMPs allowed vessel upgrades and replacements, but restricted the size and horsepower of any replacement vessel or modifications to the current vessel, based on the specifications of a baseline vessel. The definition of a baseline vessel varied in each limited access fishery, but was typically the first vessel issued the limited access permit in that fishery at the time the limited access program was established. Additional limited access programs were implemented for American lobster (1994),

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Northeast multispecies (1994), scup (1996), black sea bass (1996), longfin squid and butterfish (1996), *Illex* squid (1997), and mahogany quahogs (1998).

By 1998, there were four different sets of vessel upgrade and replacement restrictions among the various FMPs. The upgrade restrictions became confusing for fishing industry members with more than one limited access permit, because each permit had the potential to have different vessel upgrade regulations apply. This complex system led to a complex administrative burden for NMFS, a financial burden and confusion for fishermen, and even safety concerns. Thus, in 1999, the Councils, in consultation with NMFS, developed a joint omnibus amendment to streamline and make consistent baseline provisions and upgrade restrictions across FMPs.

1.3 The 1999 Omnibus Consistency Amendment

The Consistency Amendment standardized definitions and restrictions for vessel baselines, upgrades, and replacements across all limited access fisheries. The affected FMPs included Summer Flounder, Scup, and Black Sea Bass; NE Multispecies; Atlantic Mackerel, Squid, and Butterfish; Atlantic Surf Clam and Ocean Quahog; Atlantic Sea Scallops, and American Lobster. Baseline requirements already existed for most limited access fisheries, but were implemented for the first time for the Longfin squid/butterfish, Illex squid, and scup fisheries and eliminated for the American lobster fishery. The Consistency Amendment aimed to reduce complications for sales, transfers, and upgrades of commercial vessels holding multiple limited access permits, while maintaining controls on fishing effort. It simplified regulations for vessel replacements, permit transfers, and vessel upgrades, making them consistent and less restrictive in order to facilitate business transactions. These are the baseline restrictions that still govern limited access permits in 2014, having been adopted by later limited access programs including the monkfish (2000), Atlantic herring (2007), tilefish (date permit first issued), and Atlantic mackerel (2011) fisheries.

1.4 Baseline Regulations in 2014

Following the Consistency Amendment, baseline regulations became simpler but still remain complex to comply with and administer. The baseline for a limited access permit is based on the size and horsepower of the first vessel issued a limited access permit for that fishery or, for fisheries that adopted baseline restrictions through the Consistency Amendment, the permitted vessel at the time the final rule became effective. The baseline year for the various limited access fisheries are listed in Table 1.

Table 1. Baseline Year for Limited Access Fisheries

Fishery	Year
Northeast Multispecies	1994
Atlantic Sea Scallop	1994
Red Crab	1999
Scup	1999
Black Sea Bass	1999
Squid, Butterfish	1999
Surfclam/Ocean Quahog	1999

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Monkfish	2000
Summer Flounder	2000
Atlantic Herring	2007
Atlantic Mackerel	2011
Tilefish	Date permit first issued

Current regulations require a replacement vessel, or an upgrade made to an existing vessel with a limited access permit, be within 10 percent of the size (length overall, gross tonnage, and net tonnage), and within 20 percent of the horsepower, of the permit's baseline vessel. Permit holders may only upgrade their size specifications once and their horsepower specifications once. For example, a vessel owner that has a 60-ft baseline length would be limited to upgrading to a vessel of up to 66 ft. If he were to move his permit to a 62-ft vessel for any reason, it would constitute his one-time size upgrade and he would lose the ability to later upgrade to a vessel of 66 ft. He would only be able to move his permit to a vessel of 62 ft or less. These restrictions do not apply to vessels holding only limited access lobster, NE multispecies handgear, and/or general category scallop permits.

The vessel size and HP specifications may be upgraded independent of each other, but size specifications (length overall, gross tonnage, and net tonnage) are linked, meaning if an upgrade is used for one the vessel owner loses the ability to upgrade any of the size specifications in the future. For example, if a vessel replacement results in an upgrade in length, but the gross tonnage, net tonnage, and horsepower remain the same when compared to the baseline vessel, the gross tonnage and net tonnage cannot be increased in the future. Because size specifications are linked, increasing the vessel's length exhausted the one-time size upgrade allowed. The vessel's horsepower would still be able to be upgraded in the future, because the permit's one-time allowable horsepower upgrade was not used.

Some vessels that hold multiple limited access permits (a permit "suite") have more than one baseline. As a rule, the most restrictive combination of baseline specifications is used to determine the approval of a replacement vessel or upgrade, unless the permit holder chooses to relinquish the permit(s) with the more restrictive baseline. Limited access permits cannot be "split" from another limited access permit, meaning that if two or more limited access permits are on one vessel, they cannot be divided and put on separate vessels. The only way to eliminate a more restrictive baseline is to permanently relinquish the more restrictive permit. For example, if a vessel was issued a NE multispecies permit in 1994, did a vessel replacement in 1998, and the replacement vessel was subsequently issued a limited access black sea bass permit, dual baselines were created. The first baseline was based upon the specifications of the vessel issued the NE multispecies permit and the second based upon the specifications of the vessel issued the black sea bass permit. Since the two permits are tied together as a suite, the more restrictive (i.e., the smaller) specifications of these two baselines becomes the determining factor for approval of any future vessel replacement or upgrade for this suite of permits. As a part of the Consistency Amendment, baselines were eliminated for American lobster permits, but a vessel holding an American lobster permit and other limited access permits would still be subject to the vessel upgrade restrictions of the non-lobster permits. In addition, a vessel holding non-lobster limited access permits may be replaced only once a year.

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Vessel Baseline Administration

In order to ensure that permit holders are complying with baseline and vessel upgrade requirements, they are required to submit any proposed vessel upgrade or replacement to NMFS for approval. The Consistency Amendment standardized the baseline requirements, but the regulations are still complex and can make administrating these requirements complicated and costly for both the permit holders and NMFS. It can be difficult and take time for a permit holder to find a replacement vessel that falls within all four of his permit's allowable upgrades (with 10 percent of size, 20 percent of horsepower of the baseline). Vessel manufacturers may make vessels of only certain types and sizes. Vessel engines may be tuned to meet horsepower restrictions, but modern engines may not be as flexible as their previous counterparts because they must meet more stringent emissions standards. However, a replacement would still be denied if the replacement vessel falls outside the maximum allowed upgrade for the permit suite, even if the difference is a matter of inches.

It can also be difficult for a permit holder to determine their own permit's baseline specifications. A permit suite may have changed hands several times and been owned by different owners when different limited access permits were first issued, making it difficult to track down a permit's upgrade history. However, it is important for a vessel owner to determine a permit's upgrade history before purchasing a new permit or a replacement vessel, lest an upgrade already have been used and their subsequent application for replacement denied. NMFS prepares letters for permit holders to document baseline specifications and upgrade history for a permit suite, and also processes occasional corrections and exemptions to vessel baselines. Although NMFS grants these requests rarely, and only in instances where it can be shown NMFS made an error, processing these requests can take extensive research of the vessel and permit history, which may delay business decisions for the buyer or seller of a permit, or a permit holder trying to complete a vessel replacement.

To apply for a replacement or upgrade, a permit holder must be able to demonstrate with documentation that the size and horsepower specifications of the vessel as upgraded or the replacement vessel fall within his permit's allowable upgrades. NMFS requires documentation from a marine surveyor, mechanic, the engine manufacturer, the U.S. Coast Guard, or the U.S. Bureau of Shipping to verify vessel specifications. Vessel owners often also hire marine documentation services or attorneys, at additional cost, to assist them in finding a suitable replacement vessel, obtaining documentation from the seller or NMFS, completing and submitting an application, and navigating the application process. Some permit holders may use replacements to transfer permits to a buyer, since permits cannot be bought or sold separately from a vessel. In order to retain a vessel, a permit holder may transfer the permit to a skiff and then sell the skiff and permit together to a third party. Some permit holders transfer their permits to a skiff in order to lease out the DAS or other allocations without the expense of maintaining a vessel. Since 2007 NMFS no longer requires additional documentation of vessel size or horsepower for replacements to vessels under 17 feet (called "non-fishing skiffs") in order to reduce the administrative burden to NMFS and vessel owners from processing these frequent requests.

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Baseline Working Group

Since the advent of vessel baseline restrictions, Northeast fishery management plans have incorporated many other measures to manage fishing effort and control fishing mortality. Some fisheries utilize other types of input controls, such as limits on time spent fishing (days-at-sea/DAS), the amount or type of gear or crew, and possession limits. Other fisheries use output controls, such as catch shares and hard TACs. In addition, with the reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act in 2007, all fisheries have implemented ACLs and accountability measures (AMs), which establish a hard limit on the total amount of allowable fishing mortality and automatic adjustments to management measures when that limit is exceeded. An overview of the general types of management measures in use in each limited access fishery is provided in Table 2.

Table 2. Management Measures in NE Limited Access Fisheries

Fishery	Types of Management Measures
Northeast Multispecies	ACLs, sector allocations, closed areas, restricted gear areas, trimester TACs, DAS, trip limits, gear and mesh size restrictions, minimum fish sizes
Atlantic Sea Scallop	ACLs, IFQ, rotational area management, gear and mesh size restrictions, DAS, trip limits
Red Crab	ACLs, trip limits, trap/pot restrictions, limits on landing female crabs, restrictions on at-sea processing and mutilation
Scup	ACLs, trimester TACs, minimum fish size, trip limits, gear restrictions, gear restricted areas
Black Sea Bass	ACLs, minimum fish size, gear restrictions, trip limits
Squid, Butterfish	ACLs, trip limits, Trimester TACs
Surfclam/Ocean Quahog	ACLs, ITQ, closed areas, minimum size
Monkfish	ACLs, closed areas, DAS, trip limits, gear and mesh size restrictions
Summer Flounder	ACLs, trip limits, minimum fish size, gear restrictions
Atlantic Herring	ACLs, semester TACs, trip limits, gear restrictions
Atlantic Mackerel	ACLs, trip limits, gear restrictions
Tilefish	ACLs, trip limits, IFQ

In light of these newer effort and mortality controls and the administrative burden that baseline requirements have become, the Northeast Regional Coordinating Council (NRCC), a joint management coordinating body comprised of NMFS, the New England and Mid-Atlantic Councils, and the Atlantic States Marine Fisheries Commission, formed a working group to examine potential options to revise the baseline system. The workgroup developed a white paper exploring the history of vessel baseline upgrade restrictions and possible modifications. The

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workgroup found that changes to the vessel baseline system may be warranted and recommended that NMFS publish an Advanced Notice of Proposed Rulemaking (ANPR) to solicit public comments on a range of potential changes to vessel baseline measures. NMFS published an ANPR on October 5, 2011, and collected public comments through December 5, 2011. The ANPR requested public comment on five potential changes: 1) Eliminate tonnages from vessel baseline specifications; 2) eliminate the one-time upgrade limit; 3) change from a system of fixed upgrades to a system of size classes; 4) remove upgrade restrictions for vessels under 30 feet; and 5) complete remove of upgrade restrictions. The public comments ran the full spectrum, from support for maintaining the current system to support for removing it entirely. Many commenters thought that the baseline restrictions have helped to preserve a diverse fleet, in the absence of a more formal fleet vision and measures, and expressed general concerns that modifications to or removing the baseline requirements would unintentionally increase consolidation. The baseline workgroup also raised concerns that, although baseline restrictions may no longer be as necessary as they once were to control fishing effort in Federal fisheries, other management bodies, such as the ASMFC, may have come to rely on Federal baseline restrictions to limit capacity in their managed fisheries (Baseline Working Group 2011). Based on comments received on the ANPR and the baseline working group's report, NMFS and the NRCC proposed to the Councils initiating an omnibus amendment to consider making limited changes to streamline and simplify the vessel baseline requirements. The Councils initiated the joint Omnibus Amendment to Simplify Vessel Baselines at their August, and September meetings. NMFS staff developed this amendment and environmental assessment in consultation with the Councils to support the Councils' joint action.

2.0 PURPOSE AND NEED FOR THE ACTION

The purpose of this action is to simplify and streamline the administration of vessel baselines, upgrades, and replacements for vessel owners and NMFS, while maintaining the function they provide for maintaining fleet diversity and limiting capacity. The purpose of this action is also to eliminate redundant regulations that may no longer be necessary as a result of the implementation of ACLs and other controls on mortality and effort in the applicable FMPs. This action is needed to reduce the administrative burden that vessel baseline and upgrade restrictions have become for NMFS and vessel owners. This action is also needed to increase flexibility and reduce costs for vessel owners in order to facilitate more efficient operations and profitable fishing businesses. This action seeks to fulfill the purpose and need while continuing to meet the goals and objectives set forth by the Councils in the applicable FMPs.

3.0 PROPOSED ACTION AND ALTERNATIVES

3.1 Alternative 1 – No Action Alternative

Under the No Action Alternative, all vessel baseline specifications and upgrade restrictions would remain in place. Baseline would continue to be defined by vessel length overall, gross tonnage, net tonnage, and horsepower. The baseline for a limited access permit is based on the size and horsepower of the first vessel issued a limited access permit for that fishery or, for

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fisheries that adopted baseline restrictions through the Consistency Amendment, the permitted vessel at the time the final rule became effective. Current regulations require a replacement vessel or an upgrade made to an existing vessel with a limited access permit be within 10 percent of the size (length overall, net tonnage, and gross tonnage) and 20 percent of the horsepower, of the permit's baseline vessel. Some vessels that hold multiple limited access permits have more than one baseline. As a rule, the most restrictive of the baselines is used to judge the approval of a replacement vessel or upgrade, unless the permit holder chooses to relinquish the more restrictive permit.

Permit holders would continue to be limited to a one-time upgrade of the vessel size and horsepower specifications. For example, a vessel owner that has a 60-ft baseline length would be limited to upgrading to a vessel of up to 66ft. If he were to move his permit to a 62-ft vessel for any reason, it would constitute his one-time size upgrade and he would lose the ability to later upgrade to a vessel of 66ft. He would only be able to move his permit to a vessel of 62ft or less. Because his one-time size upgrade was used, he would not be able to later upgrade the vessel's tonnages. He would still be able to later use his horsepower upgrade to upgrade his horsepower by 20 percent, but only once.

3.2 Alternative 2 – Eliminate One-Time Limit on Vessel Upgrades

Under Alternative 2, the one-time limit on vessel size and horsepower upgrades would be eliminated. All vessel baseline specifications would remain in place (length overall, gross tonnage, net tonnage, and horsepower). A vessel would still be restricted by the 10 percent cap on size upgrades and 20 percent cap on horsepower upgrades, but would be able to make incremental increases without losing the ability to make later upgrades, up to the caps. For example, a vessel owner that has a 60-ft baseline length would be limited to upgrading to a vessel of up to 66ft. Under Alternative 2, if he were to move his permit to a 62-ft vessel, he would still retain the ability to later upgrade to a vessel of up to 66ft and upgrade his tonnages. He would also be able to later use his horsepower upgrade to upgrade his horsepower by 20 percent.

Note that permit holders would still have to comply with non-baseline related permit restrictions on vessel size or horsepower.

Rationale: Eliminating the one-time upgrade limit would provide more flexibility for vessel owners in the selection of replacement vessels and upgrades to existing vessels. Some vessel owners have been constrained by the one-time limit because they or a previous owner did not maximize the one-time upgrade with a previous vessel replacement, due to cost or availability or for other reasons, and have since been unable to further upgrade the vessel. Eliminating the one-time limit would also simplify the baseline verification and vessel replacement process for vessel owners and NMFS by eliminating the need to research and document whether a one-time upgrade was used during the vessel's entire limited access history.

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3.3 Alternative 3 – Eliminate Tonnages from Vessel Baselines

Under Alternative 3, gross and net tonnage would be eliminated from vessel baseline specifications. A permit's baseline would consist of only the length and horsepower of its baseline vessel. A vessel would still be restricted by the 20-percent cap on horsepower upgrades and the 10-percent cap on size upgrades, but only for length overall.

Note that some monkfish permits were initially based on vessel tonnage, but eliminating the tonnage restrictions would not change these already established permits. Similarly, volume restrictions that were implemented Atlantic mackerel fishery in Amendment 11 to the SMB FMP would not be affected by this action. Permit holders would still have to comply with non-baseline related permit restrictions on vessel size or horsepower.

Rationale: Tonnages are considered the most variable of vessel baseline specifications and, therefore, are believed to have little effect on limiting vessel capacity when compared to length and horsepower restrictions. There is more than one acceptable method of determining tonnages, and the tonnages of a vessel can vary significantly depending on whether an exact measurement or simplified calculation is used. Net tonnage limits can also be circumvented by modifying internal bulkheads. Tonnage specification limits have also been a concern for owners of vessels built outside of the United States that are determined to be under 5 net tons for import purposes. Eliminating tonnages would simplify and reduce the cost burden of the vessel baseline verification and replacement process, by simplifying or, if only horsepower verification is needed, eliminating the need for a marine survey.

3.4 Alternative 4 – Eliminate Both Tonnages and Upgrade Limit

Under Alternative 4, gross and net tonnage would be eliminated from baseline specifications and the one-time limit on vessel upgrades would also be eliminated. A permit's baseline would consist of only the length and horsepower of its baseline vessel. A vessel would still be restricted by the 20-percent cap on horsepower upgrades and the 10-percent cap on size upgrades, but only for length overall. A vessel would not be limited by the number of times it was upgraded within the 10/20 caps. A vessel owner could make incremental increases in his vessel's length and horsepower without losing the ability to make later upgrades, up to the 10/20 caps. For example, a vessel owner that has a 60-ft baseline length would be limited to upgrading to a vessel of up to 66ft. Under Alternative 4, if he were to move his permit to a 62-ft vessel, he would still retain the ability to later upgrade to a vessel of up to 66ft and would not be restricted by any baseline tonnage specifications. He would also be able to later use his horsepower upgrade to upgrade his horsepower by 20 percent.

Note that some monkfish permits were initially based on vessel tonnage, but eliminating the tonnage restrictions would not change these already established permits. Similarly, volume restrictions that were implemented Atlantic mackerel fishery in Amendment 11 to the SMB FMP would not be affected by this action. Permit holders would still have to comply with non-baseline related permit restrictions on vessel size or horsepower.

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Rationale: Alternative 4 would provide the more flexibility for vessel owners in the selection of replacement vessels and upgrades to existing vessels. Some vessel owners have been constrained by the one-time limit because they or a previous owner did not maximize the one-time upgrade with a previous vessel replacement, due to cost or availability or for other reasons, and have since been unable to further upgrade the vessel.

Tonnages are considered the most variable of vessel baseline specifications and, therefore, are believed to have little effect on limiting vessel capacity when compared to length and horsepower restrictions. There is more than one acceptable method of determining tonnages, and the tonnages of a vessel can vary significantly depending on whether an exact measurement or simplified calculation is used. Net tonnage limits can also be circumvented by modifying internal bulkheads. Tonnage specification limits have also been a concern for owners of vessels built outside of the United States that are determined to be under 5 net tons for import purposes.

Alternative 4 would also simplify and reduce the cost burden of the baseline verification and vessel replacement process for both vessel owners and NMFS. It would eliminate the need to research, verify, and document baseline and replacement vessel tonnages. It would also reduce administrative burden by eliminating the need to determine whether a one-time upgrade was used during the vessel's entire limited access history.

4.0 AFFECTED ENVIRONMENT

4.1 Potentially Impacted Valued Ecosystem Components (VECs)

This analysis considers impacts to 5 VECs:

Physical Environment/Habitat/EFH: For the purpose of this analysis the physical environment VEC consists of EFH in the Gulf of Maine, Georges Bank, the southern New England/Mid-Atlantic areas, and the continental shelf/slope sub-regions. The Sustainable Fisheries Act defines EFH as "[t]hose waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." Section 4.2 describes the conditions of the physical environment.

Target species: For the purpose of this analysis, the target species VEC includes those species targeted by vessels participating in the FMPs modified by this action. Target stocks include: GOM cod, GB cod, GOM haddock, GB haddock, GOM winter flounder, GB winter flounder, SNE/MA winter flounder, Cape Cod (CC)/GOM yellowtail flounder, GB yellowtail flounder, SNE/MA yellowtail flounder, Pollock, redfish, white hake, Atlantic halibut, American plaice, witch flounder, Atlantic sea scallops, red crab, Atlantic herring, monkfish, summer flounder, black sea bass, scup, Longfin squid, Illex squid, Atlantic mackerel, surfclams, ocean quahogs, and tilefish. Section 4.3 describes the current condition of each stock.

Non-target species and bycatch: For the purposes of this analysis, the non-target species and bycatch VEC includes non-target stocks, which are defined as managed stocks caught by vessels participating in the FMPs modified by this action, but managed by other FMPs. The term "bycatch," as defined by the MSA, means fish that are harvested in a fishery but that are not sold or kept for personal use. Bycatch includes the discard of whole fish at sea or elsewhere, including economic and regulatory discards, and F due to an encounter with fishing gear that

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does not result in capture of fish (i.e., unobserved fishing mortality). Bycatch does not include fish released alive under a recreational catch-and-release fishery management program. Section 4.4 describes the current condition of these stocks.

Protected resources: This VEC includes species under NMFS' jurisdiction which are afforded protection under the Endangered Species Act (ESA) (i.e., for those designated as threatened or endangered) and/or the Marine Mammal Protection Act (MMPA). Table 5 lists the 18 marine mammal, sea turtle, and fish species that are classified as endangered or threatened under the ESA. The remaining species in Table 5 are protected by the MMPA and are known to interact with the Northeast Multispecies fishery. Section 4.5 describes the current condition of these protected resources.

Human communities: This VEC includes impacts to people's way of life, traditions, and communities. These social and economic impacts may be driven by changes in fishery flexibility, opportunity, stability, certainty, safety, and other factors. Impacts would most likely be experienced across communities, gear cohorts, and vessel size classes. Section 4.6 describes the current conditions in the potentially impacted communities.

4.2 Physical Environment/Habitat/EFH

The Northeast U.S. Shelf Ecosystem (Figure 1) includes the area from the Gulf of Maine south to Cape Hatteras, North Carolina. It extends from the coast seaward to the edge of the continental shelf and offshore to the Gulf Stream (Sherman et al. 1996). The continental slope includes the area seaward of the shelf, out to a depth of 6,562 feet (ft) [2,000 meters (m)]. Four distinct sub-regions comprise the NMFS Northeast Region: the Gulf of Maine, Georges Bank, the southern New England/Mid-Atlantic region, and the continental slope. Sectors primarily fish in the inshore and offshore waters of the Gulf of Maine, Georges Bank, and the southern New England/Mid-Atlantic areas. Therefore, the description of the physical and biological environment focuses on these sub-regions. Information in this section was extracted from Stevenson et al. (2004).

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Atlantic States Marine Fisheries Commission

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Dr. Louis B. Daniel, III (NC), Chair *Douglas E. Grout (NH), Vice-Chair* *Robert E. Beal, Executive Director*

Vision: Sustainably Managing Atlantic Coastal Fisheries

MEMORANDUM

FINAL MEETING NOTICE

TO: Commissioners; Proxies; American Eel Management Board; American Lobster Management Board; Atlantic Coastal Cooperative Statistics Program (ACCSP) Coordinating Council; ACCSP Executive Committee; Atlantic Herring Section; Atlantic Striped Bass Management Board; Executive Committee; ISFMP Policy Board; South Atlantic State/Federal Fisheries Management Board; Spiny Dogfish Management Board; Summer Flounder, Scup, and Black Sea Bass Management Board

FROM: Robert E. Beal
Executive Director

DATE: July 25, 2014

RE: ASMFC Summer Meeting: August 5-7, 2014 **(TA 14-063)**

The Atlantic States Marine Fisheries Commission's Summer Meeting will be held August 5-7, 2014 at the **Crowne Plaza Old Town Alexandria** (Telephone: **703.683.6000**) located at 901 N. Fairfax Street, Alexandria, Virginia 22314. Directions to the hotel are attached. A courtesy shuttle to the hotel is provided from Ronald Reagan Washington National Airport arriving on the quarter hour from Doors 5 or 9 outside the baggage claim area. When completing travel voucher forms, the reimbursement rate for privately owned vehicles (POV) as of January 2014 is 0.56 cents per mile. The reserved hotel room block is now closed; please call Cindy Robertson if you have difficulty obtaining a room.

Supplemental materials will be available on the Commission website on July 30th at http://www.asmfc.org/home/2014-summer-meeting. CDs containing all supplemental materials will also be available at the meeting in limited quantities. The following pages contain the Summer Meeting Agenda.

Board/Section meeting proceedings will be broadcast daily via webinar beginning at 8 a.m. on August 5th, continuing daily until the conclusion of the meeting (expected to be 4:45 p.m.) on August 7th. The webinar will allow registrants to listen to board/section deliberations and view presentations and motions as they occur. No comments or questions will be accepted via the webinar. Should technical difficulties arise while streaming the broadcast, the boards/sections will continue their deliberations without interruption. We will attempt to resume the broadcast as soon as possible. To register for the webinar, please go to https://www3.gotomeeting.com/register/867248318

Board/section summaries, presentations, and audio files will be available the week of August 11th at http://www.asmfc.org/home/2014-summer-meeting.

Enclosures: Summer Meeting Agenda
Directions to the Crowne Plaza Hotel

Atlantic States Marine Fisheries Commission

2014 Summer Meeting

August 5-7, 2014

Crowne Plaza Hotel Old Town

Alexandria, Virginia

Final Agenda

Public Comment Guidelines

With the intent of developing policies in the Commission's procedures for public participation that result in a fair opportunity for public input, the ISFMP Policy Board has approved the following guidelines for use at management board meetings:

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

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

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

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

- Comments received 3 weeks prior to the start of a meeting week will be included on the briefing CD.

- Comments received by 5:00 PM on the Tuesday immediately preceding the scheduled ASMFC Meeting (in this case, the Tuesday deadline will be July 29, 2014) will be distributed electronically to Commissioners/Board members prior to the meeting and a limited number of copies will be provided at the meeting.

- Following the Tuesday, July 29, 2014 5:00 PM deadline, the commenter will be responsible for distributing the information to the management board prior to the board meeting or providing enough copies for the management board consideration at the meeting (a minimum of 50 copies).

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

The agenda is subject to change. The agenda reflects the current estimate of time required for scheduled Board meetings. The Commission may adjust this agenda in accordance with the actual duration of Board meetings. Interested parties should anticipate Boards starting earlier or later than indicated herein.

Tuesday, August 5, 2014

8:00 – 9:30 a.m.

Atlantic Herring Section
Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey
Other Participants: Eastman, Kaelin, Zobel
Chair: Stockwell
Staff: Yuen

1. Welcome/Call to Order *(T. Stockwell)*
2. Section Consent
   - Approval of Agenda
   - Approval of Proceedings from May 2014
3. Public Comment
4. Review of Public Comment Summary to Draft Amendment 3 Public Information Document *(M. Yuen)*
5. Draft Amendment 3 *(T. Stockwell)* **Action**
   - Provide Guidance to Plan Development Team for Draft Amendment 3
6. Review and Populate Advisory Panel Membership *(M. Yuen)*
7. Other Business/Adjourn

9:45 a.m. – 12:15 p.m.

American Lobster Management Board
Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland
Other Members: NMFS
Chair: McKiernan
Other Participants: Carloni, Fessenden, Glenn
Staff: Taylor

1. Welcome/Call to Order *(D. McKiernan)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from October 2013
3. Public Comment
4. Consider Addendum XXIII for Final Approval *(K. Taylor)* **Final Action**
5. Consider Cancer Crab Public Information Document for Public Comment *(K. Taylor)* **Action**
6. Review of Southern New England 10% Reduction Evaluation *(B. Glenn)*
7. Update on Upcoming Federal Management Actions *(P. Burns)*
8. Review of Consistency with Federal Trap Transfer Regulations *(K. Taylor)* **Possible Action**
9. Stock Assessment Update *(B. Glenn)*
10. Elect Vice-Chair **Action**
11. Other Business/Adjourn

1:15 – 5:45 p.m.

Atlantic Striped Bass Management Board
Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina
Other Members: PRFC, DC, NMFS, USFWS
Other Participants: Place, Blanchard, Godwin
Chair: Grout
Staff: Waine

1. Welcome/Call to Order *(D. Grout)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from May 2014
3. Public Comment
4. Technical Committee Report on North Carolina Stock Assessment *(C. Godwin)* **Action**
5. Consider Draft Addendum IV for Public Comment *(M. Waine)* **Action**
   - Review of Draft Addendum IV *(M. Waine)*
   - Law Enforcement Report *(K. Blanchard)*
   - Advisory Panel Report *(K. Place)*
   - Consider Approval of Draft Addendum IV for Public Comment
6. Other Business/Adjourn

Wednesday, August 6, 2014

8:00 – 10:00 a.m.

Executive Committee (***Breakfast will be served at 7:45 a.m.)***
(A portion of this meeting will be a closed session for Executive Committee members only)
Members: Abbott, Ballou, Boyles, Bull, Chanda, Daniel, Diodati, Estes, Gilmore, Grout, Keliher, O'Connell, Rhodes, Saveikis, Simpson, Woodward, Young
Chair: Daniel
Staff: Leach

1. Welcome/Call to Order *(L. Daniel)*
2. Committee Consent
   - Approval of Agenda
   - Approval of Meeting Summary from May 2014
3. Public Comment
4. Procedural Issues *(R. Beal)*
   - Report on Commissioner Conflict of Interest Policy
   - Use of Meeting-Specific Proxies
   - What Constitutes a 2/3 Vote with Regard to the Services' Abstaining
   - Advisory Panel Involvement in Fishery Management Plan Development
   - Technical Group Guidelines on Consensus Building
5. Discussion of ASMFC Support for Non-ASMFC Staff to Attend Conferences, Educational or Other Career/Knowledge-Building Courses
6. Discussion of American Eel Enforcement Efforts *(P. Keliher)*

7. Awards Committee Report *(S. Woodward)*
8. Executive Director's Annual Review *(L. Daniel)* (**Closed Session for Executive Committee Members only)**
9. Other Business/Adjourn

10:00 a.m. – 12:15 p.m.

Interstate Fisheries Management Program (ISFMP) Policy Board
Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida
Other Members: DC, NMFS, PRFC, USFWS
Other Participants: Campfield, Drew, Hawk, Kipp, Nesslage
Chair: Daniel
Staff: Kerns

1. Welcome/Call to Order *(L. Daniel)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from May 2014
3. Public Comment
4. Review of Stock Rebuilding Performance *(T. Kerns)*
5. Review and Consider Comments on NOAA Fisheries Special Management Zones Proposed Rule *(T. Kerns)* **Action**
6. Stock Assessment Updates
   - Atlantic Menhaden *(G. Nesslage)*
   - Tautog *(K. Drew)*
   - Sturgeon *(K. Drew, J. Kipp)*
7. River Herring Technical Expert Working Group Progress Report *(M. Hawk)*
8. Discussion of Collaboration with Great Lakes Fisheries Commission on American Eel Management
9. Atlantic Coastal Fish Habitat Partnership Report *(P. Campfield)*
10. Other Business/Adjourn

1:15 – 2:15 p.m.

Business Session
Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida
Chair: Daniel
Staff: Beal

1. Welcome/Call to Order *(L. Daniel)*
2. Board Consent
   - Approval of Agenda
3. Public Comment
4. Consider Approval of Policy on Commissioner Financial Disclosure and Conflict of Interest **Final Action**
5. Other Business/Adjourn

2:30 – 3:00 p.m.

Spiny Dogfish Management Board
Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina
Other Members: USFWS, NMFS
Other Participants: Moran, Newlin
Chair: Gibson
Staff: Hawk

1. Welcome/Call to Order (*M. Gibson)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from May 2014
3. Public Comment
4. Consider Draft Addendum V for Public Comment (*M. Hawk)* **Action**
5. Other Business/Adjourn

3:15 – 5:00 p.m.

Summer Flounder, Scup, and Black Sea Bass Management Board
Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina
Other Members: NMFS, PRFC, USFWS
Chair: Pierce
Other Participants: Fresco, Maniscalco
Staff: Rootes-Murdy

1. Welcome/Call to Order (*D. Pierce)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from February 2014
3. Public Comment
4. Review of Public Information Document for Draft Amendment 21 for Public Comment *(K. Rootes-Murdy)* **Action**
5. Review of Summer Flounder, Scup, and Black Sea Bass Advisory Panels *(K. Rootes-Murdy)*
6. Consider Adjustment to 2014 Black Sea Bass Recreational Season for Southern States *(K. Rootes-Murdy)* **Action**
7. Discussion of the Research Set Aside (RSA) Program for Summer Flounder, Scup, and Black Sea Bass (*D. Pierce)*
8. Other Business/Adjourn

3:45 – 5:00 p.m. **Atlantic Coastal Cooperative Statistics Program (ACCSP) Executive Committee**

(A portion of this meeting will be a closed session for Executive Committee members only)

Members: Alexander, Beal, Boyles, Colvin, Cyr, Diodati, Hoopes, Laney, Mahood, Patterson

Chair: Patterson

Staff: Cahall

1. Welcome/Introductions *(C. Patterson)*
2. Committee Consent
   - Approval of Agenda
3. Public Comment
4. ACCSP Program Director Updates *(M. Cahall)*
   - FY2015 Project Proposals
5. Review Revised Outreach Strategic Plan
6. Status of Independent Program Review Recommendations Implementation
   - ACCSP Governance Ad-Hoc Committee Update *(R. Boyles)*
   - Funding Subcommittee Update *(R. Beal)*
   - Operations Committee and Subcommittee Update *(T. Hoopes)*
     - SOP Subcommittee
7. Report of Action Items from Last Meeting
   - FY2014 Funded Projects
     - *Status:* Principal Investigators notified once funding is available *(M. Cahall)*(Completed)
   - Independent Program Review Recommendations Implementation
     - *Status:* SOP Workgroup to meet to build a directory and cross-Reference to determine which areas address the Independent Panel Review Recommendations
   - ACCSP Governance Ad-hoc Committee
     - *Status:* Completed survey to be forwarded to all committees. Survey end-date needs to be determined. R. Boyles to draft and forward an email
   - Funding Subcommittee
     - *Status:* R. Beal, M. Cahall and A. McElhatton to develop a decision document identifying the pros and cons of different strategies. Once the decision document is drafted the Subcommittee will meet to decide if there is a preferred option.
   - Quarterly Budget/Expenditures from Greater Atlantic Regional Fisheries Office (GARFO) and Southeast Regional Office (SERO)
     - *Status:* Budget/expenditures forwarded to Principal Investigators and Operations Committee on July 1st *(E. Wyatt)*
   - Introduction of Elizabeth Wyatt, the New Program Assistant
   - Marine Recreational Information Program (MRIP)-Access Point Angler Intercept Survey (APAIS) Transition
     - *Status:* Conference Call to be scheduled to review state budgets and ensure consistency among states *(G. White)*
8. **Closed Session for Executive Committee Only**
9. Other Business/Adjourn

5:00 – 6:00 p.m.

ACCSP Coordinating Council

Members: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, District of Columbia, Potomac River Fisheries Commission, Virginia, North Carolina, South Carolina, Georgia, Florida, ASMFC, NOAA Fisheries, NEFSC, GARFO, SEFSC, SERO, USFWS, NEFME, MAFMC, SAFMC
Chair: Patterson
Other Participants: Bellavance, Hoopes
Staff: Cahall

1. Welcome/Introductions *(C. Patterson)*
2. Council Consent
   - Approval of Agenda
   - Approval of Proceedings from May 2014
3. Public Comment
4. Review of Outstanding Action Items from May 2014
   - Review the Model Used for the Proportional Standard Error (PSE) Project
   - Consider Approval of 2014-2018 Outreach Strategic Plan **Final Action**
     - Review Modified Outreach Strategic Plan *(A. McElhatton)*
5. ACCSP Status Report *(M. Cahall)*
   - Program Update
   - New Program Assistant
   - Current Projects Update
     - MRIP PSE
     - MRIP-Access Point Angler Intercept Survey (APAIS) Transition Status
     - SAFIS Hand-Held Trip Reporting
     - Lobster Trap Tag Transferability
   - FY2015 Funding Requests
6. Independent Program Review Progress
   - ACCSP Governance Ad-Hoc Committee Update *(R. Boyles)*
   - Funding Subcommittee Update *(R. Beal)*
   - Update from Operations Committee and Subcommittee *(M. Cahall)*
     - SOP Subcommittee
7. Other Business/Adjourn

Thursday, August 7, 2014

8:00 a.m. – Noon

American Eel Management Board
Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida
Other Members: DC, PRFC, NMFS, USFWS
Other Participants: Fessenden, Eyler, Bouw
Chair: O'Connell
Staff: Taylor

1. Welcome/Call to Order *(T. O'Connell)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from May 2014
3. Public Comment
4. Elect Vice-Chair **Action**
5. Draft Addendum IV for Final Approval **Final Action**
   - Review of Draft Addendum IV *(K. Taylor)*
   - Review of Public Comment *(K. Taylor)*
   - Advisory Panel Report *(M. Bouw)*
   - Technical Committee Report *(S. Eyler)*
   - Law Enforcement Report *(J. Fessenden)*
   - Consider Final Approval of Addendum IV
6. Other Business/Adjourn

Noon – 12:30 p.m.

Lunch for Commissioners and Proxies

12:30 – 2:30 p.m.

South Atlantic State/Federal Fisheries Management Board
Member States: New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida
Other Members: PRFC, NMFS, USFWS, SAFMC
Other Participants: Collier, Kipp, Lewis, McDonough, Powers, Zimmerman
Chair: Geer
Staff: Rootes-Murdy

1. Welcome/Call to Order *(P. Geer)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from May 2014
3. Public Comment
4. Spot and Atlantic Croaker Trigger Exercises Update *(C. McDonough)*

5. Consider Draft Addendum I to the Spot Omnibus Amendment and Draft Addendum II to the Atlantic Croaker Amendment I for Final Approval *(K. Rootes-Murdy)* **Final Action**
   - Review of the Draft Addenda *(K. Rootes-Murdy)*
   - Public Comment Summary *(K. Rootes-Murdy)*
   - Consider Final Approval of Addenda I and II
6. Consider Fishery Management Plan Reviews and State Compliance *(K. Rootes-Murdy)* **Action**
   - Atlantic Croaker
   - Red Drum
7. Review and Consider Approval of 2015 Red Drum Stock Assessment Terms of Reference *(J. Kipp)* **Action**
8. Other Business/Adjourn

2:45 – 4:45 p.m. **NOAA Recreational Policy Workshop**

NOAA Fisheries is developing an agency-wide saltwater recreational fishing policy which outlines a set of principles to guide its actions and decisions over the long-term. The policy will share basic tenets with the Magnuson-Stevens Fishery Conservation and Management Act (MSA). While the MSA outlines the legal requirements, this new policy will make clear the values NOAA will keep in mind when implementing the law. Further, the policy will serve as the underpinning to the agency's recreational fishing action agenda, which is updated every 4 years.

Sam Rauch, Deputy Assistant Administrator for Regulatory Programs, will lead the workshop. The workshop will be the Commission's opportunity to provide input to NOAA on what should be included in the new policy initiative.

NEW ENGLAND FISHERY MANAGEMENT COUNCIL

Council Report

June/July2014

The Council Report summarizes major actions approved at NEFMC meetings or highlights items of interest to stakeholders.

At its June 17-19, 2014 meeting in Portland, ME, the Council:

- **Initiated Framework Adjustment 26 to the Sea Scallop FMP**
- **Worked further on Amendment 18, Approved Framework 52, and initiated Framework 53 to the Ground-fish FMP**
- **Voted to move the Vessel Baseline Amendment forward for public review**

Next Council Meeting
Sept 30 - Oct 2, 2014
Cape Codder Resort,

Sea Scallops - Looking Toward 2015

Framework 26 Initiated

The Council considered and approved several important issues under its scallop agenda item in June: Framework Adjustment 26 to the Scallop Fishery Management Plan, research priorities for fishing years 2015-2016, and a report on the performance of the limited access general category (LAGC) IFQ fishery that was authorized by Amendment 11 and has been in place since 2010.

As background, in 2013 the Council set its management priorities for 2014 to include a scallop framework to set specifications for fishing years 2015-2016 (with default measures that would kick in depending on the implementation date of the action). The framework also would have addressed possible changes to the Georges Bank (GB) scallop access areas that could result from actions taken in the NEFMC's Habitat Omnibus Amendment.

Given the timing, the Council instead voted to postpone work on any modified scallop access areas on Georges Bank until after the Omnibus Habitat Amendment is finalized. At that point, a stand-alone action will be considered.

Other measures approved for inclusion in Framework 26 would:

* Address fishing in state waters by vessels with federal Northern Gulf of Maine (NGOM) permits after the federal NGOM TAC is reached;
* Make the turtle chain mat and turtle deflector dredge requirements consistent in terms of area and season;
* Modify the existing area closure accountability measures (AMs) in place for Georges Bank and Southern New England/Mid-Atlantic yellowtail flounder, and consider new AMs for the sub-annual catch for northern windowpane flounder that is being worked on by the Groundfish Committee; and
* Consider an inshore corridor for limited access scallop vessels to be off the clock when steaming back to port.

Sea Scallop Research Priorities OK'd

Research priorities were approved for the 2015/2016 scallop fishing years with topics listed in order of importance. They covered scallop resource surveys (for 2015 only), bycatch, and scallop and area management.

Medium level priorities were not approved in order of importance, but covered studies that would:

* Investigate loggerhead turtle behavior in the Mid- Atlantic;
* Address scallop product quality and marketability;
* Characterize habitat, including (but not limited to) video and/or photo transects of the bottom within specified areas; and
* Monitor large scallop recruitment events seasonally.

More scallops/p.2

More Scallop News

continued from p.1

Photos courtesy of NOAA Fisheries

Other types of research are not listed here, but include studies aimed at addressing relevant issues that were identified as research priorities in the 2010 50th Stock Assessment Workshop — longer term projects focused on the impacts of environmental stressors, scallop biology, surveys of areas that have lower coverage, and projects focused on real-time reporting of catch and bycatch. For a more detailed list of the research priorities, click 2014/2015 Atlantic Sea Scallop Research Priorities.

IFQ Report Reviewed

The Council received a report prepared by its Scallop Plan Development Team, who evaluated the performance of the sea scallop day boat fleet that currently operates under an Individual Fishing Quota (IFQ) management program. It was drafted at the Council's direction to monitor trends associated with IFQ management and generated a great deal of interest at the Portland meeting. For an updated, but not yet completely finalized version, click http://nefmc.org/scallops/index.html. A summary of the report is also included in a NEFMC press release at http://nefmc.org/scallops/index.html.

Potential Sector Contribution

or PSC is the proportion of the total landings of a particular groundfish stock (in live pounds) associated with an individual permit identifier over a specific time period.

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ACE

or annual catch entitlement, with respect to the groundfish fishery, means the share of the annual catch limit (ACL) for each groundfish stock that is allocated to an individual sector or state-operated permit bank, based upon the cumulative fishing history attached to each permit participating in that sector or held by a state-operated permit bank in a given year.

Groundfish Actions Move Ahead

Amendment 18

Range of Alternatives Partially Approved

After making minor changes to measures that would apply to Handgear A fishery permits, the Council approved the range of alternatives associated with this issue as well as others that address U.S./CA quota trading. Groundfish Committee and Council work on these elements of A18 is now finished until preparation of the associated environmental documents, public review, and final consideration by the NEFMC.

Accumulation Limits Revised

The Council revised three of the Potential Sector Contribution (PSC) accumulation limit alternatives. The modified options would apply to all PSC cap alternatives. For PSC in excess of an established cap, the associated Annual Catch Entitlement (ACE) would be distributed annually to the rest of the fleet in accordance with the method established in Framework Adjustment 45. If an individual or entity held more than the cap as of the control date, they would be grandfathered. And if required to relinquish permits as a result of A18, they would be allowed adequate time to make the transfer.

Following up, the NEMFC also tasked the Groundfish Committee with reviewing the impacts of several issues related to the PSC caps and divestiture. The Committee will report back to the Council in September.

Inshore/Offshore Line for GOM Under Consideration

Finally, the NEMFC voted to develop alternatives to address the concentration of fishing effort in the inshore Gulf of Maine (GOM). Discussion centered on an inshore/offshore line based on historical catch patterns or stock distribution. Alternatives would apply to recreational, party/charter, and commercial vessels, and create an annual catch limit for each area. Vessels would be prohibited from fishing in both the inshore and offshore areas on a single trip without monitoring to correctly attribute catch to each area. The gear restricted area in the inshore GOM could be expanded, possibly with time periods in which one would declare in and out.
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More Groundfish - Frameworks 52 and 53

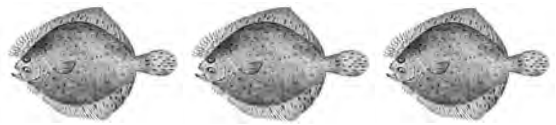
Framework 52 Final Action Approved

Last February, the Council initiated Framework Adjustment 52 to revise the accountability measures (AMs) for the commercial groundfish fishery that catches southern and northern windowpane flounder. The current AMs were triggered for this fishing year because the overall annual catch limits (ACLs) were exceeded in fishing year 2012 for both windowpane stocks.

The AMs for southern windowpane currently require the use of approved selective trawl gear in defined areas to minimize the catch of flatfish in general.

The Council reconsidered the AMs at the June meeting because of concerns that the selective trawl gear virtually eliminates the catch of most flounders. The situation has created negative economic consequences for those who fish for flounders in the southern New England, but cannot avoid catching windowpane flounder (an unmarketable species) at the same time.

In the end, new AMs were approved for both northern and southern windowpane stocks. The measures approved call for 1.) a trigger that incorporates both an evaluation of stock status and biomass, and 2.) consideration of catch performance over the most recent two-year period, at the time the AMs are implemented. If and when implementation is necessary, the Council requested that NOAA Fisheries first select #1 above, or a combination of both options, to minimize the economic impacts that would likely result. The decision, which was approved by a wide margin, also eliminated further consideration of the northern windowpane flounder seasonal accountability measures.



Meanwhile, it is possible that the southern windowpane AMs, as implemented for fishing year 2014, may be scaled back during this fishing year depending on the implementation date of the Council's proposed action. In-season changes to the northern window-pane flounder AM as implemented this year are not expected.

Other Groundfish News

The Council voted to send a letter to NOAA Fisheries urging them to modify the Gulf of Maine haddock annual catch limit for the 2014 fishing year and to request an in-season adjustment to the recreational fishery accountability measures for Gulf of Maine haddock ---- based on the final results of the recent assessment (SAW/SARC 59) that would result in a quota increase.

Framework 53 Issues Identified

The Council initiated Framework Adjustment 53 at the June meeting. The action will include specifications for several groundfish stocks and a number of management measures. The following issues, listed in order of priority as guidance to the Groundfish Plan Development Team, will be considered:

* Further allocate the windowpane flounder ACL to other components of the fishery and develop AMs
* Establish spawning closures in the inshore Gulf of Maine for cod;
* Incorporate a roll-over provision for specifications;
* Revise the carryover measures;
* Address enforcement concerns about undersized fish through changes in gear regulations; and
* Improve the recreational management measures process.

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The New England Fishery Management Council is one of eight regional organizations created by the Magnuson-Stevens Fishery Conservation and Management Act, initially enacted in 1976.

The Council develops rules for both commercial and recreational fisheries that operate between three and 200 miles off the region's coastline. NEFMC management authority extends to fishing grounds in the Gulf of Maine, Georges Bank and southern New England and overlaps with the Mid-Atlantic Council for some species.

Vessel Baseline Amendment Forwarded for Public Review

Following its review of the NOAA Fisheries-developed Vessel Baseline Amendment, the Council approved the action for release to the public so that interested parties may comment. The NEFMC also voiced an interest in pursuing related issues in a follow-on action. Because it also affects Mid Atlantic Fishery Management Council Plans, that group will be reviewing the draft amendment at their August meeting in Washington, DC.

As described in the draft document available to Council members, "the purpose is to simplify and streamline the administration of vessel baselines, upgrades, and replacements for vessel owners and the agency, while maintaining the function they provide for maintaining fleet diversity and limiting capacity." The amendment is also considered necessary to eliminate redundant regulations that may no longer be necessary as a result of the implementation of ACLs and other controls on mortality and effort in the applicable fishery management plans.

During its review, the Council selected Alternative 4 in the document as preferred. In eliminating both tonnage and upgrade limits, members agreed with the rationale that this was a way to provide more flexibility for vessel owners in the selection of replacement vessels and upgrades to existing vessels. Some vessel owners have been constrained by the current one-time limit because they or a previous owner did not maximize the one-time upgrade with a previous vessel replacement, due to cost or availability or for other reasons, and have since been unable to further upgrade the vessel.

Tonnages are considered the most variable of vessel baseline specifications and, therefore, are believed to have little effect on limiting vessel capacity when compared to length and horsepower restrictions.

New England Notes

Congratulations to newly appointed Council member Elizabeth "Libby" Etrie, who will serve as an at-large member from Massachusetts beginning in August, and re-appointed members Tom Dempsey, Peter Kendall, and Mary Beth Nickell-Tooley.

Additional kudos go to current Council member Ellen Goethel, and her husband and former NEFMC member David Goethel, both of whom recently received the Gulf of Maine Industry Award presented by the Gulf of Maine Council on the Marine Environment at a ceremony in Halifax, Nova Scotia. The honor recognizes an individual, company, or organization within the Gulf of Maine that has demonstrated innovation and leadership in efforts to improve the well-being of the Gulf of Maine ecosystem and the communities that call it home.

South Atlantic Fishery Management Council

News Release

FOR IMMEDIATE RELEASE
June 18, 2014

CONTACT: Kim Iverson
Public Information Officer
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Council Approves Several Measures for Public Hearing/Scoping Meetings in August

Federal fishery managers faced a full agenda during their meeting last week in Ponte Vedra Beach, Florida, addressing issues ranging from the transportation of dolphin fillets from the Bahamas into U. S. waters to protection of deepwater corals. Members of the South Atlantic Fishery Management Council reviewed draft amendments to fishery management plans and approved several to take out to public hearing and scoping meetings in August of this year. After reviewing recommendations from its Scientific and Statistical Committee (SSC), advisory panels, and public comment, the Council **approved the following amendments for public hearings**:

- **Dolphin Wahoo Amendment 7/ Snapper Grouper Amendment 33 (fillets)** – The Council is considering actions to allow fillets of dolphin (mahi mahi) and wahoo to be transported by recreational fishermen traveling from The Bahamas into U.S. federal waters. Fillets of the two species are currently prohibited from transport within the U.S. EEZ. Amendment 33 would also modify current regulations that allow transport of fillets of species within the snapper grouper management complex.
- **Snapper Grouper Amendment 32 (blueline tilefish)** – The amendment would adjust the Acceptable Biological Catch, Annual Catch Limit (ACL), and other management parameters. Following a 2013 stock assessment for blueline tilefish, the Council requested an emergency action to reduce the ACL until Amendment 32 could be implemented to end overfishing. The emergency rule implemented an ACL of 224,100 pounds (whole weight) beginning April 17, 2014. In 2012, blueline tilefish landings totaled 477,125 pounds (ww). The amendment would further reduce the ACL based on recommendations from the SSC. Amendment 32 would also modify Accountability Measures, establish a commercial trip limit, and modify the current recreational bag limit. Because of concerns about data used in the 2013 stock assessment, the Council requested a new standard stock assessment be conducted for blueline tilefish through the Southeast Data, Assessment and Review (SEDAR) program as soon as possible. The commercial fishery will close effective June 23, 2014.
- **Snapper Grouper Regulatory Amendment 20 (snowy grouper)** – The amendment includes alternatives to adjust the current rebuilding strategy and Annual Catch Limit for snowy grouper based on the 2013 stock assessment. Other alternatives include updating allocations between commercial and recreational sectors, changes to the current recreational bag limit of 1 fish per vessel per day, dividing the commercial fishing year, and modifying the commercial trip limit.
- **Generic Accountability Measures and Dolphin Allocation Amendment –** The amendment would modify Accountability Measures for the golden crab fishery as well as several snapper grouper species to provide consistency. Alternatives for modifying allocations between commercial and recreational sectors for dolphin are also included.
- **Coastal Migratory Pelagic Framework Amendment 2 (Atlantic Spanish Mackerel)** – The amendment includes alternatives to modify Atlantic Spanish mackerel commercial trip limits off of SC, GA and FL.

The Council will also conduct public scoping during the August meetings on proposed amendments to the Snapper Grouper Fishery Management Plan. Amendment 35 proposes the removal of some species from the management unit and Amendment 36 proposes a process to establish Special Management Zones for spawning areas.

The public hearing and scoping meetings will be held August 6–14, 2014. Additional details, including specific meeting dates and locations are available from the Public Hearing and Scoping Meeting page of the Council's website at www.safmc.net. Copies of the public hearing and scoping documents will be posted as they become available.

(Continued)

Council Approves Measures for Public Hearings *(Continued)*

Other Actions

After considering recommendations from its Scientific and Statistical Committee, the Council deferred approval of Snapper Grouper Amendment 29 for submission to the Secretary of Commerce. The amendment would establish Acceptable Biological Catch (ABC) levels for species that have not been assessed but for which there are reliable catch data. The amendment also proposes management measures for gray triggerfish, including changes to minimum size limits, a split season for the commercial fishery, and commercial trip limits. The Council made a change to the proposed ABC and ACLs for some species and will review the amendment again at September 2014 Council meeting.

Work continued on Snapper Grouper Regulatory Amendment 16 to reconsider the annual November 1 to April 30 prohibition on the use of black sea bass pot gear in the commercial fishery. The Council is considering the modifications that would increase socio-economic benefits to fishermen while maintaining protection of whales in the South Atlantic region. The Council is currently scheduled to approve the amendment for public hearings to be held in early 2015.

Council members also received a report on public input received as part of the Council's Visioning Project for the snapper grouper fishery. A total of 26 port meetings were held throughout the region from February through April with a total of 360 participants. Comments are also still being accepted online through the port meeting discussion form. Key issues identified by stakeholders included data collection and reporting, science and stock assessments, management flexibility, reducing discards, allocations, time/area management, cooperative research, and other management concerns. The Council will hold a special Visioning Council Meeting October 14-16, 2014 in N. Charleston, S.C. Additional information about the Visioning Project, including individual meeting and state-by-state summaries from the port meetings, is available from the Visioning Project page on the Council's website at www.safmc.net or by contacting Amber Von Harten at 843/571-4366 or amber.vonharten@safmc.net.

Committee reports for the June 2014 meeting are now available at www.safmc.net. The next meeting of the South Atlantic Fishery Management Council is scheduled for September 15-19, 2014 in Charleston, SC. Details for the meeting and meeting materials will be posted online as they become available.

The South Atlantic Fishery Management Council, one of eight regional councils, conserves and manages fish stocks from three to 200 miles offshore of North Carolina, South Carolina, Georgia and east Florida.

MID-ATLANTIC COUNCIL
2014 Planned Council Meeting Topics

February 11-13, 2014 – DoubleTree, New Bern, NC
- Climate Change and Fishery Science Workshop
- Atlantic Mackerel, Squid, Butterfish Slippage Framework alternatives
- Omnibus Observer Coverage Amendment alternatives
- Omnibus ABC Framework alternatives
- Summer Flounder, Scup, Black Sea Bass Scup GRAs Framework options
- Approve Framework 8 to Monkfish FMP

April 8-10, 2014 -- Montauk Yacht Club, Montauk, NY
- Review River Herring and Shad Terms or Reference and Scope of Work
- SAW/SARC 58 (butterfish, tilefish, northern shrimp)
- Tilefish Specifications for 2015-2017
- Summer Flounder, Scup, Black Sea Scup GRAs Framework Update
- Deep Sea Corals Amendment Update
- Approve SBRM Amendment
- BOEM Offshore Wind Leasing Workshop
- Report of Climate Change and Governance Workshop of March 19-21, 2014

June 10-12, 2014 – Radisson, Freehold, NJ
- Adopt Atlantic Mackerel, Squid, Butterfish Specifications for 2015/2016/2017
- Review Surfclam and Ocean Quahog Specifications for 2015 and 2016
- Review Surfclam and Ocean Cost Recovery Amendment alternatives
- Approve Omnibus ABC Framework
- Review progress on River Herring/Shad conservation and develop recommendations for cap
- Review options for Framework to Open Black Sea Bass Fishery in Wave 1 (Meeting 1)
- Review RSA Program

August 12-14, 2014 – W Hotel, Washington, DC
- Swearing-in of new and reappointed Council members
- Election of Officers
- Approve Deep Sea Corals Public Information Document
- Review Summer Flounder, Scup, Black Sea Bass Specifications for 2015
- Adopt Bluefish Specifications for 2015
- Approve Framework to Open Black Sea Bass Fishery in Wave 1 (Meeting 2)
- Approve Comprehensive Summer Flounder Amendment Scoping Document
- Review and approve Omnibus Amendment to Simplify Vessel Baselines

October 7-9, 2014 – Courtyard Marriott, Philadelphia, PA
- Review Spiny Dogfish Specifications for 2015
- Review Omnibus Observer Funding Amendment
- Adopt Surfclam and Ocean Quahog Coast Recovery Amendment Public Hearing Draft
- Review SSCs 5-year Research Priority Recommendations
- Discuss Forage White Paper

December 9-11, 2014 – Royal Sonesta, Baltimore, MD
- Adopt Summer Flounder, Scup, Black Sea Bass Recreational Specifications for 2015
- Adopt SSCs 5-year Research Priority Recommendations
- EAFM Update

MID-ATLANTIC COUNCIL
2014 Schedule of Events

July

1	Summer Flounder, Scup, Black Sea Bass Advisory Panel (Fishery Performance Reports and Summer Flounder Amendment discussion), Baltimore, MD
11	Bluefish Advisory Panel Webinar (Fishery Performance Report)
15-16	West Coast Habitat Pilot Workshop, Seattle, WA
22	ACCSP and MRIP Recreational PSE Workshop, Arlington, VA
23-24	SSC Meeting - ABC recommendations for Summer Flounder, Scup, Black Sea Bass, and Bluefish, Baltimore, MD
25	Summer Flounder, Scup, Black Sea Bass, and Bluefish Monitoring Committees Webinar
30	Clam Processing Tour, Cape May, NJ
31	Ecosystem Based Fisheries Management Meeting, Danvers, MA

August

5	Observer Omnibus FMAT/PDT, Gloucester, MA
5-7	ASMFC Summer Meeting, Alexandria, VA
7	MARACOOS Meeting with Staff, MAFMC Office, Dover, DE
12-14	Mid-Atlantic Fishery Management Council Meeting, Washington, DC
17-21	American Fishery Society Annual Meeting, Quebec City, Canada
19-21	Best Practices/Operational Guidelines Workshop, Seattle, WA
25	Monkfish Committee, Philadelphia, PA

September

3-5	West Coast Leadership and Sustainability Forum, San Diego, CA
8-10	MRIP Access Point Angler Intercept Survey Calibration Workshop, Charleston, SC
8-12	ASMFC Technical Committee Meetings (Committees and location TBD)
17-18	SSC Meeting - ABC recommendations for Dogfish and Assessment Level/Tier Discussion, Baltimore, MD
TBD	Surfclam and Ocean Quahog Cost Recovery Amendment FMAT Webinar

October

7-9	Mid-Atlantic Fishery Management Council Meeting, Philadelphia, PA
27-30	ASMFC 73rd Annual Meeting, Mystic, CT

2015 MAFMC Council Meetings

February 10-12, 2015:	Doubletree by Hilton Raleigh Brownstone University 1707 Hillsborough St. Raleigh, NC 27605 919-828-0811
April 14-16, 2015:	Ocean Place Resort 1 Ocean Blvd. Long Branch, NJ 07740 732-571-4000
June 9-11, 2015:	Hilton Virginia Beach Oceanfront 3001 Atlantic Ave. Virginia Beach, VA 23451 757-213-3000
August 11-13, 2015:	Holiday Inn Midtown 440 West 57th Street New York City, New York 10019 212-581-8100
October 6-8, 2015:	Doubletree Philadelphia Center City 237 S. Broad St. Philadelphia, PA 19107 215-893-1600
December 8-10, 2015:	The Westin Annapolis 100 Westgate Circle Annapolis, MD 21401 410-972-4300

Mid-Atlantic Fishery Management Council Specifications

(As of July 30, 2014)

Fishery Management Plans	2013				2014				2015			
	Council Approved	**Specs Package Submitted**	**NMFS Proposed Rule**	**NMFS Final Rule**	**Council Approved**	**Specs Package Submitted**	**NMFS Proposed Rule**	**NMFS Final Rule**	**Council Approved**	**Specs Package Submitted**	**NMFS Proposed Rule**	**NMFS Final Rule**
Summer Flounder, Scup, Black Sea Bass · Commercial · Recreational	**08/15/12** **12/13/12**	**10/04/12** **03/14/13**	**11/16/12** **04/29/13**	**12/31/12** **06/21/13**	**10/09/13** **12/11/13**	**12/20/13** **02/21/14**	**03/31/14** **05/09/14**	**05/22/14[b]** **07/07/14**				
Squid, Mackerel, Butterfish	**06/12/12**	**07/31/12**	**11/19/12**	**01/16/13**	**06/12/13**	**08/15/13**	**01/10/14**	**04/04/14**	**06/11/14[c]**	**07/28/14**		
Dogfish	**10/17/12**	**02/08/13**	**03/12/13**	**05/03/13**	**10/08/13**	**03/28/14**	**05/13/14[d]**					
Bluefish	**08/15/12**	**12/02/12**	**02/20/13**	**05/07/13**	**10/09/13**	**1/27/2014**	**04/11/14**	**06/20/14**				
Surfclam, Ocean Quahog	**12/27/10**				**06/12/13**	**08/16/13**	**11/07/13**	**12/20/13[a]**	**06/10/14**	**N/A**		
Tilefish									**04/09/14**	**06/20/14[e]**		

[a] Final rule applies for surfclam and ocean quahog fishing years 2014-2016.
[b] Final rule applies for summer flounder fishing years 2014 and 2015; scup and black sea bass fishing year 2015.
[c] Council approved mackerel and river herring/shad cap for 2015; Squids and butterfish for 2015-2017.
[d] Proposed rule applies for spiny dogfish fishing years 2014-2015.
[e] Specifications are for Tilefish fishing years 2015-2017.

Status of Open Amendment/Framework Actions
(as of July 30, 2014)

FMP	AMD\FW	Issues Addressed
Atlantic Mackerel/ Squid/Butterfish	Deep Sea Corals Amendment	Protections for deep sea corals from the impacts of fishing gear
	Slippage Framework	Slippage issues
Summer Flounder/ Scup/Black Sea Bass	Black Sea Bass Recreational Management Amendment	Black sea bass recreational management
	Scup Allocation Amendment	Scup allocation issues
	Comprehensive Summer Flounder Amendment	Comprehensive review and update of summer flounder management goals, objectives, and strategies
	Scup GRAs Framework	Modifications to Scup Gear Restricted Areas
	Black Sea Bass Recreational Seasons Framework	Open recreational black sea bass fishery in Wave 1; modify season start date in May
Surfclam/ Ocean Quahog	Cost Recovery Amendment	EFH updates; BRP updates; OY range; Cost recovery
	Excessive Shares Amendment	Excessive shares
Omnibus	Standardized Bycatch Reporting Methodology Omnibus Amendment	Bycatch Monitoring: Includes Amendment 18 to Mackerel/Squid/Butterfish; Amendment 17 to Summer Flounder/ Scup/Black Sea Bass; Amendment 4 to Dogfish; Amendment 15 to Surfclam/Ocean Quahog; Amendment 5 to Bluefish; and Amendment 3 to Tilefish
	Omnibus ABC Framework	Multi-year issues; automatic incorporation of new reference points
	Omnibus Observer Coverage Amendment	Joint Plan with NEFMC. Establish mechanisms to facilitate industry-funded observer coverage programs; Establish observer coverage targets for Atlantic mackerel and Atlantic herring fisheries
	Regulatory Omnibus Amendment to Simplify Baselines	Baselines relative to vessel upgrades

Mid-Atlantic Fishery Management Council
Status of FMPs, Amendments and Frameworks
(As of July 30, 2014)

FMP/Amendment	Date Approved by Council	Lapse	Date submitted to NMFS/NERO	Lapse	FR Notice of Plan Availability	Lapse	Proposed Rule Publication Date	Lapse	Plan Approval/ Disapproval Letter	Lapse	Final Rule Publication Date
Deep Sea Corals Amendment (MSB FMP)											
Atlantic Mackerel, Squid, Butterfish Slippage Framework	**02/12/14**										
Black Sea Bass Recreational Management Amendment (SF/SC/BSB FMP)											
Scup allocation Amendment (SF/SC/BSB FMP)											
Comprehensive Summer Flounder Amendment (SF/SC/BSB FMP)											
Black Sea Bass Recreational Seasons Framework (SF/SC/BSB FMP)											
Scup GRA Framework (SF/SC/BSB FMP)											
Surfclam and Ocean Quahog Cost Recovery Amendment											
Surfclam and Ocean Quahog Excessive Share Amendment											
Spiny Dogfish Amendment 3	**10/17/12**	**289**	**08/02/13**	**214**	**3/26/14**	**14**	**04/10/14**	**71**	**06/20/14**	**25**	**07/15/14**
Omnibus ABC Framework	**06/12/14**										
Omnibus Observer Coverage Amendment											

"Lapse" is the amount of time in days from Council approval to column-heading action.

Request for Proposals

Mid-Atlantic Fisheries Habitat Pilot Project Services

Purpose

The Mid-Atlantic Fishery Management Council (Council) is seeking proposals to support the development of a report on current methods used in the identification of critical fish habitat areas in the US and abroad, and the development of 10-12 short policy documents (background and policy statements) focused on anthropogenic activities that may affect critical fish habitat.

Background

The Council is one of eight councils responsible for developing fishery management plans to prevent overfishing and rebuild overfished fisheries in U.S. federal waters. The councils were established in 1976 following the passage of the Magnuson-Stevens Act and have played an important role in restoring the health of the nation's fisheries. The Council includes representatives from the seven states of the Mid-Atlantic region - New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and North Carolina.

The Council recommends management measures for 13 species of fish or shellfish, including summer flounder, scup, black sea bass, bluefish, Atlantic mackerel, short-finned squid (*Illex*), long-finned squid (*Loligo*), butterfish, Atlantic surfclam, ocean quahogs, golden tilefish, spiny dogfish, and monkfish. The latter two species are managed jointly with the New England Fishery Management Council. The Council also works with the Atlantic States Marine Fisheries Commission to cooperatively manage summer flounder, scup, black sea bass, bluefish, and spiny dogfish.

Fish require healthy surroundings to survive and reproduce. Essential fish habitat includes all types of aquatic habitat where fish spawn, breed, feed, and grow to maturity. To date, the Council has identified essential habitat for every life stage of its managed species using the best available scientific information and has developed several habitat areas of particular concern (HAPCs). HAPCs are considered high priority areas for conservation, management, or research because they are rare, sensitive, stressed by development, or important to ecosystem function. However, these HAPC designations have been made in a single species context and the Council has made relatively limited use of the HAPC provisions and other place-based approaches. Identifying HAPCs that are critical for the productivity of Mid-Atlantic fish populations, in a more holistic, multi-species context, is essential for maintaining healthy ecosystems and sustainable fisheries.

As the Council develops an Ecosystem Approach to Fisheries Management (EAFM) Document, under its 2014-2018 Strategic Plan, it will become necessary to identify HAPCs for Mid-Atlantic managed fish and shellfish species. Proactive identification of these areas will enable the Council to reduce or mitigate impacts from anthropogenic (human-caused) activities, such as certain fishing practices as well as coastal and marine development, which threaten to alter, damage, or destroy these habitats. In the larger context, making fisheries management decisions and recommendations in an ecosystem

context will make Mid-Atlantic fisheries more resilient to changes in coastal and ocean habitats due to development, climate, and other pressures.

Scope of Work

This request for proposals is for a consultant to provide the Council with a report on current methods used in the identification of critical fish habitat areas in the US and abroad, and to develop 10-12 short policy documents (background and policy statements) focused on anthropogenic activities that may affect critical fish habitat. These documents will support the Council in future work to identify HAPCs and in the development of Council policy and objectives related to habitat issues. A Project Oversight Team comprised of staff from the Council, National Oceanic and Atmospheric Administration Fisheries Habitat Division (headquarters and regional offices), the consultant, and one or two other Habitat experts if needed, will provide the consultant with direction on the best approach to gathering information to support the development of these documents. The Project Oversight Team will also provide the list of critical activities to serve as the subject for the policy documents and will work collaboratively with the consultant during this process to ensure effective work products are developed.

The specific project objectives are to:

1) Produce a report on current methods used in the identification of critical habitat areas in the US and abroad.
2) Develop Council policy documents on anthropogenic activities in our region that may affect fish habitat, from which overarching habitat objectives for the EAFM Document will be derived.

Proposal and Project Timeline

RFP Release	August 1, 2014
Deadline for Proposal Submission	August 22, 2014, 5:00pm
Notification of Award	September 1, 2014
Oversight Team Meeting (initial)	September 2014
Begin Development of Documents	September - December, 2014
Interim Progress Report Submitted	December 15, 2014
Continued Development of Documents (may include additional Oversight Team Meetings)	December 2014 - February 2015
Submit Current Practices Report and Policy Documents	February 15, 2015
Final Approval of Current Practices Report and Policy Documents by Oversight Team	March 1, 2015

Location of Work

Much of the document preparation and interaction between the consultant and staff can occur virtually (online, email, telephone). The consultant must be available to meet periodically with staff and the Project Oversight Team, and the Council's Ecosystem and Ocean Planning Advisory Panel if needed, at several locations.

Staff and Oversight Team Support

The Project Oversight Team, including Council staff, will work collaboratively with the consultant during this process to ensure effective work products are developed.

Qualifications and Evaluation Criteria

The consultant should demonstrate substantial experience in preparing reports and documents to support natural resources management decision-making. They must be willing to engage in a collaborative, iterative process with the Project Oversight Team. Knowledge of fisheries management and previous work with habitat-related issues for agencies involved in natural resource management would be desirable. The project will be awarded to the individual or firm that has the qualifications and experience to develop high-quality and effective products described under the scope of work.

Deliverables/Schedule of Payments

The consultant will deliver a report on current methods used in the identification of critical fish habitat in the US and abroad, and 10-12 short policy documents (background and policy statements) focused on anthropogenic activities that may affect critical fish habitat. A deposit of 30% will be paid after award of the contract. Upon delivery and acceptance of a midterm progress report (December 15, 2014), an additional 30% of the contact amount will be paid. The remaining balance of 40% will be paid on final approval of the work products by the Project Oversight Team (March 1, 2015). Invoices will be paid by the Council to the consultant within 30 days of invoice.

Primary Points of Contact

Jessica Coakley at jcoakley@mafmc.org, (302) 526-5252
Chris Moore at cmoore@mafmc.org, (302) 526-5255
Mid-Atlantic Fishery Management Council
800 N. State St, Suite 201
Dover, DE 19901
tel. (302) 674-2331
fax (302) 674-5399

DRAFT

Statement of Work For Examination of Allocations in the Summer Flounder Fisheries

Background

The Mid-Atlantic Fishery Management Council (Council) and the National Marine Fisheries Service (NMFS) implemented a summer flounder stock rebuilding plan in 1993 (Amendment 2), limiting the amount of fish commercial and recreational fishermen could land along the Northeast Coast. By 1996, the summer flounder catch was reduced to a level below natural growth for the first time in decades and the population began its gradual recovery. The summer flounder stock was declared rebuilt to its target population level in 2010.

In order to achieve that growth, the Council and NMFS implemented several regulations that included: a maximum total allowable catch (TAC) that is split between the commercial and recreational fishing sectors, closures when the commercial hard quota is reached, recreational fishing measures (i.e., minimum size limit, bag size limits, seasonal closures, and conservation equivalency measures[1]), and commercial state-by-state allocations, gear restrictions, commercial minimum fish size, and trip limits.

The Council and Atlantic States Marine Fisheries Commission (ASMFC) are interested in an evaluation of the existing allocation percentages used to distribute the landings among the commercial and recreational fishing sectors as well as the appropriateness of the commercial state-by-state allocations. Participants in the recreational sector think that the current allocation is unfair and advocate for increasing their annual catch limit (ACL) share. They justify this position with the argument that even though the stock has grown, tighter recreational regulations continue to lead to overharvesting of the recreational harvest limit. They also indicate the economic significance of the recreational sector on coastal fishing communities. In addition, some commercial participants have suggested that the percentage allocation to the states is not realistic given recent fish or population distribution changes. The existing allocation percentages are as follows:

<u>Summer Flounder ACL allocated based on 1980-1989 proportions of landings data, with:</u>

- 60% of the landings allocated to commercial fishery
- 40% of the landings allocated to recreational fishery

<u>Commercial quota (landings) allocated based on 1980-1989 proportions of landings data, with:</u>

[1]The ASMFC has defined "Conservation Equivalency" as: Actions taken by a state which differ from the specific requirements of the fishery management plan, but which achieve the same quantified level of conservation for the resource under management. For example, various combinations of size limits, gear restrictions, and season length can be demonstrated to achieve the same targeted level of fishing mortality.

Summer flounder commercial fishery state-by-state allocations for coastwide quota.						
ST	ME	NH	MA	RI	CT	NY
Percent	0.04756	0.00046	6.82046	15.68298	2.25708	7.64699
ST	NJ	DE	MD	VA	NC	Total
Percent	16.72499	0.01779	2.0391	21.31676	27.44584	100

The Council and ASMFC are interested in using an empirical basis to help evaluating allocation decisions in the summer flounder fisheries. Although the overall issues to be included in the Comprehensive Summer Flounder Management Amendment to be developed by the Council and ASMFC have not been developed yet, the following concerns have been identified as issues to be addressed in that Amendment:

- Revisit the commercial and recreational allocation percentages
- Revisit the current commercial state-by-state allocations and/or consider a different commercial allocation strategy (e.g., regional allocations)
- Revisit the current recreational allocation strategies (e.g., addressing coastwide and sub-regional measures versus conservation equivalency measures)

Scope of Work

In order to assess the current allocation for summer flounder, an economic analysis/simulation model that evaluates the efficient allocation of the ACL between the commercial and recreational sectors and the efficient commercial quota allocation between states and/or regions should be developed. The efficient allocation(s) should maximize the sum of net benefits across the state commercial sectors and the recreational fishery. The economic analysis/simulation model should allow for the evaluation of changes in net benefits as summer flounder allocations between fishing sectors (commercial, recreational) or state/regional allocation scenarios are contrasted. Scenarios to assess welfare changes in each sector as allocations are adjusted away from the present levels should also be examined.

The economic analysis/simulation model should be flexible and adaptive in nature and incorporate biological and economic information. It should also be adaptive for potential use in allocation evaluations for other fisheries (e.g., scup). The economic analysis/simulation model needs to provide an empirical basis for the Council and the ASMFC to make management decisions regarding the allocation system for the summer flounder fishery and incorporate theoretical and statistical model specifications consistent with professional standards. As an example, it would be expected that if data were available, a Synthetic Inverse Demand System, or other appropriate model specification would be used in developing the consumer valuation module using scanner data to better assess consumer benefits from changing quotas in the overall summer flounder market context. Choice experiment and random utility modeling of summer flounder recreational fishing would be a component of the recreational valuation model.

Location of Work, Staff Support, and Special Requirements

Services shall be provided at the contractor's office, or periodically at other meeting sites identified by the Council staff.

Most of the documentation preparation and interaction between the contractor and staff would occur virtually (online, email, telephone). However, as part of this work, the contractor will meet with a project advisory team (in person or via conference call) if required. This team would be comprised of fishery management staff from the Council, ASMFC, and NMFS and provide the contractor with guidance regarding data and potential allocations scenarios to be evaluated. The project advisory team would also provide the consultant with documentation that has been developed by the Council (e.g., fishery management plans, quota specification documents) and the Northeast Fisheries Science Center (NEFSC; e.g., stock assessments, survey data). The contractor will have to complete a data confidentiality agreement with the NEFSC in order to secure more detailed data on the fishery that will be needed to complete the project (e.g., vessel cost data, vessel landings data).

Qualifications of Contractor

Minimum qualifications should include experience in fisheries economics or natural resource economics with theoretical and empirical expertise in fisheries management and strong skills in fisheries policy analysis. Working knowledge and recent expertise in choice site modeling, public opinion research specializing in fisheries policy analysis, non-market valuation, demand analysis, economic impact analysis, human dimension analysis, survey design, decision analysis, and scientific publication record demonstrating advanced expertise are highly desirable.

Period of Performance

A consultant will be secured in late 2014. The period of this contract shall be for 14 months beginning from when the contract is let. This shall include periodic meetings with the project advisory team as needed to ensure the model and/or analyses meet the needs of the Council. In addition, a mid-term project report is required to evaluate project progress.

Preparation of the Final Report

The contractor shall prepare a final report for the Council with an executive summary providing a concise summary of the findings and recommendations. The main body of the report shall consist of background, description, project activities, and summary of findings, and conclusions and recommendations in accordance with the scope of work.

The contractor shall include in the report the details related to the methodologies employed, modeling results, point estimates of marginal benefits, simulations or marginal benefits schedules, developed programs, and a summary of changes in net benefits across a set of possible allocation changes.

Schedule of Payments

The contractors may invoice 1) after the first meeting with the project advisory team, and 2) at the close of the project, after the draft report has been reviewed and approved. Twenty-five percent of the contract shall be withheld pending submission of the final report.

Proposal Submission

Submitted proposals should explicitly detail the methodology to be used and the contractor's experience regarding the services that will be provided to address the issues described under the scope of work and include a budget. Proposals must be submitted by COB _____. The award would be made the week of _____.

Point of Contact

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Dover, DE 19901-3901
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Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

July 11, 2014

Ms. Adrienne Antoine
COCA Program Manager
NOAA Climate Program Office

Dear Ms. Antione,

Please accept this correspondence as the Mid-Atlantic Fishery Management Council's (Council) letter of intent to submit a proposal for funding consideration under the Federal Funding Opportunity (FFO) entitled *NOAA Climate Program Office – Understanding Climate Impacts on Fish Stocks and Fisheries to Inform Sustainable Fisheries Management.* The Council is currently developing an Ecosystem Approach to Fisheries Management (EAFM) Guidance Document to inform Council policy with respect to the incorporation of ecosystem considerations into its current management programs. Foremost amongst these considerations are impacts of climate change on the ocean environment and the associated impacts on the productivity and distribution of fish populations within the Northeast Large Marine Ecosystem.

The Council recently hosted a series of workshops to evaluate the current state of climate science and the expected range of impacts of climate change on fish stock distribution and productivity, and to evaluate the impacts of these changes on fisheries management given the current governance structure. Presentations at these workshops revealed that significant changes in the distribution of fish stocks along the Atlantic Coast have already occurred and are expected to continue, creating significant assessment and management challenges. Workshop discussions also identified the need to conduct additional climate velocity analyses (i.e., the rate and direction that climate shifts across the landscape) as explanatory mechanisms of the response of fish distributions to climate change.

The proposed research project entitled *"Climate velocity over the 21st century and its implications for fisheries management in the Northeast U.S."* will be a collaborative effort between the Mid-Atlantic Council and Rutgers University and will be submitted under Option 2 of the FFO announcement. Specifically, the proposed research will:

- Focus on managed and forage species in the northeast U.S., as well as species likely to move into this zone from adjacent areas
- Test whether species distribution models are improved by the inclusion of benthic habitat data
- Develop climate velocity and species distribution projections for 2030, 2050, and 2100 using IPCC-class models
- Analyze the likely impacts on stock definitions, coordination among Councils, and fishing opportunities
- Develop a website to share these projections with the public and other stakeholders (building from the National Climate Assessment fish distribution website currently under development at Rutgers)

- Transfer the methods and results to NOAA through coordination with Dr. Jon Hare, Chief of the Oceanography Branch at the NMFS Northeast Fisheries Science Center.

The Council will enter into a two year contractual agreement with Rutgers University to complete the proposed analyses. Dr. Malin Pinsky will serve as the lead investigator at Rutgers and Richard Seagraves (Council Senior Scientist) will serve as the overall Project Lead. Expected cost of the project will be $144,000 in year 1 and $145,000 in year 2. The Council proposes a novel, adaptive approach to conducting this work by utilizing its EAFM Working Group to oversee the research and guide additional analyses as the modeling work unfolds. The EAFM WG membership includes Dr. Hare, Dr. Sarah Gaichas (an ecosystem modeler with NMFS Northeast Fisheries Science Center) and Dr. Terra Lederhouse (NMFS Office of Habitat). Collaboration with these scientists through EAFM WG oversight is expected to ensure that results of the proposed work will directly address the information and analytical needs required for inclusion in the Council's EAFM Guidance Document.

Understanding climate change and the associated impacts on the ocean environment has emerged as one of the major challenges facing fishery science and management. The purpose of this research is to inform the Council about the scope of distributional changes likely to occur as a result of climate change and to describe the ecosystem impacts/changes which have already occurred and are likely to persist or intensify over the next century. The results of the proposed research will help the Council in the development of an adaptive fishery management framework that can deal effectively with ecosystem responses related to climate change, especially as they relate to shifting distributions of both managed and unmanaged fish stocks.

Thank you for the opportunity to submit this LOI. Please do not hesitate to contact me or Rich Seagraves of my staff if you have any questions or require additional information.

Sincerely,

Christopher M. Moore, PhD.
Executive Director
Mid-Atlantic Fishery Management Council

Cc: R. Robins, M. Pinsky, J. Hare, S. Gaichas

MAFMC Research Activity Prioritization Task
First Draft for SSC Discussion (24 July 2014)
Not to be cited

The Magnuson-Stevens Act requires each Regional Council to submit multi-year research priorities to NOAA for the purposes of informing the research priorities and budgets for the region of the Council. This requirements is outlined in Section 302 of the Act:

> Section 302(h) FUNCTIONS.—Each Council shall, in accordance with the provisions of this Act…
> — (7) develop, in conjunction with the scientific and statistical committee, multi-year research priorities for fisheries, fisheries interactions, habitats, and other areas of research that are necessary for management purposes, that shall—
> (A) establish priorities for 5-year periods;
> (B) be updated as necessary; and
> (C) be submitted to the Secretary and the regional science centers of the National Marine Fisheries Service for their consideration in developing research priorities and budgets for the region of the Council;

In the following sections a definition of a research activity is provided; a process for inventorying management goals is then suggested, along with our current list of research activities and the option for filling in any gaps. A proposed method to determine relative importance of different Mid-Atlantic fisheries is outlined, followed by a draft set of criteria for evaluating the priority of research projects relative to the management goals. This is all subject to SSC review prior to and for discussion at the July meeting.

1.0 Definition of Research Activity: The SSC task in assessing research priorities is to look at the trade offs between research projects for different FMPs/species, as well as prioritizing projects for the same FMPs/species, to pick the highest overall priority research projects. We need to distinguish, however, what constitutes a research project from more routine activities, which may also need more attention and funding than currently being provided.

In the past the SSC prioritization efforts mixed specific research needs with general data and information needs. Many fisheries lack sufficient fishery dependent and fishery independent data and information that contribute to knowledge of the life history of the species and the conduct and performance of the fishery. Normally these are ongoing activities of information collection with no endpoint specified. If a research topic has no beginning or end, it can be considered an activity. Activities are worked upon day after day, but they seldom result in a completed outcome.

In contrast, research topics that have a beginning and an end are actionable and have a higher likelihood to contribute something specific or measurable to the improvement of fisheries management performance. We want to focus our

attention on research needs. We can still acknowledge data and information shortcomings outside our prioritization output if there is agreement by the SSC.

2.0 Management Goals: In this context, research should be linked to accomplishing the goals of management. From the top down, the management goals we have in the Mid-Atlantic include:

National Standards and Goals in the MSA
Specific Goals for rebuilding and sustainability in each FMP
Research goals for improving stock assessment/ABC-setting process taken from SSC's Annual ABC Terms of Reference

- Eg., from level 4 assessment to level 1
- Eg., to reduce scientific uncertainty in current stock status and predicted stock status
- Other biological and ecological research the SSC wants to adopt or endorse

But we also have research goals necessary for management purposes that are associated with improving management success (management outcomes as measured in catch, catch value, profits, employment, recreational opportunities, fishing community sustainability)

- Eg., to have catches more closely approach OY and sustainability targets; stay within ACL, don't trigger AM's, but don't leave any ACL on the table.
- Eg., reduce management uncertainty; improve flexibility in fisherman decision making, increase local control and choice
- These examples focus on attaining management goals and oftentimes rely on improved social science research.

Our task will thus include looking at biological and social science research priorities that will help improve the attainment of our management goals. How do we assess the scope of management goals?

1. With the assistance of Council staff, the content of each FMP will be reviewed to extract the management goal statements regarding rebuilding, or sustainability of the stocks and/or fisheries.
2. With the assistance of Council staff, additional Council documents (e.g., Committee reports, vision document, statements of policy, etc.) will be evaluated to extract additional high-level management goals (for example for habitat, ecosystem approaches, fishing community sustainability) that the Council has adopted that could be supported or helped to be achieved by a research activity.

These goals will comprise the basic management outcomes the Council is seeking to achieve.

In identifying the scope of research activities to support these management goals and outcomes, in the past the SSC has primarily relied on the research priorities from the SSC ABC Terms of Reference process. With the assistance of Council staff,

these priorities will be updated to amend the list of 5-year research plan activities provided to the SSC at its last meeting by staff.
However, there is also an **option** to look at the just described prior step on identifying management goals and have the SSC identify any gaps in research projects (biological or social science) that should be added to the list for consideration and prioritization (e.g., research on fisheries interactions and habitat come to minds from MSA Section 302). Council staff could also bring ideas and suggestions to the SSC from other sources (such as the recently published Proceedings of *Managing Our Nation's Fisheries III* and/or National SSC workshops).

This could also be a timely opportunity to open a broader research dialogue between the SSC and Council members, and if approved by the Council, a discussion between the SSC and representatives from the Region and Center on future research priorities that they may already have under consideration.

3.0 Method for Relative Importance of Different Mid-Atlantic Fisheries
Should we conduct research projects for scup ahead of research projects for surf clams? On what criteria should we base our choices? In setting up a ranking of research projects these types of questions typically arise, e.g., which species/fisheries are "more important?" While all fisheries in the Mid-Atlantic rank high in importance to their participants and stakeholders, some invariably will rank higher in importance than others when compared on any given scale.

In March 2012 the SSC was given a multi-criteria decision matrix to evaluate a set of research priorities. A variant of the Analytical Hierarchy Process, the method uses ranked scores from judgments made by SSC members on criteria and weights they voted to adopt. In this past SSC effort on prioritization, one of the criteria was the importance of each FMP species relative to conducting research, and it was evaluated based on scores given on the following factors:

1. Commercial value
2. Recreational value
3. Overfished (in this case a species overfished was more important candidate for research)
4. Overfishing (if this was occurring this species was more important candidate for research)
5. Positive spillover on other species (e.g., forage species as opposed to a choke species or a species with a lot of bycatch)

Based on SSC conference call results and further reflection in 2012, we identified seven other criteria besides species importance.

1) Species is important - We need to simply evaluate the need to pick research projects benefiting important species versus less important species compared to the other criteria.

2) Decreases scientific and/or management uncertainty and risk - Species are put into various tiers based on how much information is available. In this way, tier 3

species have a lot of uncertainty, while tier 1 species have the least uncertainty related to their stock assessments. When addressing this criterion, the ability of a particular project to decrease uncertainty and move the species from a higher tier to a more desirable lower tier should be taken into account. The same process can be used to evaluate the importance of a project to reducing management uncertainty, i.e., it lowers risk to Councils associated with achieving the chosen ACL. If a research project lowers the risk of not achieving the chosen ACL (and the repercussions to the Council and fish stocks that go along with that) by increasing the accuracy of scientific data or creating a new management mechanism that has a higher likelihood of success, then the project is more desirable.

3) Positive social impacts - Social considerations must be taken into account when evaluating any research proposal, as coastal and fishing communities are major stakeholders. These include the research's benefit to these communities, whether it is through increased access to jobs, recreational fishing, artisanal fishing, etc., with a particular emphasis on sustainability.

4) Positive economic impacts - Economic considerations also must be taken into account when evaluating research proposals. This includes the potential the research has for increasing net economic values over time with a particular emphasis on sustainability.

5) Is widely applicable - If a research project contributes results that are widely applicable to the greater understanding of multiple species or attributes it is to be rated highly as "applicable." For instance, if developing a new method for assessing the length at age of a mackerel can be applied to other species, this research will be considered highly applicable. Data collection on a single species may not be considered highly applicable, while analytical and assessment tasks may be more so.

6) Contributes to a better understanding of the big-picture ecosystem - It should be considered whether research projects may be beneficial to the larger ecosystem—not only to a specific species. For example research that helps sustain forage fish would help sustain other fish that eat these fish. Important ecosystem attributes to consider when evaluating research proposals include: bottleneck species, bycatch, and ecosystem indicators. This is similar in concept to criteria 6 but is not identical. Given the special interest in ecosystem based fishery management of the Council we kept this separate.

7) Quick achievement of an outcome - Research projects require different amounts of time before the achievement of an outcome is expected. Some projects may be implemented and expected to achieve an outcome within the year (a one-shot deal), while others may need to be conducted over a much longer period of time with several trials before results can be conclusive. Projects that are valuable to fisheries management and achieve an outcome quickly should have priority over slower projects.

8) Has elements of applied research (as opposed to basic) - Projects may either be basic or applied. The goal of basic research is to improve scientific understanding, while applied research builds off of basic research and is used to solve practical problems. Applied research is often much easier to implement because it already has tools and technologies available to tackle an issue. Much of the Council's focus is on decisions hinging on applied research so we give deference to applied research.

If we choose this path again, we will need to confirm existing or establish new criteria, like we did before, to establish how important different outcomes are to us. We can easily add or subtract criteria if these are not to everyone's liking.
This time around we will have the advantage of explicit management goals to serve as a reference to help us make choices of the most important research from the SSC perspective. Our output will be given to the MAFMC leadership to discuss and negotiate with the NOAA leadership, and possibly form the basis for a joint strategic research prioritization with the agency.

In practice this means we will need to compare how the SSC values less scientific uncertainty as expressed in stock assessment level changes, higher ABC fractions of OFL, more stable ABCs from year to year, lower probability of triggering AMs and less fraction of ACLs left on the table. This will be compared to research that results in regulations that result in FMPs that are more consistent with fishing business practices, give greater flexibility and decision making to fishermen, give greater stability and longer lead times for change, and provide integrated management of multispecies w.r.t. data, permits, allocations, areas, seasons, gear and bycatch mgt.

The path described above appears consistent with the comments received by Council staff from the SSC by the May 20th deadline (Tomberlin's what are we going to do with these research results-- really means what are the outcome of our research and more importantly how do we value the different outcomes; Brian's comment on what priorities are doable is a criterion on feasibility and cost; Sunny's comment of exogenous/endogenous goes to the applicability and value of modeling research).

In summary, we need to get our management goals identified as a context, establish the final scope of research projects to rank, agree on a prioritization process including criteria and weights to apply, and proceed to make judgments on the relative importance of a project. This iteration will give us the added benefit of understanding how the choice set of priority projects will move us closer to meeting a specific set of management goals.

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Qualifications

2006 Ph.D. in Aquatic and Fisheries Science, Univ. of Washington, School of Aquat. & Fish. Sci., Seattle, WA
Dissertation: Development and application of ecosystem models to support fishery sustainability: A case study for the Gulf of Alaska.

1997 M.S. in Marine Science, College of William & Mary, School of Marine Science, Gloucester Point, VA
Thesis: Age and growth of Spanish mackerel, *Scomberomorus maculatus*, in Chesapeake Bay

1991 B.A. "w/Distinction" in English Literature, Swarthmore College, Swarthmore, PA

Peer-Reviewed Publications

Gaichas, S. K., Link, J.S., and Hare, J.A. **2014.** A risk-based approach to evaluating northeast US fish community vulnerability to climate change. – ICES Journal of Marine Science, doi: 10.1093/icesjms/fsu048.

Gaichas, S.K., C. Reiss, and M. Koen-Alonso. **2014**. Ecosystem Based Management in high latitude ecosystems. Chapter 10, p. 277-324 in The Sea, Volume 16: Marine Ecosystem Based Management. Harvard U. Press.

Ruzicka, J.J., J.H. Steele, **S.K. Gaichas,** T. Ballerini, D.J. Gifford, R.D. Brodeur, and E.E. Hofmann. **2013.** Analysis of energy flow in US GLOBEC ecosystems using end-to-end models. Oceanography 26(4):82–97, http://dx.doi.org/10.5670/oceanog.2013.77.

Ruzicka, J., J. Steele, T. Ballerini, **S. Gaichas**, and D. Ainley. **2013**. Dividing up the pie: whales, fish, and man as competitors. Progress in Oceanography 116: 207-219.

Gaichas, S.K., G. Odell, K.Y. Aydin, and R.C. Francis. **2012.** Beyond the defaults: functional response parameter space and ecosystem-level fishing thresholds in dynamic food web model simulations. Can. J. Fish. Aquat. Sci. 69: 2077-2094.

Gaichas, S.K., R. Gamble, M. Fogarty, H. Benoit, T. Essington, C. Fu, M Koen-Alonso, J. Link. **2012.** Assembly Rules for Aggregate-Species Production Models: Simulations in Support of Management Strategy Evaluation. Mar. Ecol. Prog. Ser. 459: 275–292.

Fu, C., **S. Gaichas,** J.S. Link, A. Bundy, J. Boldt, A.M. Cook, R. Gamble, K. Rong Utne, H. Liu, and K.D. Friedland. **2012.** The relative importance of fishing, trophodynamic and environmental drivers on a series of marine ecosystems. Mar. Ecol. Prog. Ser. 459: 169–184.

Link, J.S., **S.K. Gaichas**, T.J. Miller, T. Essington, A. Bundy, J. Boldt, K.F. Drinkwater, and E. Moksness. **2012.** A Synthesis of Lessons Learned from Comparing of Fisheries Production in 15 Northern Hemisphere Ecosystems: Emergent Fundamental Features. Mar. Ecol. Prog. Ser. 459: 293–302.

Pranovi, F., J. Link, C. Fu, A.M. Cook, H. Liu, **S. Gaichas**, K. Friedland, K. Rong Utne, H. Benoit. **2012.** Trophic level determinants of biomass accumulation in marine ecosystems. Mar. Ecol. Prog. Ser. 459: 185–201.

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Gaichas, S.K., K.Y. Aydin, and R.C. Francis. **2011**. What drives dynamics in the Gulf of Alaska? Integrating hypotheses of species, fishing, and climate relationships using ecosystem modeling. Can. J. Fish. Aquat. Sci. 68:1553-1578.

Salomon, A.K., **S.K. Gaichas**, O. Jensen, V.N. Agostini, N.A. Sloan, J. Rice, T. McClanahan, R. Fujita, M. Ruckelshaus, P. Levin, N.K. Dulvy, and E.A. Babcock. **2011**. Bridging the divide between fisheries and marine conservation science. Bulletin of Marine Science 87(2):251–274.

Hunsicker, M.E., L. Ciannelli, K.M. Bailey, J.A. Buckel, J. W. White, J.S. Link, T.E. Essington, **S. Gaichas**, T. Anderson, R.D. Brodeur, K. Chan, K. Chen, G. Englund, K.A. Frank, V. Freitas, M. Hixon, T. Hurst, D. Johnson, J.F. Kitchell, D. Reese, G.A. Rose, H. Sjodin, W.J. Sydeman, H. van der Veer, K. Vollset, S. Zador. **2011**. Functional responses and scaling in marine predator-prey interactions: contemporary issues and emerging concepts. Ecol. Letters. 14(12):1288-1299.

Gaichas, S.K., K.Y. Aydin, and R.C. Francis. **2010**. Using food web model results to inform stock assessment estimates of mortality and production for ecosystem based fisheries management. Can. J. Fish. Aquat. Sci. 67:1493-1506.

Salomon, A.K., **S.K. Gaichas**, N.T. Shears, J.E. Smith, E.M.P.Madin, and S.D. Gaines. **2010**. Key Features and Context Dependence of Fishery-Induced Trophic Cascades. Conservation Biology 24(2):382-394.

Reuter, R.F., E. Conners, J. DiCosimo, **S. Gaichas**, O. Ormseth and T. Tenbrink. **2010**. Managing non-target, data-poor species using catch limits: lessons from the Alaskan groundfish fishery. Fish. Manage. Ecol. 17:323-335.

Gaichas, S., G. Skaret, J.Falk-Petersen, J.S. Link, W. Overholtz, B.A. Megrey, H. Gjoesaeter, W. Stockhausen, A. Dommasnes, K. Friedland, and K. Aydin. **2009**. A comparison of community and trophic structure in five marine ecosystems based on energy budgets and system metrics. Prog. Oceanogr. 81: 47–62.

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Megrey, B.A., J.A. Hare, W.T. Stockhausen, A. Dommasnes, H. Gjøsæter, W. Overholtz, **S. Gaichas**, G. Skaret, J. Falk-Petersen, J.S. Link, K. Friedland. **2009**. A cross-ecosystem comparison of spatial and temporal patterns of covariation in the recruitment of functionally analogous fish stocks. Prog. Oceanogr. 81:63-92.

Gaichas, S.K. and R.C. Francis. **2008**. Network models for ecosystem-based fishery analysis: A review of concepts and application to the Gulf of Alaska marine food web. Can. J. Fish. Aquat. Sci. 65: 1965-1982.

Gaichas, S.K. 2008. A context for ecosystem based management: developing concepts of ecosystems and sustainability. Marine Policy 32: 393–401.

Gburski, C.M., **S.K. Gaichas**, and D. K. Kimura, **2007**. Age and growth of big skate (*Raja binoculata*) and longnose skate (*R. rhina*) in the Gulf of Alaska. Environ. Biol. Fish. 80:337-349.

Spies, I. B., **S. Gaichas**, D. E. Stevenson, J. W. Orr and M. F. Canino, **2006**. DNA-based identification of Alaska skates (*Amblyraja, Bathyraja* and *Raja*: Rajidae) using cytochrome c oxidase subunit I (cox1) variation. J. Fish Biol. 69 (Suppl. B):283–292.

Barbeaux, S.J., **S.K. Gaichas**, J.N. Ianelli, and M.W. Dorn, **2005**.Evaluation of Biological Sampling Protocols for At-Sea Groundfish Observers in Alaska. Alaska Fishery Research Bulletin Vol. 11, no. 2, pp. 82-101.

Karp, W.A., C.S. Rose, J.R. Gauvin, **S.K. Gaichas**, M.W. Dorn, and G.D. Stauffer, **2001**. Government-industry cooperative fisheries research in the North Pacific under the MSFCMA. Mar. Fish. Rev. 63(1): 40-46.

Dorn, M., **S. Gaichas**, S. Fitzgerald, and S. Bibb, **1999**. Measuring total catch at sea: use of a motion-compensated flow scale to evaluate observer volumetric methods. N. Am. J. Fish. Mgt. 19(4):999-1016.

Scientific Presentations: Speaker at regional, national, and international professional meetings (AFS, ASLO, Conservation Biology, ESA, GLOBEC, IMCC, World Fisheries Congress) 1995-present. Invited scientific speaker for public lecture series, teacher workshops, and university courses and departmental seminars.

Technical Memoranda and Reference Documents

Lucey, S. and **S. Gaichas. In review.** Fish Communities. Section in Fogarty, M. (ed.), Ecosystem Status Report for the Northeast US. Shelf (Web publication)

Link, J. S., T.F. Ihde, H. Townsend, K. Osgood, M. Schirripa, D. Kobayashi, **S. Gaichas**, J. Field, P. Levin, K. Aydin, G. Watters, and C. Harvey (editors). **2010**. Report of the 2nd National Ecosystem Modeling Workshop (NEMoW II): Bridging The Credibility Gap – Dealing With Uncertainty In Ecosystem Models. U.S. Dep. Commerce, NOAA Tech. Memo. NMFS-F/SPO-102, 72 p.

Conners, M.E., J. Cahalan, **S. Gaichas**, W.A. Karp, T. Loomis, and J. Watson. **2009**. Sampling for estimation of catch composition in Bering Sea trawl fisheries. NOAA Tech. Memo. NMFS-AFSC-199, 42 p.

Aydin, K., **S. Gaichas**, I. Ortiz, D. Kinzey, and N. Friday. **2007**. A comparison of the Bering Sea, Gulf of Alaska, and Aleutian Islands large marine ecosystems through food web modeling. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-178, 298 p.

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Fishery Management Council Documents

In prep: Forage Fish White Paper, MAFMC, with Rich Seagraves and Ed Houde.

In prep: State of the Ecosystem Report, with Mike Fogarty.

November 2010: Lead author, Bering Sea Ecosystem Assessment, and Ecosystem Considerations SAFE co-editor: http://access.afsc.noaa.gov/reem/ecoweb/Eco2010.pdf

October 2010: GOA Crab Protection Closures Environmental Assessment, contributed ecosystem effects analysis in section 4: http://www.fakr.noaa.gov/npfmc/current_issues/bycatch/GOAcrab.pdf

September 2010: Ecosystem Considerations SAFE editor (while S. Zador is on leave): ftp://ftp.afsc.noaa.gov/afsc/public/Plan_Team/ecosystem.pdf

November 2009: Ecosystem Assessment coauthor: http://www.afsc.noaa.gov/refm/docs/2009/ecosystem.pdf

September 2008: Arctic Fishery Management Plan Environmental Analysis; contributed Arctic Ecosystem Description, Chapter 8, Section 1: http://www.fakr.noaa.gov/analyses/arctic/ArcticFMP_EA1108.pdf

December 2007: Aleutian Islands Fishery Ecosystem Plan; Ecosystem Plan Team member, contributed food web analyses: http://www.fakr.noaa.gov/npfmc/current_issues/ecosystem/AIFEPbrochure1207.pdf

Experience

Research Fishery Biologist
Ecosystem Assessment

NOAA/NMFS Northeast Fisheries Sci. Center, Woods Hole, MA
September 2011 - present

Contribute to integrated ecosystem assessments of the Northeast U.S. continental shelf by analyzing research survey, fishery, oceanographic, and economic data, and by developing and testing multispecies assessment models. Conduct research on ecosystem based management reference points balancing multiple objectives, and on fisheries as complex adaptive systems. Provide results in peer-reviewed literature and to the New England and Mid-Atlantic Fishery Management Councils. Participate in research surveys at sea.

Research Fishery Biologist NOAA/NMFS Alaska Fisheries Science Center, Seattle, WA
Ecosystem Modeling June 2006 – September 2011

Established an ecosystem context for fishery management through analysis of food web, fishery, and research survey data combined with ecosystem modeling. Evaluated the cumulative effects of fishing, climate change, and other factors on the marine ecosystem and species within it. Conducted independent research on ecosystem level indicators and thresholds and provided results in peer-reviewed literature and to the North Pacific Fishery Management Council. Participated in research surveys at sea.

Research Fishery Biologist NOAA/NMFS Alaska Fisheries Science Center, Seattle, WA
Stock Assessment November 1998 – June 2006

Assessed the condition of commercially exploited fish stocks through analysis of fishery and research survey data combined with population dynamics modeling. Evaluated the effects of fishing on non-target species and the marine ecosystem. Conducted Ph.D. research. Attended 2001 Complex Systems Summer School, Santa Fe Institute, Santa Fe NM. Participated in research surveys at sea.

Stock assessments: 1999 Gulf of Alaska (GOA) and 2000 – 2004 Bering Sea Aleutian Islands (BSAI) "Other species" (all species of skates, sharks, sculpins, octopi, and squids), 2000-2005 BSAI squids, 2005 BSAI skates, 2003-2005 GOA skates, 2000-2005 GOA Thornyheads, and 2006 GOA squids.

Working Group Participant NCEAS (National Center for Ecological Analysis and Synthesis)
December 2001-December 2004

Primary analyst and author for the Gulf of Alaska ecosystem model, one of five models compared during the project "Models of Alternative Management Policies for Marine Ecosystems." Constructed model, conducted fitting experiments and tested multiple hypotheses regarding ecosystem structure and function. Model comparisons will be used to provide ecosystem based fishery management advice.

Research Fishery Biologist NOAA/NMFS Alaska Fisheries Science Center, Seattle, WA
Observer Program March 1997-October 1998

Conducted statistical analyses of fishery observer data, evaluated present and proposed data collection methods through directed research, and examined uses of observer data in multiple fisheries resource management and stock assessment applications.

Current Involvement in Research, Science, and Management Organizations

- Member of the Ecosystem Based Fishery Management Plan Development Team for the Mid Atlantic (2013-present), and New England Fishery Management Council (2012-present).
- Co-Chair of the ICES Working Group on North Atlantic Regional Seas (2012-present), which will develop ecosystem indicators and integrated ecosystem assessments for Canadian and U.S. marine ecosystems.
- Member of the ICES Working Group on Multispecies Assessment Methods (2011-present), which reviews and contributes to multispecies and ecosystem modeling progress across the ICES regions (the North Sea, Baltic Sea, Bay of Biscay, Mediterranean, Iceland, Barents/Norwegian Seas, and eastern USA).
- Guest lecturer: Worcester Polytechnic Institute Research Experience for Undergraduates in Applied Mathematics, June 2014; WHOI Fisheries Oceanography Course, April 2014, Rutgers Ecology and Evolution Dept. Seminar, March 2013, SMAST Fisheries Oceanography Dept. Seminar, February 2012.
- Advisory partner in the European Commission's MYFISH project (2012-present), which will define alternative approaches to Maximum Sustainable Yield which include ecological, social, and economic dimensions.

- External reviewer for the Canada Maritimes Region Ecosystem Research Initiative (March 2012).
- Member of the Aleutian Islands Fishery Ecosystem Plan Team (2007-2011) and the Gulf of Alaska Fishery Management Plan Team (2000-2011) for North Pacific Fishery Management Council. Co-authored the Aleutian Islands Fishery Ecosystem Plan (2007) and regularly co-authored the Stock Assessment and Fishery Evaluation introduction and summary for the Gulf of Alaska. Authored Ecosystem Description and contributed analyses for management alternatives for the Arctic Fishery Management Plan (2009).
- Co-organizer of the Bering Sea Ecosystem Synthesis Team (2010), a multi-disciplinary group charged with identifying important ecosystem indicators for fishery management and writing an eastern Bering Sea ecosystem assessment for the North Pacific Fishery Management Council.
- Invited participant in PICES FUTURE workshop on Ecosystem Indicators, April 2011 in Honolulu, HI. Presented "Uncertainty in ecosystem indicators: known knowns, known unknowns, and unknown unknowns."
- Co-organizer of the Comparative Analysis of Marine Ecosystem Organization (CAMEO) Stock Production Modeling Workshop II in Woods Hole, MA, May 2011. Presented results at the International Marine Conservation Congress in Victoria BC (May 15, 2011) at the Ecosystem Studies of Subarctic Seas Open Science Meeting (May 24, 2011), and at the World Fisheries Congress in Edinburgh, Scotland (May 2012). Coauthor on multiple resulting publications in a Marine Ecology Progress Series Theme Section.
- Participant in three CAMEO workshops in 2010: Role of predator-prey interactions in marine ecosystem organization in Corvallis, OR, March 2010; End to end modeling workshop in Woods Hole, MA, April 2010; and Stock production model fitting workshop in Woods Hole MA, May 2010.
- Co-PI on modeling portion of the North Pacific Research Board's GOA Integrated Ecosystem Research Plan.
- Investigator with 22 others on the interdisciplinary "Collaborative Research: GLOBEC Pan-Regional Synthesis: End-to-end Energy Budgets in US-GLOBEC Regions" project comparing four marine ecosystems in the Southern Ocean, in the Pacific off Alaska and the U.S. West Coast, and in the Atlantic off the U.S East Coast (2008-2011).
- Co-organizer of the symposium "Bridging the gap between fisheries and marine conservation to advance ecosystem-based management", for the Society for Conservation Biology's International Marine Conservation Conference (IMCC) in May 2009. Coauthor on resulting manuscript.
- Invited participant in Asia-Pacific Economic Cooperation International workshop on developing a network for deep sea research in Lima, Peru (2007). Presented information on North Pacific ecosystems, fisheries, and management, and helped develop a preliminary framework for an information-sharing network.
- Invited participant in Society for Conservation Biology symposium on ecosystem consequences of fishing in Port Elizabeth, South Africa (2007) and coauthor on a related review publication.
- Participant in the Marine Ecosystems of Norway and the U.S. (MENU) workshop in Bergen, Norway (2007). Compared energy budget models and trophic network attributes for five high-latitude marine ecosystems, presented results at 2007 ICES and PICES meetings, and collaborated on three publications.
- Co-organized "Ecosystem modeling applications in fishery management" symposium at the 2007 American Fisheries Society annual meeting.
- Regular participant in Alaska Fisheries Science Center scientific education and outreach activities, including Pacific Science Center programs, Minorities in Marine Science Undergraduate Program presentations, elementary, secondary, and college educator workshops, internship application review and placement.