

**MID-ATLANTIC FISHERY MANAGEMENT COUNCIL
MEETING AGENDA
October 7-10, 2013
Courtyard Philadelphia Downtown, 21 N. Juniper Street
Philadelphia, PA 19107-1901
Telephone 215-496-3200**

Monday, October 7

10:30 a.m. - 12:30 p.m.

Executive Committee [Tab 1]

Robins, Anderson, Batsavage, Bullard, Elliott, King, Linhard, Luisi, McMurray, Nolan, O'Reilly, Pate [Moore]

- Review and revise Implementation Plan

12:30 p.m. - 1:30 p.m.

Lunch

1:30 p.m. - 5:00 p.m.

Mackerel, Squid, Butterfish Committee [Tab 2]

King, McMurray, Anderson, Beal, DiLernia, Heins, Himchak, Kaelin, Linhard, Michels, Nolan, Pate, Young, Zeman; NE Reps: Pierce, Tooley [Didden]

- Develop Committee recommendations on river herring and/or shad management approach (stock in fishery or other)

Tuesday, October 8

9:00 a.m.

Council Convenes

9:00 a.m. - 10:30 a.m.

Joint Spiny Dogfish Committee (Committee of the Whole) [Tab 3]

- Review SSC, Dogfish Monitoring Committee, and Advisory Panel recommendations regarding 2014 harvest levels and associated management measures
- Adopt recommendations for 2014 harvest levels and associated management measures

10:30 a.m. - 11:30 a.m.

Framework 8 to the Monkfish FMP [Tab 4]

- Review the range of alternatives; consider approval of alternatives for further analysis; measures include the specification of an annual catch target, days-at-sea, and trip limits for 2014-2016, and changes to the permit Category H boundary

11:30 a.m. - 12:00 p.m.

Bluefin Tuna Presentation - Tom Warren, HMS NMFS [Tab 5]

- Overview of Amendment 7 proposed rule

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

Lunch

- 1:00 p.m. - 3:30 p.m. **Mackerel, Squid, Butterfish [Tab 2]**
- Review Committee recommendations regarding river herring/shad management
 - Adopt a management approach for river herring/shad
- 3:30 p.m. - 4:30 p.m. **SAW/SARC 57 Summary - Jim Weinberg, NEFSC [Tab 6]**
- Benchmark Assessment review of summer flounder and striped bass
- 4:30 p.m. - 5:00 p.m. **Update on the Atlantic Wind Connection Project - Kris Ohleth, Atlantic Wind Connection**
- 5:00 p.m. - 6:00 p.m. **Listening Session - Beth Phelan, NOAA [Tab 7]**
- Presentation on Ocean Acidification

Wednesday, October 9

- 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, and Bluefish Boards**
- 9:00 a.m. - 11:00 a.m. **Finalize Summer Flounder Management Measures in conjunction with the Atlantic States Marine Fisheries Commission's Summer Flounder, Scup, and Black Sea Bass Board [Tab 8]**
- Review SSC, Summer Flounder Monitoring Committee, and Advisory Panel recommendations for 2014-2015
 - Adopt recommendations for 2014-2015 commercial and recreational harvest levels and commercial management measures
 - Update on AFMSC activities regarding summer flounder
- 11:00 a.m. - 12:30 p.m. **Finalize Scup Management Measures in conjunction with the Atlantic States Marine Fisheries Commission's Summer Flounder, Scup, and Black Sea Bass Board [Tab 9]**
- Review SSC, Scup Monitoring Committee, and Advisory Panel recommendations for 2014-2015
 - Adopt recommendations for 2014-2015 commercial and recreational harvest levels and commercial management measures
- 12:30 p.m. - 1:30 p.m. **Lunch**
- 1:30 p.m. - 3:00 p.m. **Finalize Black Sea Bass Management Measures in conjunction with the Atlantic States Marine Fisheries Commission's Summer Flounder, Scup, and Black Sea Bass Board [Tab 10]**
- Review SSC, Black Sea Bass Monitoring Committee, and Advisory Panel recommendations for 2014-2015
 - Adopt recommendations for 2014-2015 commercial and recreational harvest levels and commercial management measures

3:00 p.m. - 4:30 p.m.

Finalize Bluefish Management Measure in conjunction with the Atlantic States Marine Fisheries Commission's Bluefish Board [Tab 11]

- Review SSC, Bluefish Monitoring Committee, and Advisory Panel recommendations regarding 2014 harvest levels and associated management measures
- Adopt recommendations for 2014 harvest levels and associated management measures
- ASMFC approval of the 2013 Fishery Management Plan Review and the Terms of Reference for the Bluefish stock assessment

4:30 p.m. - 5:30 p.m.

Research Set-Aside Research Priorities [Tab 12]

- Establish Research Priorities for 2015 RSA RFP

Thursday, October 10

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

Final Rule for National Standard 2 Guidelines Presentation - Jim Weinberg, NEFSC [Tab 13]

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

Business Session

- Approve June and August 2013 minutes

Strategic Plan

Move to add 13.5. Seek legislative solutions to expand observer funding options.
McMurray/Anderson (18/0/1)
Motion carries

In section 12.1 add "work with our management partners to secure long term funding for the NEAMAP survey."
Anderson/McMurray
Moved by consent

Move to approve plan Strategic Plan as modified.
Anderson/Linhard (18/0/0)
Motion carries

Deep Sea Corals

Move that the Council approve the range of alternatives with additions for public hearings.
Elliott for Committee

Move to table Committee motion to approve the alternatives with additions until additional options are explored.
Himchak/Linhard
Moved by consent

Move to add 2H to exempt Illex and Loligo from broad zone restrictions.
Nolan/Himchak (20/0)
Motion carries

Move to add alternative 3B-3 adding options for landward boundary lines following the 200m, 300m, 400m and 500m depth contours, and following the original boundaries on the seaward side.
Deem/Kaelin (18/0/0)
Motion carries

Move to add for consideration the potential requirement of gear monitoring electronics as a condition for exemption to fish in either broad or discrete coral zones.
Darcy/McMurray (19/0/0)
Motion carries

Move to un-table previously tabled motion.
Himchak/Linhard (18/0/0)
Motion carries

Move to approve the range of alternative with additions for public hearings
Elliott for Committee (19/0/0)
Motion carries

Surfclam & Ocean Quahog

Move that Amendment 17, the Cost Recovery Amendment, be changed to include the BRP issue and the OY range issue.
Anderson/Himchak (16/0/0)
Motion carries

Move to re-scope Amendment 17 to make the public aware of any changes and form a new FMAT.
Anderson/Linhard (17/0/0)
Motion carries

RSA

Move in 2015, RFP for RSA will indicate intent to maintain NEAMAP as top priority project. Other projects may be funded depending on available resources.
Heins for Committee (14/2/1)
Motion carries

Continuing & New Business

Move to nominate Olaf Jensen to the SSC.
Anderson/Zeman
Moved by consent

Move to nominate Tom Noji to the SSC.
Bullard/Linhard
Moved by consent

Organizational Reports

- NMFS Regional Administrator
 - Update on forms and process for data collection for the surfclam and ocean quahog fisheries
 - Industry-funded observer coverage
- NMFS NEFSC Director
- NOAA Office of General Counsel
- Federal Enforcement Officials (NMFS and USCG)
- ASMFC Executive Director

Liaison Reports

- South Atlantic Council (September 16-20, 2013)
- New England Council

Executive Director's Report - Chris Moore [Tab 14]

Science Report - Rich Seagraves [Tab 15]

Committee Reports

- Executive Committee
- Mackerel, Squid, Butterfish

Continuing and New Business

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.

September 19, 2013

Bluefish Monitoring Committee Recommendations for 2014

Attendees:

James Armstrong (MC Chair, Council Staff), Paul Caruso (MA-DMF), Jason McNamee (RI-DFW), Beth Egbert (NCDMF), Mark Terceiro (NEFSC), Mike Celestino (NJ-F&W), Greg Wojcik (CT-DEEP), Joe Cimino (VMRC), Rich Wong (DNREC), Steve Doctor (MD-DNR), John Maniscalco (NY-DEC), Kurt Gottschall (CT-DEEP), Kiley Dancy (Council Staff), Rich Seagraves (Council Staff), Jose Montanez (Council Staff), Rick Robins (Council Chair), Kirby Rootes-Murdy(ASMFC), Toni Kerns (ASMFC), Tom Wadsworth (NCDMF), Moira Kelly (NERO)

Discussion: The Committee received an overview of the presentation provided to the SSC and was provided with the SSC recommendations for ABC in 2014. The Committee discussed the various sources of management uncertainty in considering an adjustment from ACL to the fishery- specific ACTs.

The sources of uncertainty considered by the Bluefish Monitoring Committee include:

History of management effectiveness – 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 allowable landings (formerly referred to as the TAL) only once. This occurred in 2007 and was specific to the recreational fishery which landed 113.7% of the RHL (overage of 2.6 M lb). In all other years the combined landings were less than the TAL. The commercial fishery has never exceeded the coastwide quota. Based on this observation, the Committee agreed that combined landings in the upcoming 2014 fishing years were likely to be under the harvest limits and therefore under the ACL. The Committee agreed that there is no need for an additional “buffer” to account for this source of management uncertainty.

Calculation of Management Measures for 2014.

The Committee reviewed the calculation of the 2014 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 amount that the Council could recommend. To be clear, the Committee is not recommending the maximum transfer, but is in agreement that the calculation of the maximum transfer is correct.

Monitoring Committee Recommendations

The table below identifies the Bluefish Monitoring Committee's recommended management measures for 2014.

2014 Management Measure	mt	lbs	Basis
OFL	16,506	36,389,501	Yield at Fmsy (0.19)
ABC	11,082	24,431,628	Risk Policy (P* = 0.316)
ACL	11,082	24,431,628	= 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	1,884	4,153,377	(ACL - Mgmt Uncert) * 17%
Rec ACT	9,198	20,278,251	(ACL - Mgmt Uncert) * 83%
Comm TAL	1,884	4,153,377	Comm ACT - Disc
Rec TAL	7,678	16,927,225	Rec ACT - Disc
TAL (combined)	9,562	21,080,602	Comm + Rec TAL
Expected Recreational Landings	5,978	13,179,234	Three Year Average
Maximum Transfer	1,515	3,340,386	Calculated
pre-RSA Comm Quota	3,399	7,493,762	Comm TAL + transfer
pre-RSA RHL	6,163	13,586,839	Rec TAL - transfer
Comm RSA Deduction (3%)	102	224,813	3% of Comm Quota
Rec RSA Deduction (3%)	185	407,605	3% of RHL
Adjusted Comm Quota	3,297	7,268,949	Comm Quota - RSA
Adjusted RHL	5,978	13,179,234	RHL - RSA

Additional Recreational Measures

The Bluefish MC recommends maintaining the recreational possession limit at 15 fish.

RSA: Up to 3%.

Bluefish

The SSC will provide a written report that identifies the following for up to two fishing years (i.e., 2014-2015):

1) *The materials considered in reaching its recommendations;*

- Wood, A. D. 2013. Bluefish 2013 stock assessment update. Coastal Pelagic Working Group, Northeast Fisheries Science Center, NOAA Fisheries. 38 pp.
- Armstrong, J. 2013. Staff memorandum to Chris Moore, dated 11 September 2013, entitled: “Bluefish ABC and Management Measures for 2014.” 8 pp.
- Armstrong, J. 2013. Staff memorandum to Chris Moore, dated 17 September 2013, entitled: “Bluefish ABC and Management Measures for 2014 - revised.” 8 pp.
- MAFMC Staff. 2013. Bluefish AP information document – August 2013. Mid-Atlantic Fishery Management Council. 15 pp.
- MAFMC Staff. 2013. 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 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 = 16,506 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 adjustment prior to their expiration;*

The SSC recommends an **ABC = 11,082 mt** (24.4 million lb) for the 2014 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/BMSY, based on mid-year estimates from 2013, is 0.8113, and that Bluefish exhibit a typical life history. The SSC applied the Council's policy of $P^* = 0.316$. The projection is 67.1% of the catch at OFL. Since a benchmark assessment of Bluefish is scheduled for 2014, the SSC does not recommend ABCs for fishing years beyond 2014.

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

- There is a significant level of missing data involved in 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;
- Much of population biomass (~40%) 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; and
- The basis for the unusual bimodal selectivity curve used in the ASAP model is not well understood.
- The updated assessment shows a retrospective bias resulting in the model underestimating recruitment by upwards of 50% near the end of the time series.

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;

- Evaluate amount and length frequency of discards from the commercial and recreational fisheries;
- Collect data on size and age composition of the fisheries by gear type and statistical area;
- 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; consider if the migratory pattern results in several recruitment events); and
- 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.

2013 MAFMC Bluefish Fishery Performance Report

The Mid-Atlantic Council's Bluefish Advisory Panel (AP) met from 9 AM – 10:20 AM August 29, 2013 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.

MAFMC Bluefish Advisers in attendance were: Fred Akers (NJ recreational), Noel Angelucci (NJ recreational), Arthur Brownell (NC recreational), Greg Hurley (VA recreational), and Arnold Leo (NY commercial). Also in attendance were ASMFC Bluefish Advisors George Geiger (FL recreational) and Don Swanson (NH recreational).

Recreational Fishery Issues

Based on their representation at the meeting, most of the comments were from recreational fishermen and reflected experience and observations from the current year as compared to past years. Many of the advisors stated that they had not seen many smaller (20-40 cm) bluefish this year. It was stated that in New Jersey, the fish are just starting to show up and that bluefish tournaments had been held where not a single bluefish was landed. Offshore, however, larger bluefish have been abundant often being caught in pursuit of tuna and other larger species. In New York, a similar pattern was observed, although more nearshore, where smaller fish were scarce but larger fish were relatively easy to catch. In the lower Chesapeake Bay, the fish appeared later than they usually do. When they did arrive, it was in very large quantities, but the fish appeared to be smaller than typical.

Market / Economic Issues

The cost of fuel was suggested as being a likely constraint on catches of fish that may be farther offshore.

Environmental Issues

Hurricane Sandy was suggested to have been a major contributor to lower commercial and recreational effort in 2012.

The Indian River Lagoon ecosystem, which was characterized as representing approximately one third of the seacoast of eastern Florida, was said to be collapsing. As a result, there are severely decreased numbers of forage fish, locally, as well as loss of seagrass habitat for juvenile bluefish. It was suggested that this will have coastwide implications given that juvenile fish from Florida are eventually targeted by the fisheries that occur to the north.

Many of the advisors agreed that in the NY through VA region, the abundance of bait fish, especially menhaden, is currently much higher than usual.

The late arrival or offshore distribution of bluefish this year was largely attributed to cooler than normal water temperatures.

It was suggested that the abundance of striped bass and bluefish tend to offset each other, and it that lower striped numbers that are being observed currently in the lower Chesapeake Bay will result in corresponding increases in bluefish.

Management Issues

The current 15 fish bag limit was considered to be excessive and the basis for it (attributed by one advisor to have been enacted to facilitate New York street sales of bluefish caught on headboats) to no longer be valid.

The retention of large numbers of bluefish, as allowed under the 15 fish bag limit, was stated to be in conflict with consumption advisories.

Bluefish AP Information Document - August 2013

Management System

The Bluefish Fishery Management Plan was implemented in 1990 establishing 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. 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 acceptable 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 2013 and 2014 were calculated.

Table 1. Bluefish management measures for 2013.

2013 Management Measure	Lbs	Basis
OFL	38,627,193	per SSC
ABC	27,471,802	Constant F (0.132)
ACL	27,471,802	= ABC
Mgmt Uncertainty	0	per MC
Comm Discards	0	from assessment
Rec Discards	3,611,172	2009-2011 MRFSS avg.
Comm ACT	4,670,206	(ACL - Mgmt Uncert) * 17%
Rec ACT	22,801,596	(ACL - Mgmt Uncert) * 83%
Comm TAL	4,670,206	Comm ACT - Disc
Rec TAL	19,190,424	Rec ACT - Disc
TAL (combined)	23,860,631	Comm + Rec TAL
Expected Recreational Landings	14,068,836	2009-2011 average
Maximum Transfer	4,686,470	Calculated
pre-RSA Comm Quota	9,356,676	Comm TAL + transfer
pre-RSA RHL	14,503,955	Rec TAL - transfer
Comm RSA Deduction (3%)	280,700	3% of Comm Quota
Rec RSA Deduction (3%)	435,119	3% of RHL
Adjusted Comm Quota	9,075,976	Comm Quota - RSA
Adjusted RHL	14,068,836	RHL - RSA

Table 1. (cont'd). Recommended bluefish management measures for 2014.

2014 Management Measure	Lbs	Basis
OFL		
ABC	27,057,333	Constant F (0.132)
ACL	27,057,333	= ABC
Mgmt Uncertainty	0	per MC
Comm Discards	0	from assessment
Rec Discards	3,611,172	2009-2011 MRFSS avg.
Comm ACT	4,599,747	(ACL - Mgmt Uncert) * 17%
Rec ACT	22,457,587	(ACL - Mgmt Uncert) * 83%
Comm TAL	4,599,747	Comm ACT - Disc
Rec TAL	18,846,415	Rec ACT - Disc
TAL (combined)	23,446,162	Comm + Rec TAL
Expected Recreational Landings	14,068,836	2009-2011 average
Maximum Transfer	4,342,460	Calculated
pre-RSA Comm Quota	8,942,207	Comm TAL + transfer
pre-RSA RHL	14,503,955	Rec TAL - transfer
Comm RSA Deduction (3%)	268,266	3% of Comm Quota
Rec RSA Deduction (3%)	435,119	3% of RHL
Adjusted Comm Quota	8,673,941	Comm Quota - RSA
Adjusted RHL	14,068,836	RHL - RSA

Bluefish Biology

The bluefish, *Pomatomus saltatrix*, is distributed worldwide, but in the western North Atlantic ranges 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 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. More recent studies suggest that spawning is a single, continuous event, but that young are lost from the middle portion resulting in the appearance of a split season. As a result of the bimodal size structure of juveniles, young are referred to as the spring-spawned cohort or summer-spawned cohort. In the

MAB, the spring cohort appears to be the primary source of fish that recruit into the adult population.

Status of the Stock

Bluefish stock status and biological reference points are based on output from a forward projecting statistical catch-at-age model called ASAP that was accepted by peer-reviewers in 2005. Overfishing is defined as occurring when the fishing mortality rate (F) is above its threshold level, i.e., F_{MSY} (0.19). The target stock size in weight (biomass), i.e., B_{MSY} is currently estimated to be 324 M lb, and the level below which the stock is defined as being overfished ($\frac{1}{2} B_{MSY}$) is 162 M lb.

The bluefish stock assessment has been updated recently (July 2013), however, as of this writing detailed results are still preliminary, and so only general conclusions of the updated assessment are presented here. The figures below are taken from the assessment update that was done in 2012. In the most recent model update, the estimate of fishing mortality for 2012 is below F_{MSY} . This supports the statement that for 2012 overfishing was not occurring. Model estimates of fishing mortality have been below the F_{MSY} threshold since 1997 (dashed line in Figure 1), consistent with catches that support growth in population biomass. Declines in abundance since around 2006 appear to be driven by poor recruitment. A retrospective pattern is evident for model estimates of recruitment, meaning that the model has a tendency to underestimate the number of fish born in the most recent year.

The time series of estimated stock biomass and spawning stock biomass have both generally increased since a low in 1996 (Figure 2). The estimate of total biomass for 2012 is below B_{MSY} but above the $\frac{1}{2} B_{MSY}$ threshold. This supports the statement that for 2012 the stock was not overfished.

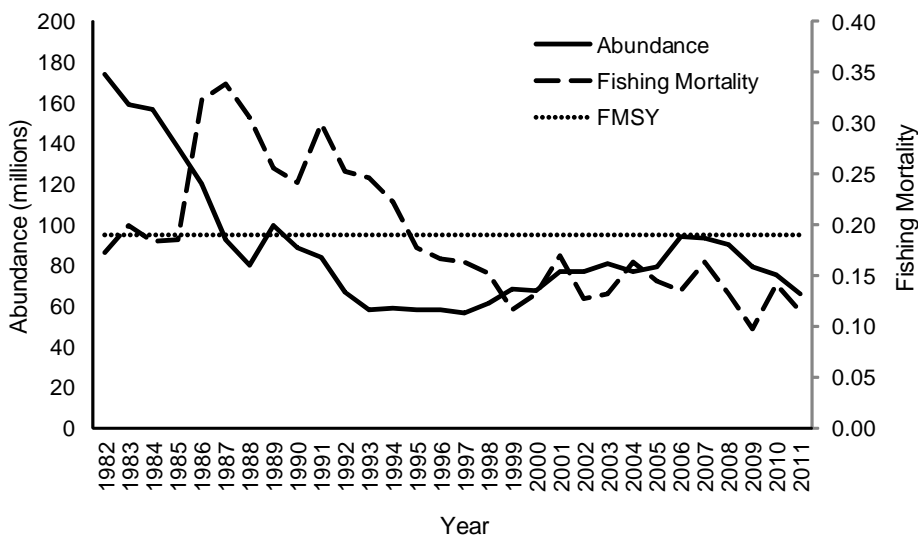


Figure 1. Total bluefish abundance and fishing mortality as estimated in ASAP model in 2012. F_{MSY} is indicated by the solid horizontal line. (Source: 2012 Assessment Update)

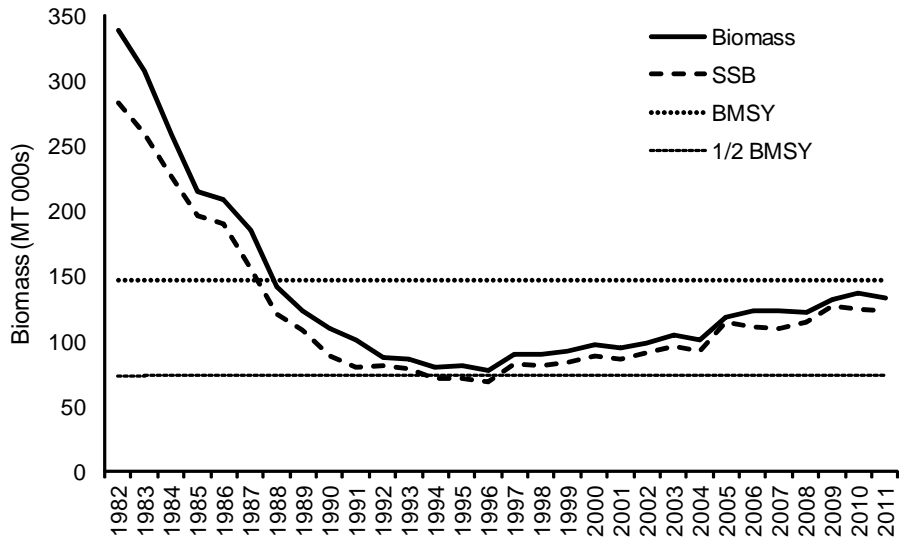


Figure 2. Time series of bluefish total mean biomass (000s mt) and spawning stock biomass (000s mt) relative to Bmsy target and threshold. (Source: 2012 Assessment Update)

Fishery Performance

The performance of the fishery relative to specified management measures is provided in Table 2. Except for 2007, the bluefish fishery has never exceeded the Council-recommended harvest limits. In 2007, the recreational fishery exceeded the recreational harvest limit by about 2 million lbs. In 2012, the commercial and recreational fisheries greatly under-harvested bluefish. The recreational fishery landed 10.684 M lb compared to the 17.457 M lb RHL, and the commercial fishery landed 4.930 M lb compared to a quota of 10.317 M lb. The rate at which the commercial fishery is landings bluefish is on the same track in 2013 as in 2012 (Figure 3).

Table 2. Summary of bluefish management measures, 2000 - 2011.

Management Measures	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
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
Comm. Quota (M lb)†	9.583	9.583	10.500	10.500	10.500	10.500	8.081	8.689	7.705	9.828	10.213	9.375	10.317
Comm. Landings (M lb)	8.041	8.688	6.863	7.401	7.994	7.045	6.955	7.499	5.968	6.990	7.069	5.082	4.930
Rec. Target†	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
Rec. Landings (M lb)	10.606	13.23	11.371	13.136	15.203	16.162	16.894	21.163	18.900	13.583	18.042	11.499	10.684
Rec. Possession Limit	10	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
Overage/Underage (M lb)	-16.681	-15.923	-8.632	-16.756	-8.653	-7.646	-0.948	+0.900	-3.288	-8.826	-4.153	-10.712	-12.653
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
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	-

* Includes RSA

† RSA deducted

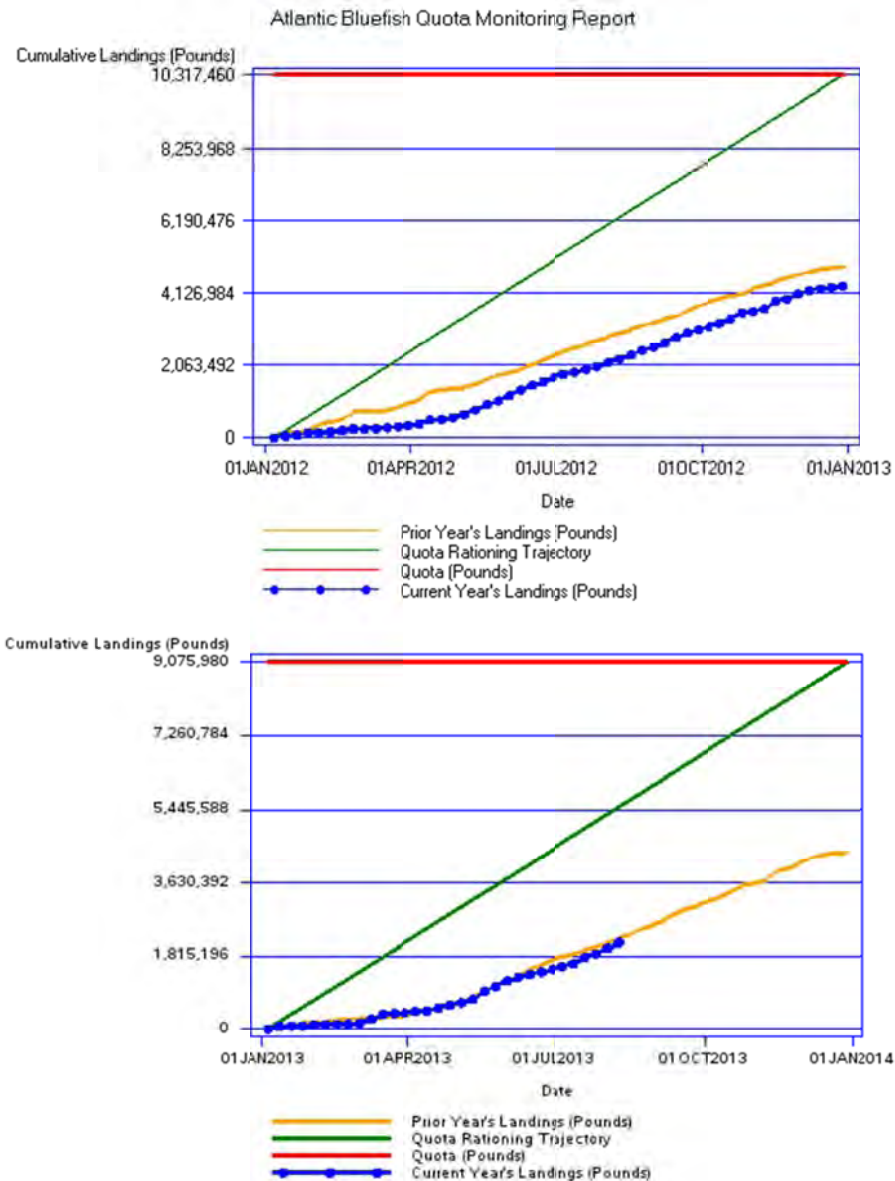


Figure 3. Comparison of 2012(top) and 2013 (bottom) commercial landings from the NMFS quota monitoring website: http://www.nero.noaa.gov/ro/fso/reports/reports_frame.htm

Landings History

Given the importance of the recreational component of the bluefish fishery, the history of bluefish catches begins with the implementation of data collection via 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. A rebuilding plan was implemented in 2000. Since then, population size has increased

(Figure 2) and recreational landings 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 M lb in 2012. 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. Commercial discards are treated as insignificant and are not estimated in the current assessment.

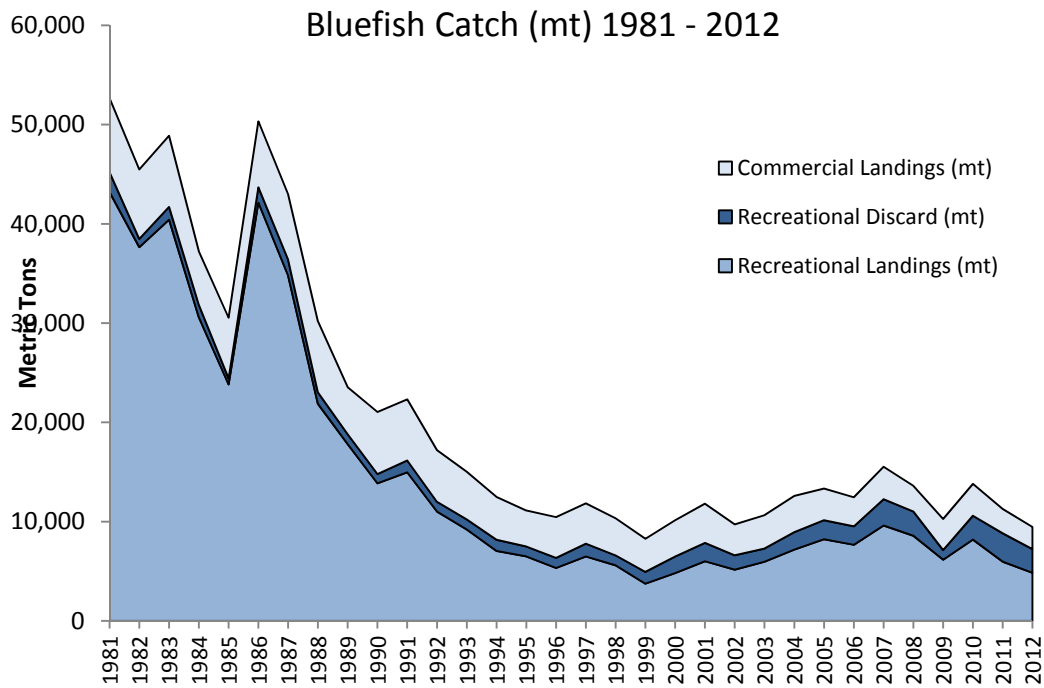


Figure 4. Time series of bluefish recreational and commercial landings and discards (Source: 2011 Assessment Update).

Recreational Fishery

Trends in directed recreational fishing for bluefish from 1991 to 2012 are provided in Table 3. The lowest annual estimate of directed trips was 1.3 million in 1999 and the highest annual estimate of directed trips was 5.8 million trips in 1991. In 2011, anglers targeted bluefish on 1.6 million trips (the estimate of directed trips has not yet been conducted for 2012). Relative to total angler effort in 2011, bluefish were the primary target of recreational trips about 4% of the time (Table 4).

Table 31. Number of bluefish recreational fishing trips, recreational harvest limit, and recreational landings from 1991 to 2012.

Year	Number of Bluefish Trips^a	Recreational Catch (000s)	Recreational Catch per Directed Trip
1991	5,811,446	18,291,823	3.1
1992	4,261,811	11,400,060	2.7
1993	3,999,487	9,925,254	2.5
1994	3,414,337	11,920,226	3.5
1995	3,409,966	10,493,882	3.1
1996	2,523,984	9,520,909	3.8
1997	2,021,713	12,573,548	6.2
1998	1,838,525	9,204,267	5.0
1999	1,316,939	11,487,687	8.7
2000	1,526,554	16,260,385	10.7
2001	2,156,043	20,412,006	9.5
2002	1,893,640	15,217,195	8.0
2003	2,100,057	15,049,303	7.2
2004	2,178,373	19,344,309	8.9
2005	2,511,295	20,353,080	8.1
2006	2,050,409	19,571,624	9.5
2007	2,636,900	23,380,319	8.9
2008	2,210,230	19,954,717	9.0
2009	1,532,445	13,644,474	8.9
2010	1,745,312	16,142,140	9.2
2011	1,602,659	14,691,648	9.2
2012	-	14,110,594	-

^aEstimated number of recreational fishing trips (expanded) where the primary species targeted was bluefish, Maine – Florida’s East Coast. Source: Scott Steinback, NMFS/NEFSC, ^bAtlantic coast from Maine through Florida’s east coast, NA = Data not available.

Table 4. Angler effort (number of trips) that targeted bluefish in 2011, Maine through Florida.

Mode	Total Angler Effort	Angler Effort Targeting Bluefish ^a	Percent Angler Effort Targeting Bluefish
Party/Charter	1,789,523	87,915	4.91%
Private/Rental	20,336,334	445,198	2.19%
Shore	17,582,272	1,069,546	6.08%
Total	39,708,129	1,602,659	4.03%

^aTotal effort targeting bluefish as primary species.

Source: Scott Steinback NMFS/NEFSC.

Recreational Landings by State

Recreational catch and landings by state for 2012 are provided in Table 5. The greatest overall catches (includes discards) were in New Jersey and New York, both with about 3 million fish. The greatest harvest (retained catch) of bluefish occurred in Connecticut, New Jersey and New York with 2.5 - 3 million pounds. The lowest catches occurred in New Hampshire and Georgia. Average weights, based on dividing landings weight by number for each state, suggest that bluefish size tends to increase toward the north along the Atlantic coast.

Table 5. MRIP estimates of 2012 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	16,974	4,341	3.9	130,437
NH	32,055	9,446	3.4	14,416
MA	1,298,116	336,552	3.9	1,050,305
RI	235,507	672,541	0.4	1,099,990
CT	2,469,341	480,079	5.1	1,158,811
NY	3,287,619	1,149,529	2.9	2,958,539
NJ	2,684,049	1,190,391	2.3	3,186,203
DE	40,827	35,596	1.1	153,547
MD	122,293	113,698	1.1	252,193
VA	121,029	151,233	0.8	359,031
NC	1,007,992	888,888	1.1	1,925,185
SC	145,850	206,361	0.7	375,011
GA	2,568	6,312	0.4	57,959
FL (East Coast)	378,444	278,318	1.4	1,388,968
Total	11,842,664	5,523,285	2.1	14,110,595

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.

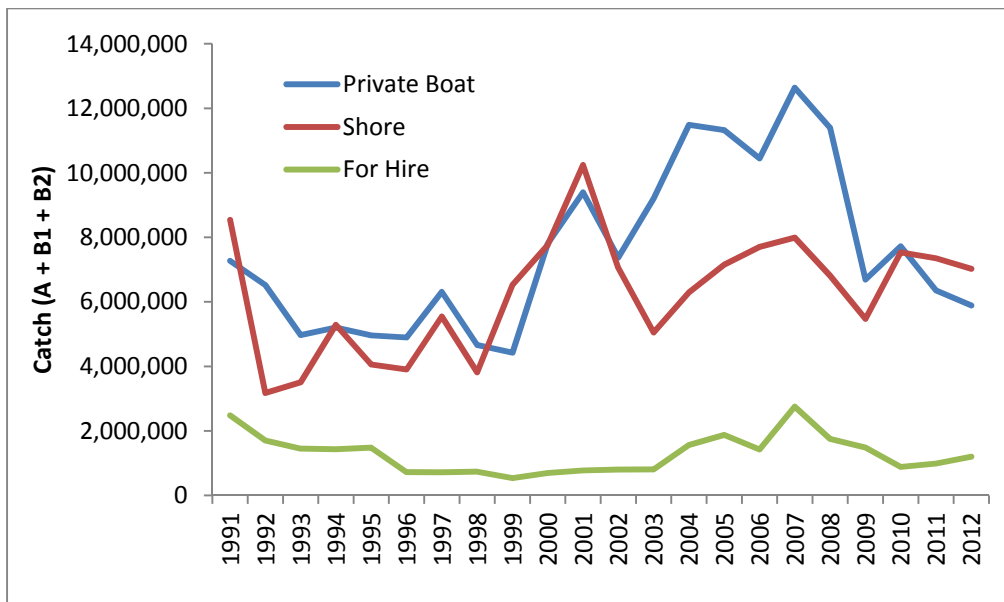


Figure 5. The bluefish catch (A + B1 + B2 in numbers of fish) by recreational fishermen by mode, Atlantic Coast, 1991-2012.

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.

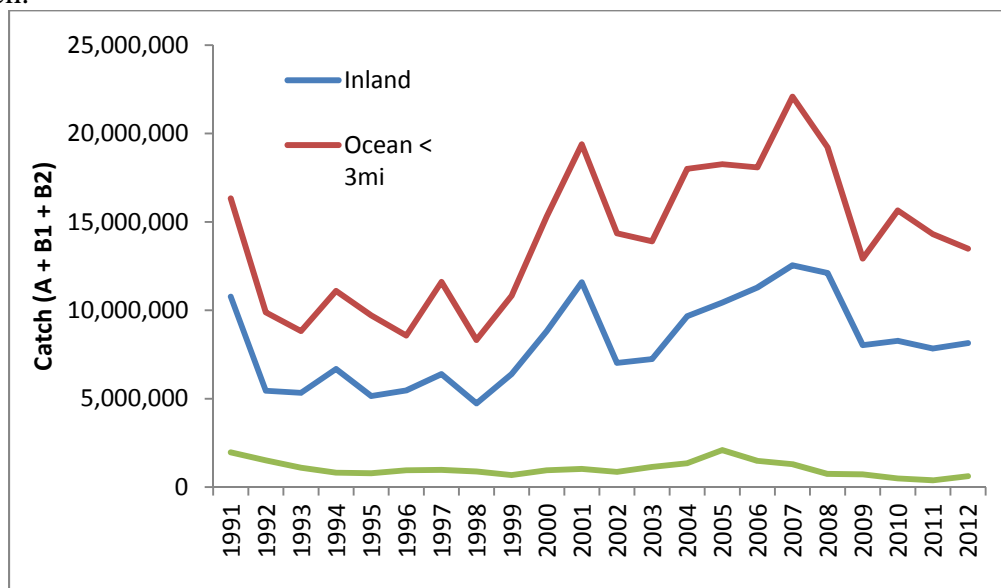


Figure 4. Bluefish recreational catch by area, Atlantic Coast, 1991-2012.

Commercial Fishery

Vessel and Dealer Activity

Federal permit data indicate that 2,667 commercial bluefish permits were issued in 2012 (Table 6). A subset of federally-permitted vessels was active in 2012 with dealer reports identifying 573 vessels with commercial bluefish permits that actually landed bluefish.

Of the 391 federally permitted bluefish dealers, there were 175 dealers who actually bought bluefish in 2012 (Table 6).

Table 6. Permitted and active bluefish vessels and dealers by state for 2012.

STATE	PERM VESSELS	ACTIVE VESSELS	PERM DEALERS	ACTIVE DEALERS
MA	1007	136	115	49
NJ	386	88	57	9
NY	271	128	84	43
ME	258	6	11	3
RI	183	88	45	28
NC	153	53	24	20
VA	120	21	19	11
NH	111	16	8	1
FL	54	1	6	6
CT	48	14	3	2
MD	37	17	9	3
OTHER	39	5	10	0
TOTAL	2667	573	391	175

Source: NMFS Permit Database and Dealer Weighout Data.

Effort/Landings by Gear

NMFS VTR data indicate that a total of 1,396 commercial trips targeted bluefish (bluefish \geq 50 % of total catch) in 2012 (Table 7). Landings from directed trips (1.602 M lb) are approximately 32.5 % of coastwide commercial bluefish landings for 2012 (4.930 M lb). Gillnets accounted for 93 % of the directed catch while hook gear accounted for 5 %.

Table 7. Commercial gear types associated with bluefish harvest in 2012.

Commercial Gear Type	Trips	Landings (lbs)	Pct Total
GILL NET	821	1,493,402	93%
HOOK AND LINE	554	73,634	5%
OTHER	21	35,246	2%
TOTAL	1,396	1,602,282	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 40 statistical areas in 2011 (Figure 5). Seven statistical areas, however, collectively accounted for 75.1 % of VTR-reported landings in 2011, with individual areas contributing 7% to 14% of the total. These areas also represented 69.6% 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.

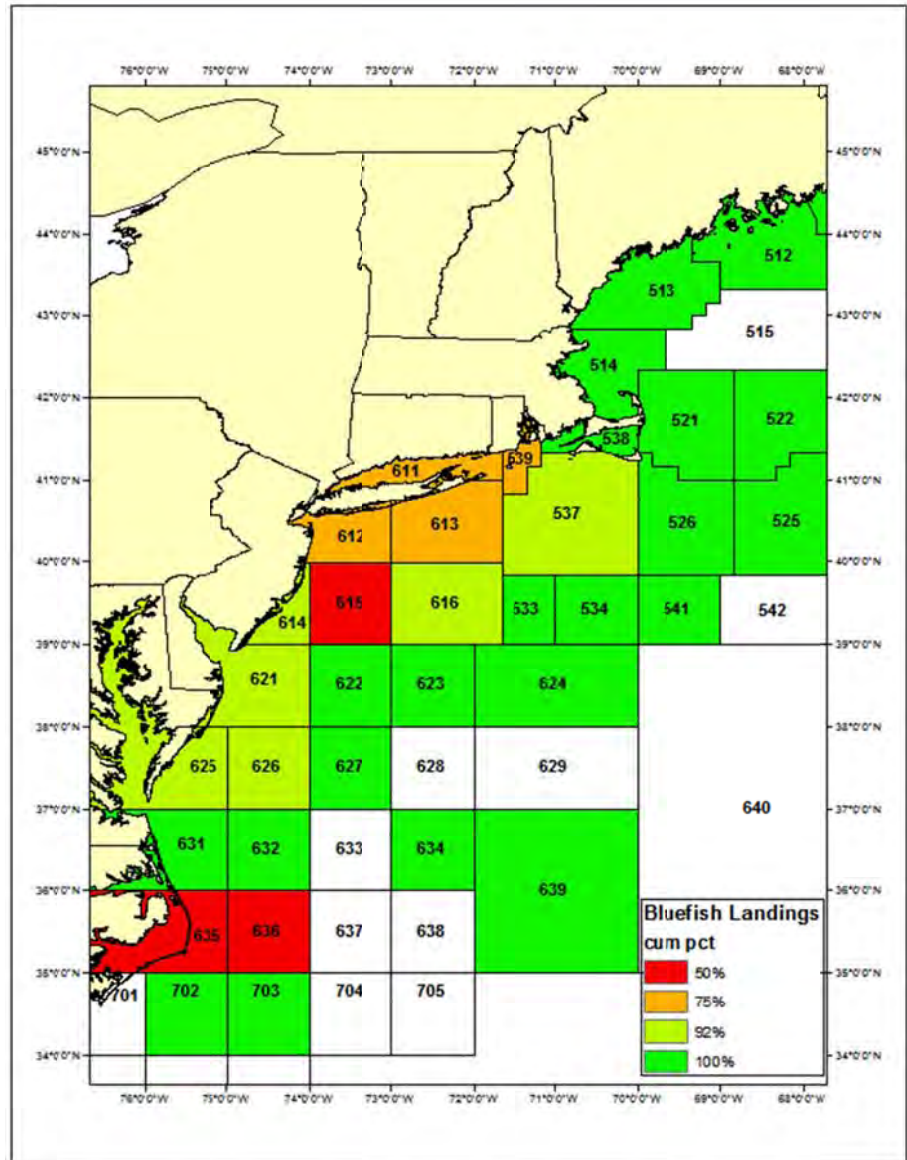


Figure 5. NMFS Statistical Areas. Shading reflects the cumulative percentage of landings with red and orange being the primary areas where the commercial landings are taken.

The top commercial landings ports for bluefish in 2012 are shown in Table 8. Twelve 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 2.170 M lb landed.

Table 8. Top ports of bluefish landings (in pounds), based on NMFS 2012 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
POINT JUDITH, RHODE ISLAND	452,544	75
MONTAUK, NEW YORK	426,525	91
WANCHESE, NORTH CAROLINA	264,257	4
BARNEGAT LIGHT/LONG BEACH, NEW JERSEY	264,003	24
HAMPTON BAYS, NEW YORK	219,351	33
POINT PLEASANT, NEW JERSEY	219,043	26
PROVINCETOWN, MASSACHUSETTS	184,358	8
HATTERAS, NORTH CAROLINA	157,583	-
CHATHAM, MASSACHUSETTS	155,733	65
OCEAN CITY, MARYLAND	146,176	18
CHINCOTEAGUE, VIRGINIA	141,859	29
AMAGANSETT, NEW YORK	124,257	-
BELFORD, NEW JERSEY	123,364	18
HAMPTON, VIRGINIA	122,723	18
LITTLE COMPTON, RHODE ISLAND	102,067	18

^aPorts with less than 3 vessels not reported for confidentiality issues.

Source: Dealer Weighout Data, as of June 24, 2013.

Revenue

In 2012, commercial vessels landed about 4.723 M lb of bluefish valued at approximately \$3.14 million. Average coastwide ex-vessel price of bluefish was \$0.67/lb in 2012, a 14 % increase from the previous year (2011 price = \$0.58/lb). The relative value of bluefish is very low among commercially landed species, approximately 0.31 % and 0.17 % of the total weight and value, respectively of all finfish and shellfish landed along the U.S. Atlantic coast in 2012. For states where bluefish were commercially landed, the contribution of bluefish to the total value of all finfish and shellfish varied by state in 2012 (Table 9). Bluefish ranged from less than 0.01 % of total commercial landings in Maine to 2.39 % in North Carolina. Relative to total landings value, bluefish were most important in New York and North Carolina, contributing the largest percentage of ex-vessel value of all commercial landings in those states. This contribution did not change considerably from the previous complete fishing year (i.e., 2011).

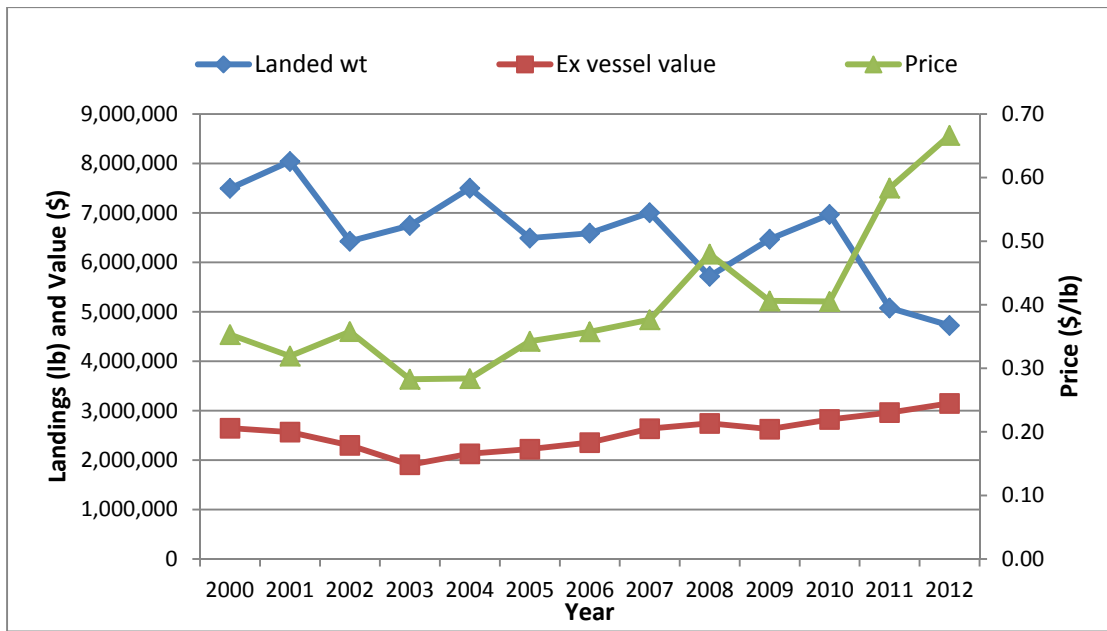


Figure 5. Landings, ex-vessel value, and price for bluefish, 2000-2012. Source: NMFS unpublished dealer data. Prices are unadjusted.

Table 9. Percent contribution of bluefish to the commercial landings and value of all species combined from Maine through North Carolina, 2012.

State	Pounds of Bluefish as a Percentage of all Species	Value of Bluefish as a Percentage of all Species
ME	0.00%	0.00%
NH	0.25%	0.07%
MA	0.09%	0.09%
RI	0.64%	0.49%
CT	0.64%	0.41%
NY	3.03%	1.87%
NJ	0.13%	0.22%
DE	0.30%	0.12%
MD	0.20%	0.11%
VA	0.10%	0.24%
NC	2.39%	0.90%
Total	0.19%	0.17%

Source: Dealer Weighout Data, as of June 24, 2013.

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

MEMORANDUM

DATE: Sept 17, 2013
TO: Chris Moore, Executive Director
FROM: Jim Armstrong
SUBJECT: **Bluefish ABC and Management Measures for 2014** (containing corrected 2014 ABC)

Executive Summary

The existing two-year bluefish specifications establish management measures for the 2013 and 2014 fishing years. Management measures for 2014 may remain unchanged if the previously recommended ABC for 2014 (12,273 mt) is determined by the SSC to still be appropriate for management measures following review of an updated assessment. The 2013 bluefish assessment update (Attachment A) indicates that, as in the 2012 update, the bluefish stock is not overfished and overfishing is not occurring. The estimate of stock biomass (125,808 mt) for 2012 is 85.6 % of B_{MSY} (147,052 mt) and realized F for 2012 (0.097) is approximately $\frac{1}{2}$ of F_{MSY} (0.19).

The staff recommendation is to maintain the specified $ABC = 12,273$ mt as the basis for management measures in 2014. ABC for 2014 was developed as part of multi-year ABC recommendations made by the SSC in 2012 and the value for ABC was derived by applying constant $F = 0.132$ to bluefish projections through 2014. $F=0.132$ corresponded to P^* -based ABC for 2013. The calculation of bluefish ABC for 2014 was also based on $B_{2012}/B_{MSY} = 0.8676$. The updated B_{2013}/B_{MSY} ratio (0.8113) represents a 6.5% decrease. Updated projections estimate $F=0.138$ in 2014 if ABC is fully harvested, compared to $F=0.132$ that was used to derive the 2014 ABC. Application of updated OFL and B/B_{MSY} inputs into the level 3 risk policy algorithm produces $ABC = 11,082$ mt for 2014, a 9.7% decrease (corrected from previous value that was based on B_{2012}/B_{msy}). A minor adjustment to ABC and corresponding management measures may be difficult to rationalize given that the fishery has harvested an average of 67.3% of allowable landings in the past three years (2010-2012). A benchmark assessment for bluefish is scheduled for the first half of 2014.

It is also recommended that exiting commercial and recreational Annual Catch Targets (ACTs) be maintained to sum to ACL (i.e., based on continued underharvest, no reduction in catch targets to accommodate management uncertainty). The previously specified adjustment to the ACT for discards (1,638 mt) accommodates the updated discard estimate of 1,389 mt (average of the last three years) and underharvest by the fishery suggests that any foregone yield will not affect fishing opportunity. As already specified, the maximum allowable transfer of landings to the commercial fishery is recommended and this would result in a recreational harvest limit (RHL) of 6,382 mt and a commercial quota of 3,934 mt before adjusting for RSA. No adjustment to the specified 3% reduction of the TALs (319 mt) for RSA is recommended. Although the Bluefish Advisory Panel expressed support for reduction of the current 15 fish recreational bag limit, staff does not recommend any changes to the bag

limit until new specifications are adopted for 2015.

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 (i.e., Attachment A).

Catch and Landings

Given the importance of the recreational component of the bluefish fishery, the history of bluefish catches begins with the implementation of data collection via MRFSS in 1981 (Figure 1). From the early 1980s to the early 1990s, recreational landings declined by factor of about 70% (avg. 1981-1983 = 89.140 M lb [40,433 mt]; avg. 1991-1993 = 25.824 M lb [11,727 mt]). Recreational landings continued to decline at a somewhat slower rate until reaching a low of 8.254 M lb (3,744 mt) in 1999. A rebuilding plan was implemented in 2000. Since then, population size has increased (Figure 2) and recreational landings 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 M lb in 2012. 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. Commercial discards are treated as insignificant and are not estimated in the current assessment.

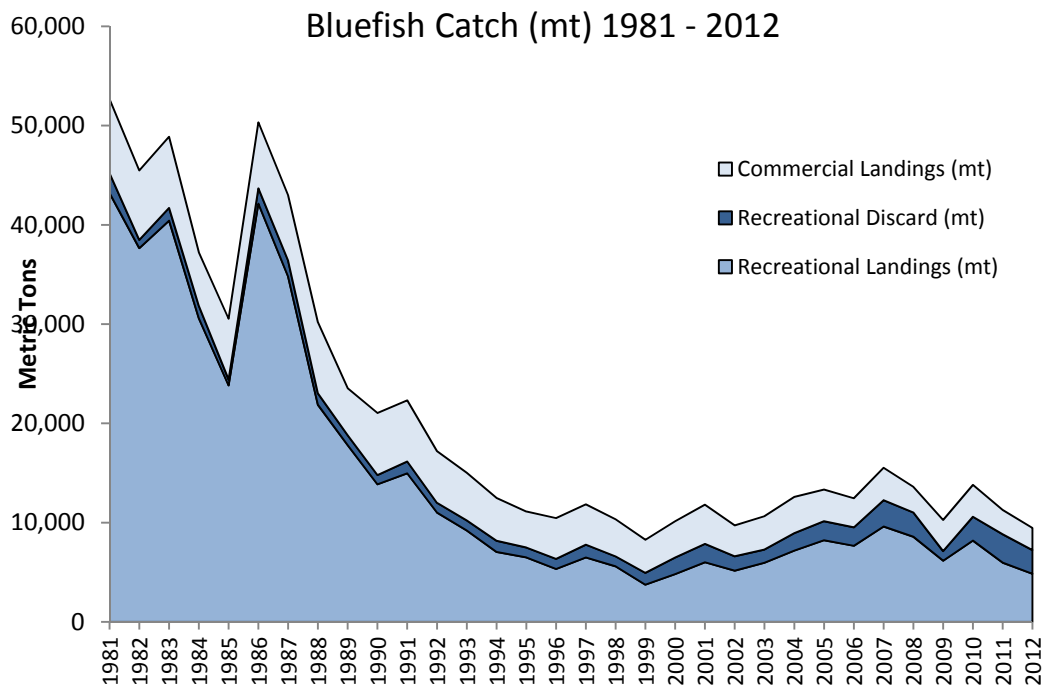


Figure 1. Time series of bluefish recreational and commercial landings and discards (Source: 2013 Assessment Update).

Regulatory Review (Current Management Measures)

For the current 2013 fishing year, bluefish ABC (27.472 M lb; 12,461 mt) was based on $P^* = 0.341$ which was calculated using $OFL_{2013} = 17,521$ mt, $B_{2012}/B_{MSY} = 0.8676$, 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 22.802 M lb and the commercial ACT (17%) is 4.670 M lb. Estimated discards for the 2013 fishery are the average observed discards for the past three years and were 3.611 M lb for the recreational fishery and zero for the commercial fishery for which discards are not estimated in the assessment and considered inconsequential. The resulting recreational TAL for 2013 is 19.190 M lb and the commercial TAL is 4.670 M lb. The FMP stipulates that if 17% of the TAL is less than 10.5 M lb, then a transfer of landings could be made to increase the commercial quota to a limit of 10.5 M lb as long as the combined commercial and recreational landings would not exceed the TAL.

In the specification of management measures for 2013-2014, an estimate of recreational harvest for 2014 (14.069 M lb mt) was reported. Accordingly, a transfer of 4.686 M lb to the commercial fishery was made resulting in an adjusted commercial quota of 9.357 M lb and an adjusted RHL of 14.504 M lb). An adjustment for research set aside resulted in a final commercial quota of 9.076 M lb and a final RHL of 14.069 M lb.

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 (324.192 M lb), and the level at which the stock is determined to be overfished ($\frac{1}{2} B_{MSY}$) is 73,525.5 mt (162.096 M lb). 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 in annual catches, but no significant change in recreational estimates.

The ASAP estimate of fishing mortality for 2012 is 0.097, well below the F threshold ($F_{MSY} = 0.19$). This outcome supports the statement that for 2012 *overfishing was not occurring*. Relative to fishing mortality targets, model estimates of annual F have been below threshold levels since 1997 (see Figure 2), consistent with catches that support growth in population biomass.

Within the past 20 years, estimated population abundance peaked in 2006 at 94 million fish, but has declined since to 64 million fish in 2012 (Table 9 in Attachment A). The current low is due largely to model estimates of weak terminal year class strength such that as in previous updates, the most recent year class is the lowest in the time series. Retrospective analysis of age zero estimates shows underestimation of terminal year recruitment (Figure 10 in attachment A). 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 Attachment A). The estimate of total biomass for 2012 is 125,808 mt which is 85.55% of B_{MSY} (147,052 mt) and 171.11% of the $\frac{1}{2} B_{MSY}$ threshold (73,526). As such, *the stock is not overfished*.

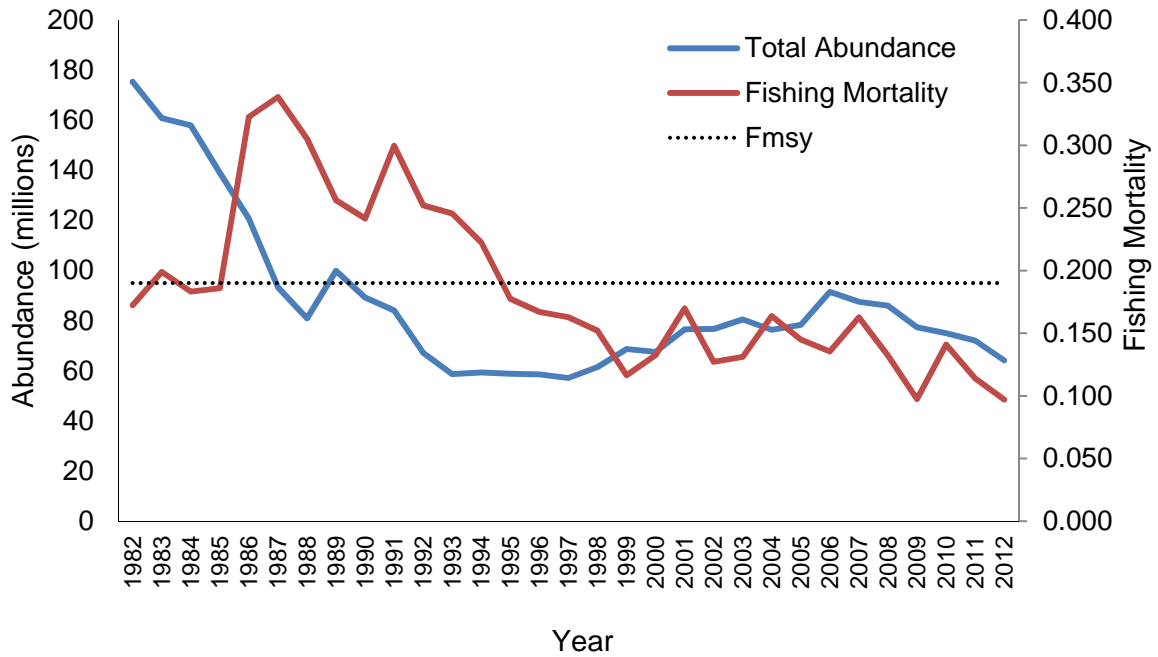


Figure 2. Total bluefish abundance and fishing mortality as estimated in ASAP model. F_{MSY} is indicated by the solid horizontal line.

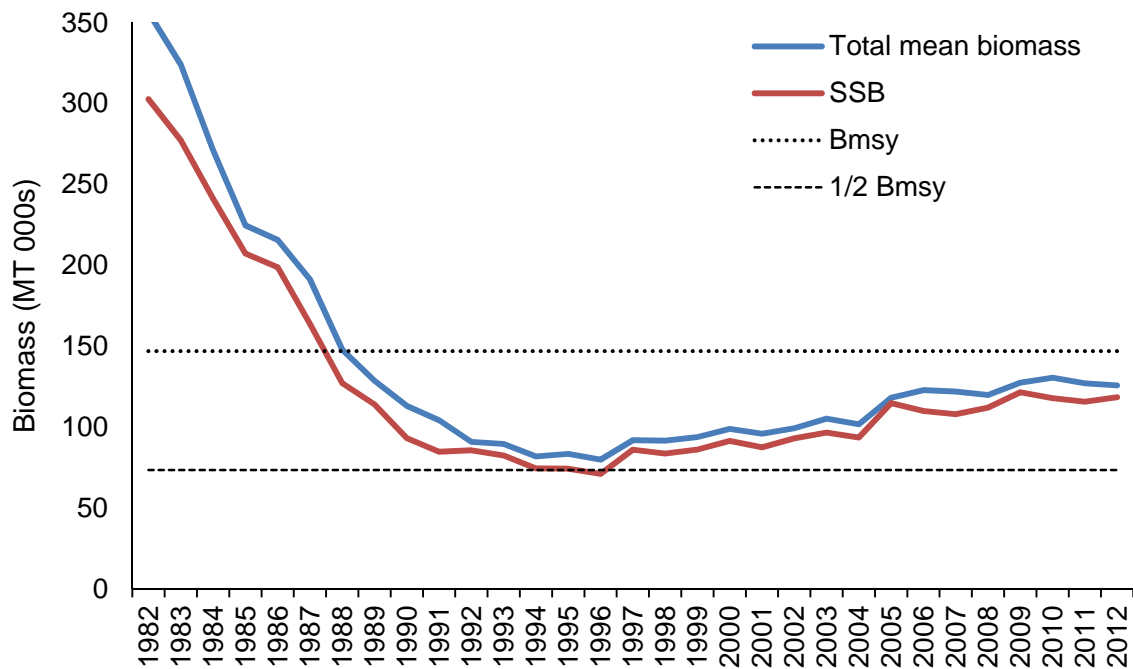


Figure 3. Time series of bluefish total mean biomass (000s mt) and spawning stock biomass (000s mt) relative to B_{msy} target and threshold.

ABC Recommendation

(Note: A concise presentation of the calculation of OFL, ABC, TAL and other management measures is provided in Table 1.)

ABC for 2014 was developed as part of multi-year ABC recommendations made by the SSC in 2012 and the value for ABC was derived by applying constant $F = 0.132$ to bluefish projections through 2014. $F=0.132$ corresponded to P*-based ABC for 2013. The calculation of bluefish ABC for 2014 was also based on $B_{2012}/B_{MSY} = 0.8676$. The updated B_{2013}/B_{MSY} ratio (0.8113) represents a 6.5% decrease. Updated projections estimate $F=0.138$ in 2014 if ABC is fully harvested, compared to $F=0.132$ that was used to derive the 2014 ABC. Application of updated OFL and B/B_{MSY} inputs into the level 3 risk policy algorithm produces $ABC = 11,082$ mt for 2014, a 9.7% decrease (corrected from previous value that was based on B_{2012}/B_{msy}). A minor adjustment to ABC and corresponding management measures may be difficult to rationalize given that the fishery has harvested an average of 67.3% of allowable landings in the past three years (2010-2012). A benchmark assessment for bluefish is scheduled for the first half of 2014.

Other Management Measures

Annual Catch Limit

Under the Omnibus Amendment, an annual catch limit (ACL) is set equal to ABC. Accordingly, the recommended ACL for bluefish for 2014 is 27.057 M lb (12,273 mt).

Table 1. Recommended bluefish management measures for 2014.

Management Measure	LBS	MT	Basis
OFL			
ABC	27,057,333	12,273	Constant F (0.132)
ACL	27,057,333	12,273	= ABC
Mgmt Uncertainty	0	0	per MC
Comm ACT	4,599,747	2,086	(ACL - Mgmt Uncert) * 17%
Rec ACT	22,457,587	10,187	(ACL - Mgmt Uncert) * 83%
Comm Discards	0	0	from assessment
Rec Discards	3,611,172	1,638	2009-2011 MRFSS avg.
Comm TAL	4,599,747	2,086	Comm ACT - Disc
Rec TAL	18,846,415	8,549	Rec ACT - Disc
TAL (combined)	23,446,162	10,635	Comm + Rec TAL
Expected Recreational Landings	14,068,836	6,382	2009-2011 average
Maximum Transfer	4,342,460	1,970	Calculated
pre-RSA Comm Quota	8,942,207	4,056	Comm TAL + transfer
pre-RSA RHL	14,503,955	6,579	Rec TAL - transfer
Comm RSA Deduction (3%)	268,266	122	3% of Comm Quota
Rec RSA Deduction (3%)	435,119	197	3% of RHL
Adjusted Comm Quota	8,673,941	3,934	Comm Quota - RSA
Adjusted RHL	14,068,836	6,382	RHL - RSA

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 1) 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. The bluefish fishery has exceeded the combined (commercial + recreational) TAL once, in 2007 (Table 2) and has been below the TAL by an average of 5.2 M lb in the last five years (2007-2011; Table 2). Based on the historic performance of the bluefish fishery relative to specified management measures, no reduction from ACL is recommended such that the sum of the ACTs is equal to the ACL. A further reduction of the commercial and recreational ACTs to their respective TALs 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 previously specified adjustment to the ACT for discards (1,638 mt) accommodates the updated discard estimate of 1,389 mt (average of the last three years) and underharvest by the fishery suggests that any foregone yield will not affect fishing opportunity. The combined TAL is 23.446 M lb (10,635 mt; Table 1).

Quota Transfer and Initial RHL and Commercial Quota

The FMP stipulates that if 17% of the combined TAL (4.056 M lb) is less than 10.5 M lb 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 (19.804 M lb) for the upcoming year. A transfer was already specified for 2014 that would accommodate a 14.069 M lb recreational fishery and an 8.674 M lb commercial fishery. Continued underharvest by both sectors suggests that these limits will not constrain fishing opportunity. Circumstances in both sectors would have to change dramatically for an accountability measure to be triggered, and this is not expected.

RSA deduction and Adjusted RHL and Commercial Quota

An adjustment allowing for research projects to utilize up to 3% of bluefish TAL has also been specified for 2014. No adjustment to that reduction from the TALs (total = 352 k lb; 319 mt) for RSA is recommended.

Gear Regulations and Minimum Fish Size

Although the Bluefish Advisory Panel expressed support for reduction of the current 15 fish recreational bag limit, staff does not recommend any changes to the bag limit until new specifications are adopted for 2015.

Table 2. Summary of bluefish management measures, 2000 - 2012.

Management Measures	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
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
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
Comm. Landings (M lb)	8.040	8.697	6.869	7.403	8.041	6.694	6.706	7.182	5.699	6.947	7.069	5.413	4.930
Rec. Target†	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
Rec. Landings (M lb)	10.606	13.230	11.371	13.136	17.222	19.852	16.445	21.690	19.672	14.513	16.194	11.499	10.684
Rec. Possession Limit	10	15	15	15	15	15	15	15	15	15	15	15	15
Total Landings	18.646	21.918	18.234	20.537	23.197	23.207	23.849	28.662	24.868	20.573	25.111	16.581	15.614
Overage/Underage (M lb)	-16.682	-15.923	-8.632	-16.756	-8.653	-7.646	-0.948	0.900	-3.288	-8.783	-4.153	-10.712	-12.653
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
ASAP F estimate	0.13	0.15	0.13	0.14	0.15	0.15	0.14	0.16	0.12	0.1	0.14	0.11	0.097

* includes RSA

† adjusted downward for RSA



PAUL R. LEPAGE
GOVERNOR

STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES
21 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0021

NORMAN H. OLSEN
COMMISSIONER

Atlantic States Marine Fisheries Commission
1050 N. Highland St., Suite 200 A-N
Arlington, VA 22201

June 4, 2013

Dear Mr. Beal,

We are pleased to submit the Maine bluefish compliance report for fishing year 2012 for your consideration. This report does contain confidential commercial bluefish landings which are clearly marked in the text of the report. If you have any questions, please feel free to contact me.

Sincerely,

Terry Stockwell
Director of External Affairs
terry.stockwell@maine.gov
(207) 624-6562

State of Maine
Bluefish Compliance Report for the 2012 Fishing Year

Commercial Fishery :

Minimum size restrictions	none
Gear restrictions	none
Seasons	none
Quotas	68,972 lbs.

Recreational Fishery:

Minimum size restrictions	none
Gear Restrictions	Hook & line
Creel limits	3 per person per day
Possession limits	3 per person per day

Maine has no fishery monitoring programs for bluefish. Recreational and commercial landings are collected through the Marine Recreational Information Program and the NOAA Fisheries, respectively. DMR staff conducts the MRFSS field survey in Maine. The recreational catch of bluefish in Maine in 2012, based on the MRFSS, was as follows:

Total catch (A+B1+B2)	130,334	PSE	81.8
Total Harvest (A+B1)	4,264	PSE	52.5

There are no anticipated changes in Maine's bluefish management program or monitoring efforts for the 2013 fishing year.

Prepared by:
Bruce J. Joule
June 4, 2013

ANNUAL REPORT

New Hampshire's Bluefish Fishery and Management Program 2012

1) Introduction

This report is submitted for compliance with Amendment 1 to the Atlantic States Marine Fisheries Commission's Fishery Management Plan for Bluefish. During 2012 there were no significant changes to regulations or monitoring programs for bluefish in New Hampshire. The commercial landings increased and exceeded the state quota, but to account for the overage, North Carolina transferred 100,000 lbs of their quota to NH.

2) Requests for *de minimus* – not applicable

3) 2012 Fishery and Management Program

a. Fishery Dependent Monitoring

Recreational landings estimates are from the NMFS Marine Recreational Information Program's (MRIP) Recreational Fisheries Statistics Database while commercial landings were derived from the NMFS Commercial Landings Database. Preliminary commercial bluefish landings for New Hampshire during 2012 increased to roughly 45,249 pounds, which exceeded the initial 2012 quota for New Hampshire of 42,765 pounds. However, during the 2012 fishing season an additional 100,000 pounds of quota was transferred from North Carolina to New Hampshire, increasing total quota to 142,765 pounds. The recreational catch increased to 15,552 fish during 2012.

b. Fishery Independent Monitoring

The New Hampshire Fish and Game Department (NHFG) conducts an annual seine survey of juvenile fish in its estuaries from June through November. The survey produces an index of relative abundance for each species encountered. All of the bluefish encountered in the survey over time have been less than 22.0 cm total length. The index for bluefish between 1999 and 2012 is presented below.

Geometric Mean Catch per Seine Haul - New Hampshire 1998-2011

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BLUEFISH	0.20	0.04	0.12	0.01	0.01	0.00	0.02	0.09	0.06	0.17	0.32	0.10	0.08	0.35

c. 2012 Regulations – no changes

1. Recreational

- a) Must possess a Recreational Saltwater Fishing License (See RSA 214:9)
- b) 10 fish per day creel limit

2. Commercial

- a) Must possess a Commercial Saltwater License (See RSA 211:49-a and b)
- b) Season - July 1 to September 30
- c) Commercial quota = 42,765 lbs (142,765 after transfer of 100,000 pounds from NC)

d. 2012 Harvest Report

1. Recreational

NH Recreational Bluefish Estimates

Year	Catch	Harvest	
	#	#	lbs.
1995	18,613	11,745	109,341
1996	6,052	3,449	17,354
1997	28,185	25,329	240,935
1998	3,371	2,856	30,865
1999	8,923	3,830	33,053
2000	2,328	1,372	9,005
2001	21,906	8,029	52,824
2002	33,113	19,147	137,766
2003	24,693	7,730	51,099
2004 ⁺	22,859	14,148	77,972
2005 ⁺	68,909	20,583	119,722
2006 ⁺	31,851	8,940	48,094
2007 ⁺	52,289	34,412	193,497
2008 ⁺	8,586	6,019	35,176
2009 ⁺	2,404	426	2,003
2010 ⁺	2,223	1,662	13,084
2011 ⁺	3,478	2,118	18,393
2012 [*]	15,552	10,537	33,286

⁺ Landings changed in 2012 after new estimation methodology

^{*} 2012 landings are preliminary and subject to change

2. Commercial

Year	Trawls	Pots/Traps	Gill Nets	Hand Lines	Other	TOTAL
1995	7,837		177,597	1,581		187,015
1996	8,294	9	150,522	983		159,808
1997	43	2,916	58,746	836		62,541
1998	32		16,574	102		16,708
1999	373	83	11,009	666		12,131
2000	67		23,566	305		23,938
2001	1,590		9,251	836		11,677
2002	415		4,612	233		5,260
2003	251		8,339	15		8,605
2004	605	27	22,992	163	1,220	25,007
2005	199	97	2,140	2,719	212	5,367
2006	1,312		16,879	7,323	3,266	28,780
2007	30	313	2,512	1,191	7,546	11,592
2008	25		5,878	342	2,641	8,886
2009	18		2,123	798	816	3,755
2010						
2011*						
2012						

*2012 landings are preliminary and subject to change

4. 2013 Monitoring and Management Programs

a. Management Program

1. Recreational

- a) Must possess a Recreational Saltwater Fishing License (See RSA 214:9)
- b) 10 fish per day creel limit

2. Commercial

- a) Must possess a Commercial Saltwater License (See RSA 211:49-a and b)
- b) Season - July 1 to September 30
- c) Proposed Commercial quota = 37,620 lbs
- d) If it appears that the commercial bluefish quota will be exceeded, the Executive Director of NHFG will close the commercial season for bluefish, using his authority under RSA 211:62.

b. Monitoring Programs

1. Recreational

NHFG will monitor the recreational catch and harvest via the MRIP Recreational Fisheries Survey.

2. Commercial

NHFG will use NMFS commercial landings data to monitor the commercial bluefish fishery in New Hampshire.

Commonwealth of Massachusetts Division of Marine Fisheries



ATLANTIC STATES MARINE FISHERIES COMMISSION BLUEFISH FISHERIES MANAGEMENT PLAN COMPLIANCE REPORT

April 8, 2013

Prepared by

Paul G. Caruso
Senior Marine Fisheries Biologist

I. Introduction

The following report represents the Commonwealth of Massachusetts Division of Marine Fisheries (MADMF) annual compliance report as per the ASMFC Bluefish Fishery Management Plan. There were no significant changes in bluefish monitoring or regulations in 2012. Commercial harvest was 686,121 lbs, vs. 579,504 pounds in 2011, up approximately 18 percent from 2011. This weight represents 99% of the allocated quota (692,986). Higher ex-vessel prices and local abundance were the likely reasons behind increased commercial harvest. Recreational harvest was up 67% percent (374,243 fish in 2012 vs. 224,501 fish in 2011) despite unchanged recreational fishing regulations, again likely to increased local abundance.

II. Request for *de minimus* status

Not applicable.

III. Review of previous year fishery and management program

A. Activity and results of fisheries dependent monitoring

There was no directed monitoring of the commercial or recreational bluefish fisheries and few bluefish were encountered during regular MADMF "For Hire" sampling trips on party boats, except for the occasionally sampled directed bluefish trip. For aggregate recreational catch and landings data the MADMF relied on the Marine Recreational Information Program (MRIP). Recreational fishery harvest trends are plotted in Figure 2.

B. Activity and results of fishery independent monitoring

The 2012 fisheries independent monitoring program for bluefish consisted of the acquisition of local abundance indices for YOY bluefish (stratified mean number per tow) from our annual synoptic fall otter trawl survey. Since few adults are caught during this survey, adult indices are not developed nor maturity data or age samples taken. The young of the year index includes all fish less than or equal to 25 cm. This coast-wide state waters survey of approximately 100 - twenty minute trawl tows has a random stratified design. The index for bluefish includes data from all regions. See Figure 3 for a plot of the index values over time. In general local YOY bluefish numbers remain low over the time series, punctuated by several high and well separated values, possibly indicative of larger year classes.

An expanded age structure collection (otoliths), began in 2012 with 113 fish sampled. This collection is consistent with the coast-wide sampling program and target sample size (100 fish). The mean sampled length was 422 mm FL and the corresponding mean age was 2.5 years. The length frequency distribution of the sample is presented as Figure 1. Summary statistics for the sample and resulting ages are contained in Table 1. We expect to continue this collection in 2013 and had little problem collecting the required number of samples. We anticipate additional sampling of larger and older fish during our striped bass tagging trips. Age 1 fish are largely absent from the sample and historically bluefish

this size are uncommon in Massachusetts' waters.

Figure 1. Massachusetts' 2012 bluefish age sample length frequency distribution, n=113.

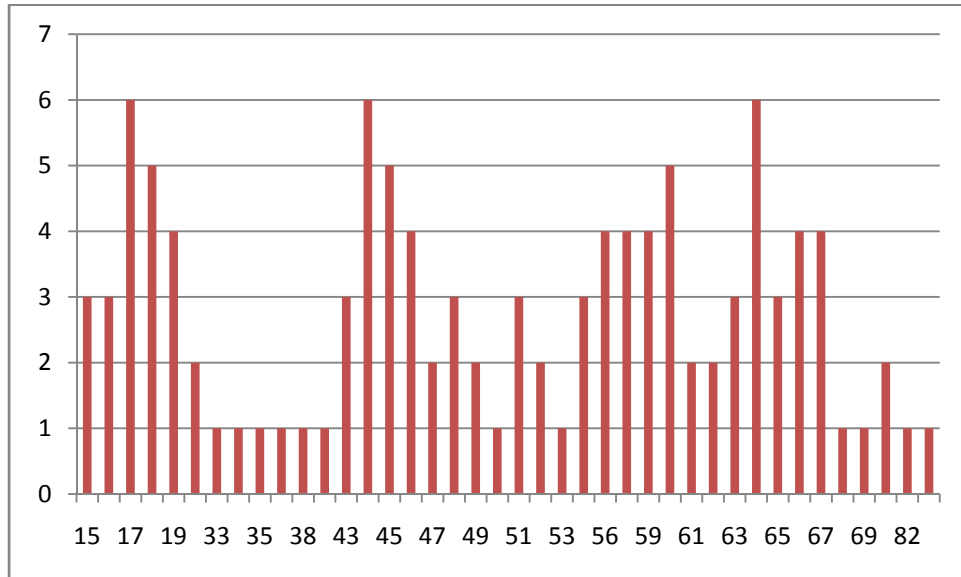


Table 1. Massachusetts' 2012 bluefish age sample summary statistics.

Age	Mean ln	n at age
0	161	23
1	332	1
2	399	24
3	479	31
4	556	30
5	590	2
6	732	1
7	726	1
Mean	Mean	N
2.5	422	113

C. Regulations in effect in 2012

1. Recreational Fisheries (322 CMR 6.18)

- No minimum possession size.
- A 10 fish per day per angler possession limit
- Permit required for "For Hire" fishery vessels.

2. Commercial Fisheries (322 CMR 4.05)

- No minimum possession size.
- An annual quota of 692,986 pounds.
- Daily possession limit of 5,000 pounds.

Catch of bluefish for gill netters exceeding 50% or more bluefish over a 30 day period requires the acquisition of a regulated species permit which is limited to individuals holding a permit in 1982. Only one gillnet permit is currently issued. Provisions of that permit require: use of 5" minimum mesh size, 1,500 feet maximum length for the net, a year round closure in southeastern Cape Cod Bay, nets tended at all times, and no night fishing.

In addition to the above directed bluefish regulations the following laws and regulations were in effect and have an effect on bluefish landings:

- Commercial Fishing Permit required for the sale of all fish and shellfish.
- Numerous area/time closures to otter trawling and gillnets.
- No gillnets in waters south of Cape Cod during the spring-fall months (April 1 - November 15) which precludes a directed gillnet fishery for bluefish in those state managed waters where bluefish are most abundant.
- Minimum mesh size restrictions for the trawl and gillnet fisheries.
- Nantucket and Vineyard Sounds closed to night trawling.
- Buzzards Bay closed to the use of all nets.

D. 2012 Harvest

Based on MADMF quota monitoring, the estimate of the 2012 commercial harvest is 686,121 pounds (99 % of allocated quota). There is no current estimate of commercial losses from discard mortality because there are no local estimates of discarded commercial catch. However, since most commercial catches of bluefish in Massachusetts are from directed hook and line with assumed low levels of discard mortality or directed encircling gillnet fishing with few discards we assume that additional losses from the commercial catch are minimal relative to the total commercial catch.

The recreational losses from 2012 are estimated at 425,820 fish. This number was derived from the MRIP estimated type A and B1 catch (374,243 fish) plus 5 % of the estimated B2 catch (51,578 fish) which represents an estimate of catch/release mortality (Malchoff 1995, Williams 1995).

E. Progress in implementing habitat recommendations

Not applicable.

IV. Planned 2013 Management Program – *Status quo*

1. Recreational Fisheries (322 CMR 6.18)

- No minimum possession size.
- A 10 fish per day per angler possession limit
- Permit required for "For Hire" fishery vessels.

2. Commercial Fisheries (322 CMR 4.05)

- No minimum possession size.
- Annual quota of 609,606 pounds.
- Daily possession limit of 5,000 pounds.

Catch of bluefish for gillnetters exceeding 50% or more bluefish over a 30 day period requires the acquisition of a regulated species permit which is limited to individuals holding a permit in 1982. Only 1 gillnet permit is currently issued. Provisions of that permit require: use of 5" minimum mesh size, 1,500 feet maximum length for the net, a year round closure in southeastern Cape Cod Bay, nets tended at all times, and no night fishing.

In addition to the above directed bluefish regulations the following laws and regulations were in effect and have an effect on bluefish landings:

- Commercial Fishing Permit required for the sale of all fish and shellfish.
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- No gillnets in waters south of Cape Cod during the spring-fall months (April 1 - November 15) which precludes a directed gillnet fishery for bluefish in those state managed waters where bluefish are most abundant.
- Minimum mesh size restrictions for the trawl and gillnet fisheries.
- Nantucket and Vineyard Sounds closed to night trawling.
- Buzzards Bay closed to the use of all nets.

Copies of all bluefish fishery directed regulations can be found in Appendix A.

B. 2013 Monitoring Program

The 2013 monitoring program for bluefish will continue to derive a fisheries independent index of young of the year abundance from our synoptic trawl survey.

Directed sampling for age and growth samples and lengths will continue in 2013 and additional samples will be collected during our striped bass tagging trips. We may also obtain additional samples through a carcass collection program aimed at sampling striped bass otoliths.

For aggregate recreational catch and harvest data the MADMF will continue to rely on the MRIP survey. For commercial catch data we will continue to rely on the MADMF Quota Monitoring Project.

C. Changes from previous years monitoring program

None.

V. Plan specific requirements

Not applicable.

VI. Law Enforcement Reporting requirements

Not applicable.

VII. Appendix A. Current Bluefish Regulations as of April, 2013

4.05 Use of Nets for the Taking of Bluefish (*Pomatomus saltatrix*)

(1) Management Areas. There is established the following management areas:

(a) Northern Area shall be those territorial waters of the Commonwealth north of a straight line extending from the east entrance of the Cape Cod Canal through Race Point Light, Provincetown to the marine boundary of the Commonwealth.

(b) Southern Area shall be those territorial waters of the Commonwealth south of a straight line extending from the east entrance of the Cape Cod Canal through Race Point Light, Provincetown to the marine boundary of the Commonwealth, including all waters of Buzzards Bay, Vineyard Sound, and Nantucket Sound.

(2) Authorization The following permits and conditions shall apply in the following areas:

(a) In the northern and southern areas a regulated fishery permit shall be required to harvest, catch or take bluefish by any net as a directed fishing effort. Directed fishing effort is defined as any consecutive 30 day catch of which 50% or more is bluefish.

(b) In the southern area a regulated fishery permit shall be required to harvest, catch or take bluefish by means of a gillnet in the southern area and shall be issued only to those individuals who held a valid bluefish-gillnet regulated fishery permit in 1982 as determined by the licensing records of the Division.

(c) Dealers may not purchase bluefish from commercial fishermen without written authorization from the Director.

(d) Commercial fishermen shipping bluefish to dealers outside the Commonwealth shall be required to become authorized dealers pursuant to 322 CMR 4.05(2)(c). 322 CMR 4.05(2)(d) shall not apply if the out-of-state dealer is licensed and authorized to purchase bluefish in Massachusetts.

(3) Quota and Catch Restriction

(a) For the period January 1, 1995 through December 31, 1995 the quota shall be xxx pounds (6.717 % of the annual commercial bluefish quota adopted by the Atlantic States Marine Fisheries Commission).

(b) For the period January 1 through December 31, it is unlawful for commercial fishermen to land or possess, during a calendar day, more than 5,000 pounds of bluefish.

(c) The Director may adjust:

1. the annual quota to correspond to each year's Massachusetts share of the Atlantic States Fisheries Commission annual commercial quota for bluefish; and
2. the landing/possession limit defined in 322 CMR 4.05(3)(b) to prevent overages of the annual quota.

(d) An adjustment shall not be effective until it has been approved by the Marine Fisheries Commission and a notice of the adjustment has been filed with the Massachusetts Register.

(e) The Director shall consider any written comments on the quota or landing/possession limit adjustments which may be submitted to the Director by the public or a state or federal agency, and based on these comments the Director may alter, amend, or rescind the adjustments pursuant to the procedural requirements of 322 CMR 4.05(3)(d).

(4) Reports.

(a) The holder of a bluefish-gillnet regulated fishery permit for the southern area shall file with the Division monthly catch reports on forms to be supplied by the Director. Such reports shall include:

1. areas where fished;
2. times and dates of fishing;
3. total weight of bluefish caught; and
4. be submitted to the Division within the first week of each month.

(b) Dealers and commercial fishermen selling on consignment shall report all purchases of bluefish by phone and in writing based on schedules established and on forms provided by the Division.

(5) Restrictions. The following restrictions on the use of gillnets for the harvesting, catching or taking of bluefish in the southern area shall apply:

(a) the total length of any net to be set by each permittee and/or vessel may not exceed 1500 feet.

- (b) all nets are to be conspicuously marked with high- flyers or floats at both ends;
 - (c) each high-flyer or float shall be conspicuously and legibly marked at both ends with the regulated fishery permit number of the individual operating the gear;
 - (d) minimum mesh size of gillnets to be used for taking bluefish may be no less than five inches stretched measure;
 - (e) nets are to be tended by the individual permittee or his/her authorized agent at all times; and
 - (f) harvesting, catching or taking or attempting to harvest, catch or take bluefish by means of a gillnet is prohibited during the night time, defined as after sunset to hour before sunrise.
- (6) Area Closures. If, in the opinion of the Director gear conflicts are occurring or are likely to occur, he may as provided for in this section close the following area to gillnetting:
- (a) all waters within an area bounded by an imaginary line beginning at the westernmost tip of the southern entrance jetty at Pamet Harbor to the Number 1 buoy on Billingsgate Shoal, thence southerly to the Number 1 gong off Sesuit Harbor, thence to the northernmost tip of the east entrance jetty off Sesuit Harbor, thence along the shoreline of Dennis, Orleans, Eastham, Wellfleet and Truro to the westernmost tip of the southern entrance jetty at Pamet Harbor.
- (7) Closure Procedures An area closure shall not be effective until:
- (a) it has been approved by a majority of the members of the Marine Fisheries Advisory Commission;
 - (b) a notice of closure has been filed with the Massachusetts Register; and
 - (c) a copy of the notice of closure has been mailed to all gillnet regulated fishery permit holders.
- (8) Prohibitions. It is unlawful for any person to harvest, catch or take or attempt to harvest, catch or take any bluefish by means of a gillnet in the southern area;
- (a) without a valid regulated fishery permit;
 - (b) between hour after sunset to hour before sunrise;
 - (c) with greater than 1500 feet of net;
 - (d) with any net which is unmarked by high-flyers or floats, or which has not been legibly marked with the regulated fishery permit number;
 - (e) with any net which has a stretched mesh opening of less than five inches;
 - (f) with any net that is left unattended;
 - (g) having failed to file a timely and accurate catch report or having falsified a catch report;

- (h) when the gillnet fishery has been closed by a notice of closure; or
- (i) when an area has been closed by the Director pursuant to 322 CMR 4.05(6).

(9) Penalties. Violation of 322 CMR 4.05 shall be governed by the provisions of M.G.L. c. 130, §§ 2 and 80.

(10) Notice of Closure. Pursuant to the authority of 322 CMR 4.05(6) and (7) the Director has determined that gear conflicts are occurring in that area established in 322 CMR 4.05(6) between the charter boats and the gillnet boats. Such gear conflicts are causing social disruptions among the fishermen. Accordingly, the aforementioned area is closed to any fishing for bluefish by means of a gillnet:

All waters within an area bounded by an imaginary line beginning at the westernmost tip of the southern entrance jetty at Pamet Harbor to the Number 1 buoy on Billingsgate Shoal, thence southerly to the Number 1 buoy off Sesuit Harbor, thence to the northernmost tip of the east entrance jetty off Sesuit Harbor, thence along the shoreline of Dennis, Orleans, Eastham, Wellfleet and Truro to the westernmost tip of the southern entrance jetty at Pamet Harbor.

This closure shall remain in effect until further notice.

6.18 Bluefish Recreational Catch Limit

No person may catch, land or possess more than ten bluefish (*Pomatomus salatrix*) unless he/she is the holder of a commercial fishermen permit or a dealer permit. Holders of valid commercial fishermen permits may sell bluefish to licensed dealers only.

Figure 1. Commercial harvest trends.

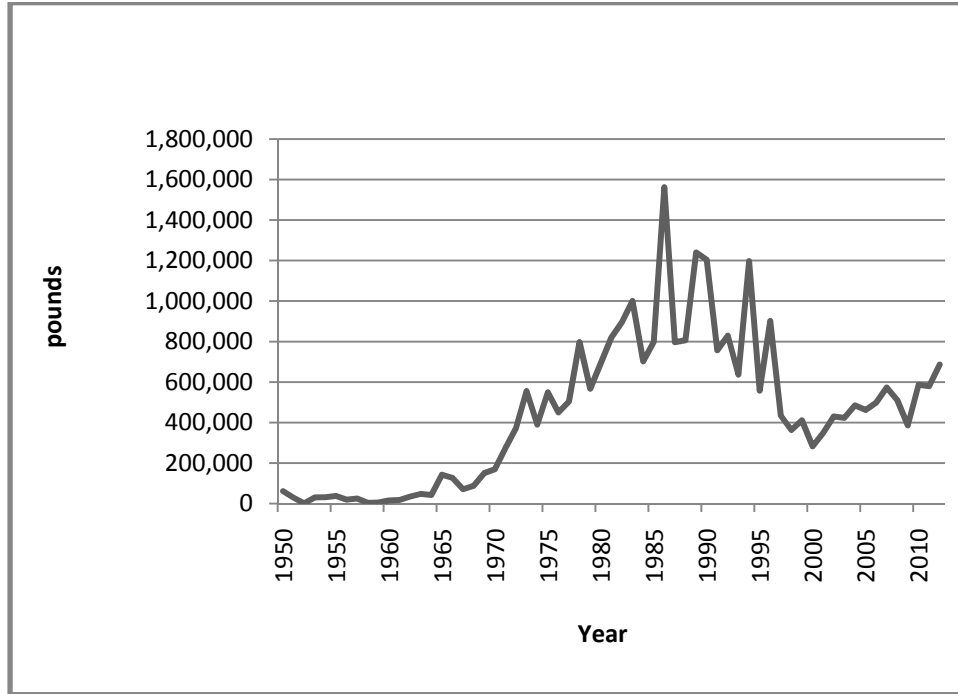


Figure 2. Recreational harvest trends.

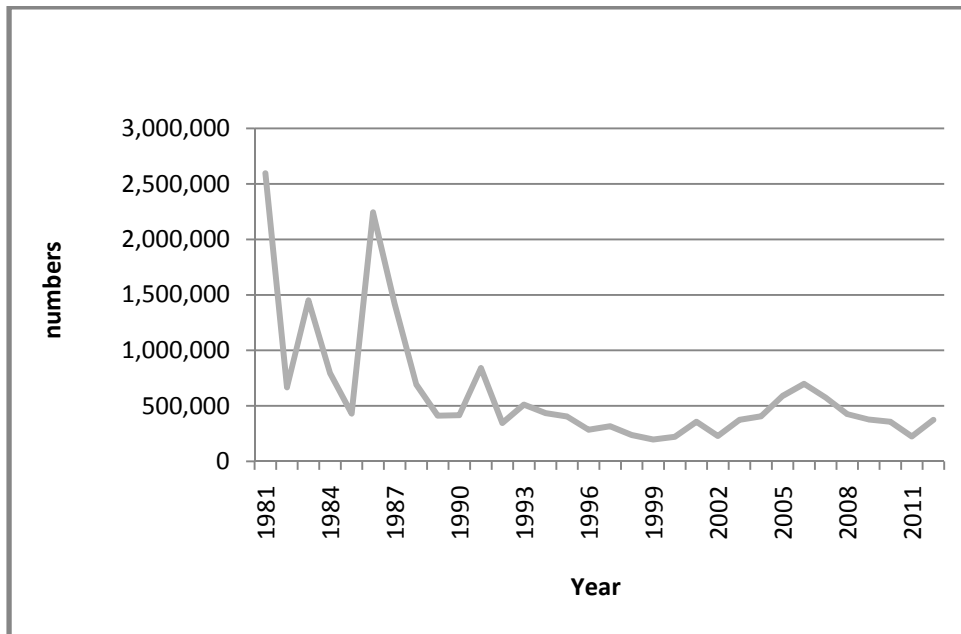
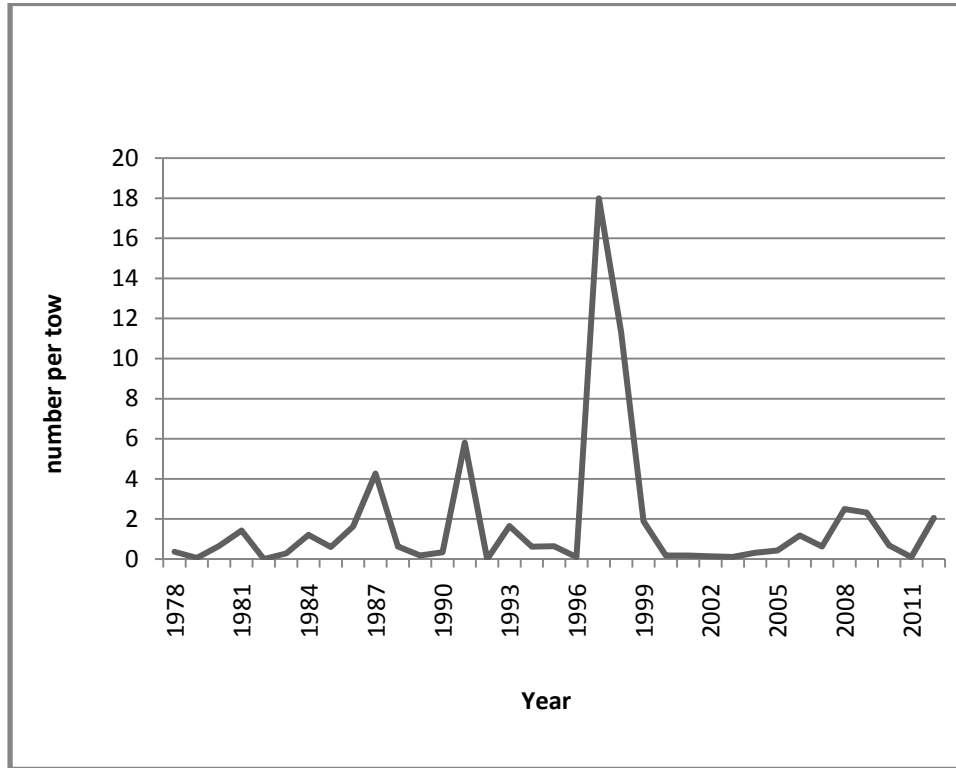


Figure 3. Fisheries Independent Trawl Survey YOY index trends.





Rhode Island
Department of Environmental Management

DIVISION OF FISH AND WILDLIFE

3 Fort Wetherill Rd
Jamestown, RI 02835

401 423-1920
FAX 401 423-1925

TO: Michael Waine, FMP Coordinator

FROM: Nicole L. Lengyel, RIDFW

DATE: May 1, 2013

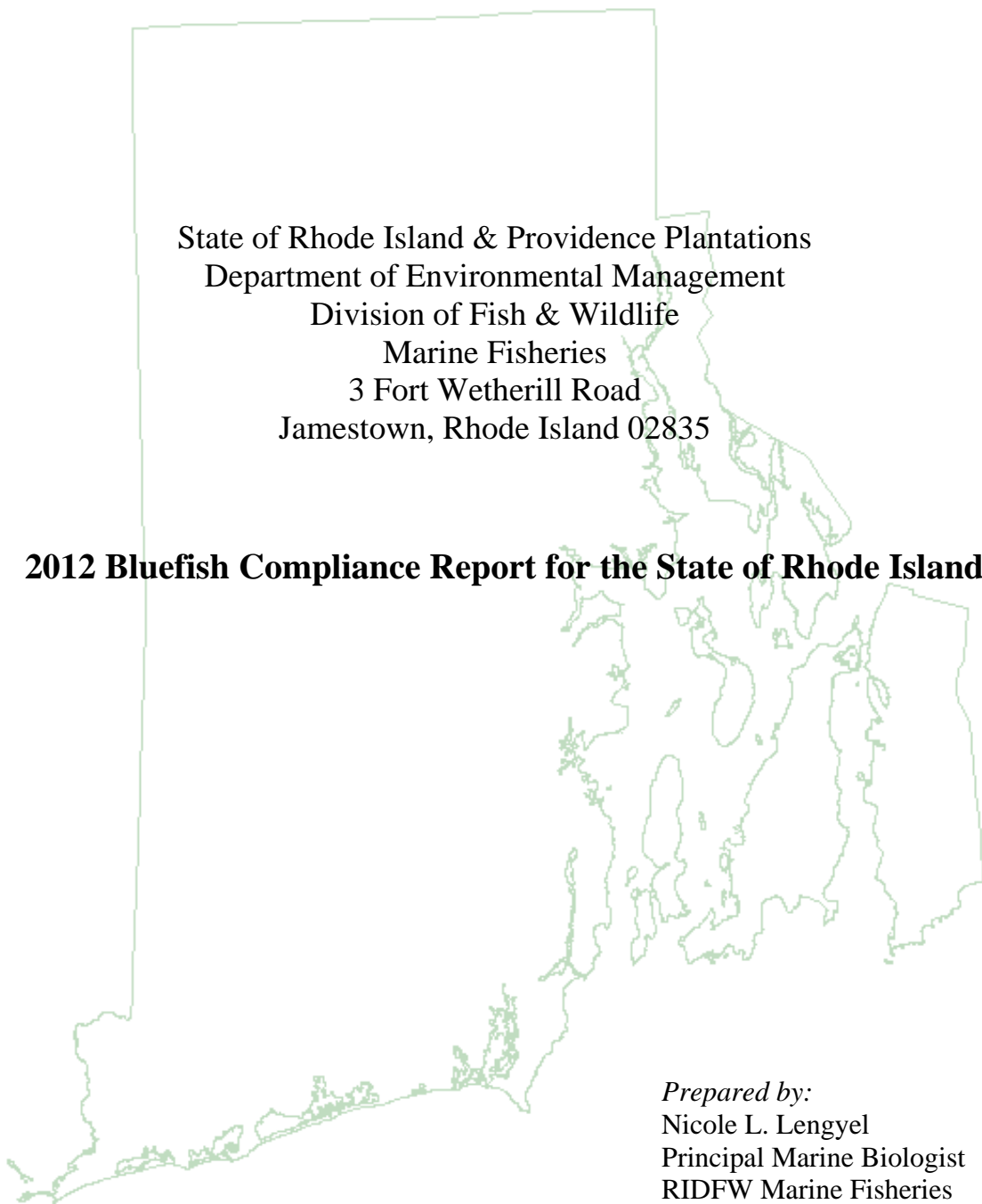
SUBJECT: Rhode Island Annual Compliance Report for Bluefish

Please find Rhode Island's 2012 annual compliance report for bluefish. If you have any questions, you may contact me directly at 401.423.1940.

cc: M. Gibson
J. McNamee

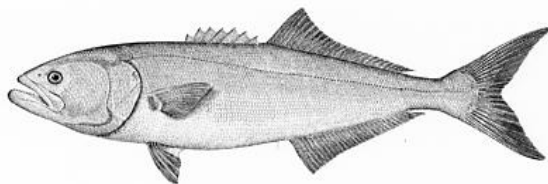
State of Rhode Island & Providence Plantations
Department of Environmental Management
Division of Fish & Wildlife
Marine Fisheries
3 Fort Wetherill Road
Jamestown, Rhode Island 02835

2012 Bluefish Compliance Report for the State of Rhode Island



Prepared by:
Nicole L. Lengyel
Principal Marine Biologist
RIDFW Marine Fisheries

May 1, 2013



Rhode Island's 2012 Annual Compliance Report for Bluefish

I. Introduction

Bluefish continue to support active commercial and recreational fisheries in Rhode Island. Commercial landings for bluefish increased from 409 thousand pounds in 2011 to 628 thousand pounds in 2012. There was a decrease in the recreational harvest of bluefish in terms of weight, from 521 thousand pounds in 2011 to 207 thousand pounds in 2012, however an increase in terms of numbers from 124 thousand fish in 2011 to 677 thousand fish in 2012. Fishery-independent monitoring suggested an increase in the relative biomass and an increase in abundance of bluefish in Rhode Island waters. Bluefish are rarely observed in the spring component of the RIDFW seasonal trawl survey, but are not uncommon in the fall. An average of 1.88 kg/tow of bluefish was observed in 2012 during the fall component of the RIDFW seasonal trawl survey, up from 0.23 kg/tow observed the previous year. The bluefish abundance index derived from the fall data increased from 1.7 fish/tow in 2011 to 19.1 fish/tow in 2012.

Rhode Island provides regulations for both the commercial and recreational bluefish fisheries. There are no regulations restricting the minimum size or season for bluefish taken by participants in either the commercial or recreational sector. In 2012, a possession limit of 15 bluefish per person per day was imposed on recreational anglers. Total commercial landings allowable are limited by the state's allocated share of the annual quota, though Rhode Island has never used its full share of the quota and has not had to close the fishery since the quota system has been in place.

II. Request for *de minimis*, where applicable

The state of Rhode Island does not wish to apply for *de minimus* status.

III. Previous Calendar Year's Fishery and Management Program

A. Activity and results of fishery dependent monitoring.

The RIDFW Marine Fisheries Section utilizes the Standard Atlantic Fisheries Information System (SAFIS) reporting system to monitor landings of quota-managed species, including bluefish. Based on information collected under this system, Rhode Island commercial bluefish landings for 2012 were approximately 628,298 lbs (284,991 kg).

Estimates of recreational fishery statistics for Rhode Island have in previous years been obtained from the MRFSS online data query (NMFS, Fisheries Statistics and Economics Division, Silver Spring, MD, pers. comm.). Recreational fishery statistics for 2012 were obtained from the MRIP online data query (NMFS, Fisheries Statistics and Economics Division, Silver Spring, MD, pers. comm.). Recreational harvest (Type A + B1) of bluefish in Rhode Island for 2012 was 206,966 lbs (93,878 kg) and 676,660 fish.

Trends in commercial and recreational harvest patterns for bluefish landed in Rhode Island are depicted in Figure 1.

The state of Rhode Island collected a total of 87 length and age samples for Bluefish in 2012 per Addendum I to the Fishery Management Plan for the Bluefish Fishery (Figure 3). Addendum I called for a total of 100 samples to be collected and therefore RI was short 13 samples. RI will take additional measured in 2013 to ensure a minimum of 100 samples are collected.

B. Activity and results of fishery independent monitoring.

The RIDFW Marine Fisheries Section operates a seasonal trawl survey to monitor finfish resources (Olszewski 2012). Bluefish are rarely observed in the spring component of this survey, but it is not uncommon to encounter this species in Rhode Island waters in the fall. Bluefish biomass and abundance indices updated for 2012 were calculated as mean number per tow and mean weight per tow, respectively. Indices were only calculated for the fall due to the infrequent occurrence of bluefish in the spring component of this survey. Estimated relative biomass of bluefish in RI for 2012 was 1.88 kg/tow, an increase from the 2011 estimate (0.23 kg/tow). Relative abundance demonstrated an increase from the previous year with an estimate of 19.1 fish/tow for 2012 compared to 1.7 fish/tow observed in 2011. Figure 2 shows the year-to-year variability in relative biomass and abundance of bluefish observed in the fall component of the RIDFW seasonal trawl survey over time.

C. Copy of regulations that were in effect, including a reference to the specific compliance criteria as mandated in the FMP.

1. Commercial

A commercial fishing license is required to take bluefish for commercial purposes from Rhode Island waters. In 2012, there were no minimum size limits, trip limits, or closed seasons imposed on the commercial fishery with regard to bluefish. The commercial bluefish fishery is managed by a state-by-state quota system in which each state is allocated a percentage of the total annual commercial quota for bluefish. The state of Rhode Island was allocated 702,416 lbs (318,611 kg) in 2012 based on the annual specification process. Half of the

Rhode Island commercial quota for bluefish was allocated to the period January 1 through June 30 and half to July 1 through December 31.

2. Recreational

For 2012, the state of Rhode Island did require a license for marine recreational fishing. Recreational fishermen after bluefish were not subject to minimum size limits or closed seasons in 2012. Rhode Island implemented a recreational fishery possession limit of 15 bluefish per person per day.

D. Harvest broken down by commercial and recreational, including non-harvest losses.

1. Commercial

The commercial fishery sector landed 628,213 lbs (284,952 kg) of bluefish in Rhode Island in 2012.

2. Recreational

Recreational harvest (Type A + B1) is considered as the sum of landings (Type A) and dead discards (Type B1), following MRFSS/MRIP definitions. Recreational harvest of bluefish in Rhode Island for 2012 was 206,966 lbs or 93,878 kg (PSE = 27.3; NMFS, Fisheries Statistics and Economics Division, Silver Spring, MD). In terms of numbers, 676,660 (PSE = 33.6) bluefish were harvested from Rhode Island waters in 2012 by recreational anglers. Estimates of the amount of bluefish that were released alive (Type B2) are available in terms of numbers only. In 2012, Rhode Island recreational fishermen released approximately 420,371 (PSE = 22.0) live bluefish.

E. Review of progress in implementing habitat recommendations.

NA

IV. Planned Management Programs for the Current Calendar Year

A. Summarize regulations that will be in effect.

1. Commercial

The regulations in place for the commercial bluefish fishery in 2012 will continue into the 2013 calendar year: no minimum size limits and no commercial trip limits; state landings will be managed under the state-by-state quota system and the quota will again be distributed between the January - June period and the July - December period.

During the 2002 legislative session the Rhode Island General Assembly adopted the Commercial Fisheries Management Act, which implemented a new commercial fishing license system and ended the moratorium on the issuance of new commercial fishing licenses that had been in place since 1995 (RIDFW 2002). The regulations identify two endorsement categories for finfish, restricted and non-restricted. The RI Department of Environmental Management (DEM) has limited access to species listed in the restricted category to the current number of participants and currently issues new licenses to harvest species in the non-restricted category, which includes bluefish in 2013. The current list of species placed in the restricted and non-restricted endorsement categories is updated annually, based on updated stock status information and fishery performance in the previous year.

2. Recreational

Rhode Island will not impose minimum size or season restrictions on the recreational fishery for bluefish in 2013. A possession limit of 15 bluefish per person per day will be enforced and recreational saltwater anglers will be required to possess one of the following: a RI Recreational Saltwater Fishing License, a National Saltwater Angler Registration, or a recreational saltwater fishing license from a reciprocal state.

B. Summarize monitoring programs that will be performed.

1. Commercial

The RIDFW Marine Fisheries Section will continue to monitor landings of bluefish and other quota-managed species using the RIDFW SAFIS Reporting System.

2. Recreational

Rhode Island recreational fishery statistics will continue to be collected and managed through the MRIP program. Information characterizing the catch of bluefish from Rhode Island waters by recreational anglers will be obtained via the MRIP online data query.

3. Biological sampling

Rhode Island will collect 100 age samples for bluefish in 2013 per Addendum I to the Fishery Management Plan for the Bluefish Fishery.

C. Highlight any changes from the previous year.

No changes have occurred.

V. Plan Specific Requirements

No plan specific requirements for bluefish.

VI. Law Enforcement Reporting Requirements

No law enforcement reporting requirements for bluefish.

VII. References

Gibson, M.R. and N. Lazar. 2002. Assessment and projection of the Atlantic coast bluefish stock using a biomass dynamic model. Report to the ASMFC And Mid-Atlantic Fisheries Management Council Monitoring Committee. Rhode Island Division of Fish and Wildlife /Atlantic States Marine Fisheries Commission. 30 pp.

Olszewski, S. 2012 Assessment of Recreationally Important Finfish Stocks in Rhode Island Waters. Rhode Island Division of Fish and Wildlife, Coastal Fishery Resource Assessment Trawl Survey 2010.

U.S. *Fed. Reg.* 2002. Action: Commercial quota transfers. Rules and Regulations, Federal Register 67:198 (11 October 2002) pp. 63311-63312

RIDFW. 2002. Management Plan for the Finfish Fishery Sector. RI Dept. Env. Mgmt., Div. Fish and Wildlife, Marine Fisheries (3 December 2002) 25 pp.

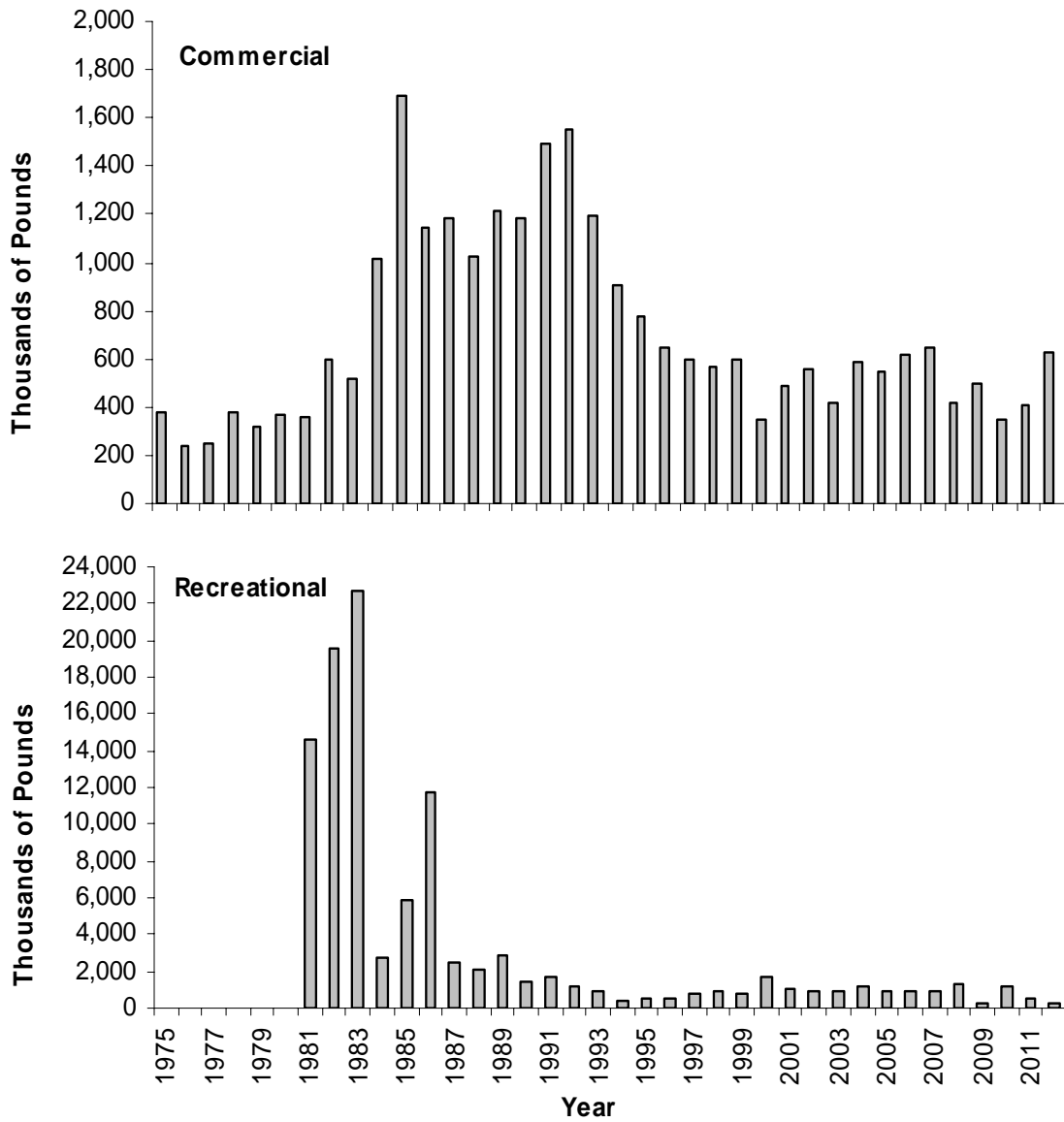


Figure 1. Annual harvest of bluefish from Rhode Island commercial and recreational fisheries, 1975 - 2012.

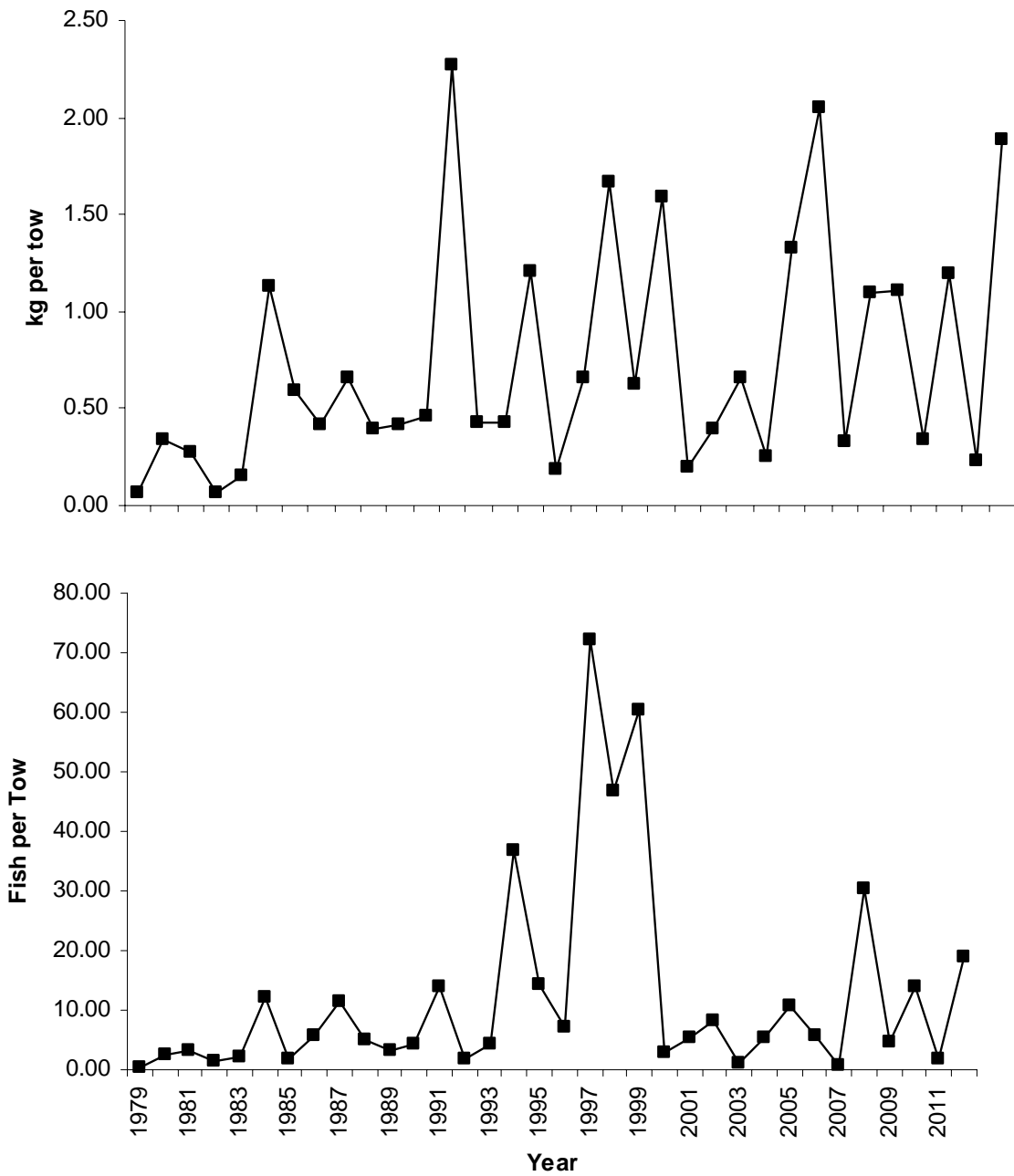


Figure 2. Relative biomass (weight / tow) and abundance (numbers / tow) of bluefish from the fall component of the RIDFW trawl survey, 1979 - 2012.

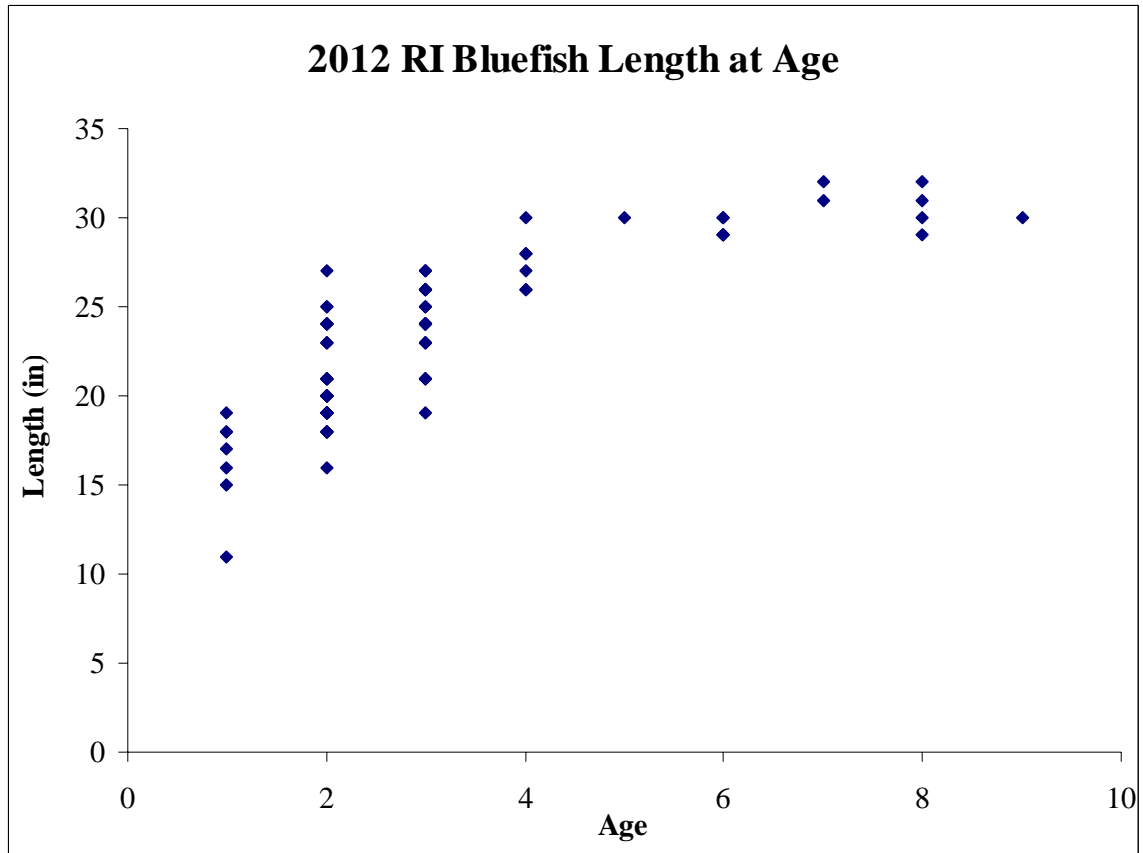


Figure 3. Bluefish length at age for RI in 2012.

**State of Connecticut
Compliance Report for Bluefish
May 1, 2013**

I. Introduction

The Atlantic States Marine Fisheries Commission requires States to submit an annual report each year to show compliance with the Fishery Management Plan for Bluefish. This document fulfills that compliance requirement. This report includes commercial and recreational fishery statistics, monitoring activities, biological sampling, and management measures during 2012.

a. Summary of the year highlighting any significant changes in monitoring, regulations or harvest.

There were no significant changes in bluefish monitoring efforts, or harvest during 2012.

Connecticut implemented a declaration of regulation change on 01/31/2012 to change the open commercial fishing season for bluefish from regulations under 26-159a-9 (see appendix 1). Declaration 12-02 changes the commercial fishing season to begin on January 1st each year and ends December 31 or such sooner date as one hundred percent of the Connecticut quota of bluefish has been landed.

Fishing regulations pertaining to bluefish are found in Connecticut DEP Marine Fishing Regulations, Sections 26-142a-8a(b) (minimum commercial fish size), 26-159a-7 (creel limits), and 26-159a-9 (net restrictions, fishing seasons, commercial possession limits, and commercial quota).

II. Request for *de minimus*, where applicable.

Not Applicable

III. Previous calendar year's fishery and management program.

a. Activity and results of fishery-dependent monitoring (provide general results and references to technical documentation). Specify the source of otolith and length samples and provide a brief first year review of the biological sampling program implemented through Addendum I.

i. A spreadsheet of the raw data with age and length information for samples collected in compliance with the biological monitoring program detailed in Addendum I.

All Connecticut commercial fishermen either submit Connecticut Commercial Fisheries Catch Logs or NMFS Fishing Vessel Trip Reports (VTR) on a monthly basis. Connecticut Department of Energy and Environmental Protection (CT DEEP) Marine Fisheries Division (MFD) staff enter fishermen reports into the Connecticut Marine Fisheries Information System (MFIS) and starting in 2009, into the Standard Atlantic Fisheries Information System (SAFIS) and VTR data is downloaded as needed. Seafood dealers with a federal permit submit their reports electronically to the National

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Marine Fisheries Service (NMFS) via SAFIS. Dealers with only state permits submit reports to the CT DEEP and MFD staff enter the reports into SAFIS. Harvest is monitored through both fishermen and dealer reports. These reports contain daily records of fishing and dealer purchase activity. See Section III d. for landings by major gear type. Preliminary commercial landings for 2012 totaled 82,342 pounds; an 80% increase from the preceding year (46,271 pounds) and moderately above the previous five year average (46,240 pounds). Connecticut landings for 2012 represent approximately 63% of the 130,649 pound quota set for the state.

Connecticut initiated a biological sampling program for bluefish in 2012 as part of implementing Addendum I to Amendment I of the bluefish fishery management plan. As part of Addendum I, states that account for more than 5% of total coastwide bluefish harvest (recreational and commercial combined) for the 1998 – 2008 period are required to collect a minimum of 100 bluefish ages (50 from January through June, 50 from July through December). During the first year of this program Connecticut collected 124 bluefish (61 spring bluefish and 63 fall bluefish) from both recreational fishery sampling and as part of collections through the Long Island sound Trawl Survey. Of the 61 Spring collections, 89% (54 bluefish) were collected through recreational sampling, while all fall samples were collected as part of Connecticut's research Trawl Survey. Every effort was made to collect bluefish from the full range of bluefish sizes that were available during the period of collections.

All bluefish samples have been aged by otolith cross section methodologies approved during the May 2011 bluefish ageing workshop. A separate attachment of the Connecticut raw data file is provided along with this report as compliance of Addendum I.

Recreational catch and harvest is monitored through the Marine Recreational Information Program (MRIP) see Section III d. CT DEEP staff conducts the fisherman interview (intercept) portion of MRIP, while the NMFS contractor conducts the telephone survey.

b. Activity and results of fishery-independent monitoring (provide general results and references to technical documentation).

Adult and juvenile bluefish are taken in the Long Island Sound Trawl Survey (LISTS) conducted each spring (April-June) and fall (September and October). Bluefish abundance and length frequency has been monitored in LISTS since 1984, see Job 2 – F-54-R-30:

http://www.ct.gov/deep/lib/deep/fishing/fisheries_management/2010_trawl_survey_report.pdf

The overall 2012 fall bluefish index of 15.06 fish/tow increased 36% from the fall of 2011. LISTS age 1+ bluefish index fell by 31% during 2012 to 0.97 fish/tow (Table 1). During the last 10 years the overall index averaged 20.2 fish/tow and the 1+ index averaged 3.3 fish/tow. Adult abundance had dropped from a record high of 10.38 fish per tow in 2004 to just below the time series average during 2005 through 2007. Abundance then increased modestly in 2008, before falling to about 29% of the time series average in 2012. LISTS young-of-year index peaked from 1997-1999 (39.19 fish/tow in 1999) then dropped to average (16.00 fish/tow) or just below average for the next seven years. Abundance increased for one year in 2007 to 23.98 fish/tow then fell to below average levels since. Currently the age 0 index (13.11 fish/tow) is 82% of the time series mean. Lower than average catches during the fall of 2011 may have resulted from two unusual storm events that occurred in the summer and fall that year.

Table 1. Connecticut Long Island Sound Trawl Survey bluefish indices (geometric mean number/tow), 1984-2012.

	Long Island Sound Trawl Survey		Long Island Sound Trawl Survey	
	Spring	Fall	0 index	Age 1+ index
1984	0.00	23.41	20.34	1.61
1985	0.02	19.01	11.27	4.16
1986	0.19	13.66	8.05	3.77
1987	0.07	14.32	9.01	3.11
1988	0.11	15.49	10.73	2.20
1989	0.07	26.25	21.07	1.92
1990	0.09	23.88	12.82	6.14
1991	0.52	33.43	22.57	5.59
1992	0.31	25.22	9.23	8.44
1993	0.05	18.92	11.61	3.34
1994	0.07	32.06	24.85	3.07
1995	0.03	24.46	16.85	4.07
1996	0.07	20.80	13.85	2.34
1997	0.18	37.90	31.26	2.35
1998	0.12	31.41	25.89	1.65
1999	0.24	45.31	39.19	0.86
2000	0.08	20.57	14.67	2.18
2001	0.07	24.24	19.04	2.62
2002	0.30	18.75	12.35	3.63
2003	0.16	28.53	16.85	2.16
2004	0.11	29.13	13.30	10.38
2005	0.11	18.89	12.10	2.65
2006	0.22	15.66	12.43	2.14
2007	0.16	30.66	23.98	2.44
2008	0.08	14.28	6.14	4.52
2009	0.24	18.11	11.65	3.18
2010	0.01	-	-	-
2011	0.17	11.10	8.21	1.40
2012	0.07	15.06	13.11	0.97

c. Copy of regulations that were in effect, including a reference to the specific compliance criteria as mandated in the FMP.

See Appendix 1.

d. Harvest broken down by commercial (by gear type where applicable) and recreational, and non-harvest losses (when available).

In 2012, a total of 82,342 pounds of bluefish were reported in the commercial fishery (Table 2). This is about 81% above average for Connecticut landings over the previous 10 years (2002-2011 = 45,257 lbs). The 2012 landings are considered a preliminary estimate, however in the

past only minor adjustments have been for bluefish. The combined hook and line and hand line fisheries took 33,791 lbs of bluefish in 2012. The reported trawl catch from Connecticut logbooks and the “unknown” category from the dealer reports, which is thought to be mostly trawl gear, accounted for 46,947 lbs. The gill net fishery only accounted for 652 lbs in 2012 and the remaining 952 lbs was from either fish or lobster pots.

Connecticut recreational anglers caught 1,185,898 bluefish (A+B1 +B2) in 2012, compared to 1,303,595 fish in 2011 (Table 3). The 2012 harvest was 496,890 fish whereas 2011 harvest was 306,858 fish (earlier years: 590,844 fish in 2010, 261,998 fish in 2009, 427,702 fish in 2008, and 375,064 fish in 2007). Harvested weight in 2012 was 1,717,242 pounds. Long-term average annual landings are about 4 million pounds.

There are no estimates available for non-harvest losses in either fishery.

Table 2. Connecticut commercial bluefish landings, 1981-2012.

Year	Species	Metric Tons	Pounds	\$
1981	BLUEFISH	141.5	312,000	56,157
1982	BLUEFISH	136.2	300,200	90,137
1983	BLUEFISH	31.5	69,500	17,375
1984	BLUEFISH	45.4	100,100	25,025
1985	BLUEFISH	82.5	181,900	45,475
1986	BLUEFISH	86.2	190,100	47,475
1987	BLUEFISH	79.7	175,800	43,950
1988	BLUEFISH	46.3	102,000	25,500
1989	BLUEFISH	88.0	193,900	44,597
1990	BLUEFISH	81.3	179,196	41,216
1991	BLUEFISH	116.8	257,567	54,349
1992	BLUEFISH	121.9	268,802	51,844
1993	BLUEFISH	61.0	134,522	25,918
1994	BLUEFISH	68.9	152,000	32,000
1995	BLUEFISH	53.2	117,227	42,202
1996	BLUEFISH	45.9	101,268	28,449
1997	BLUEFISH	32.7	72,060	18,524
1998	BLUEFISH	25.6	56,399	19,780
1999	BLUEFISH	24.1	53,216	22,979
2000	BLUEFISH	15.2	33,452	14,001
2001	BLUEFISH	20.8	45,850	17,008
2002	BLUEFISH	24.6	54,226	17,123
2003	BLUEFISH	20.3	44,692	12,144
2004	BLUEFISH	19.1	42,072	11,852
2005	BLUEFISH	17.7	38,922	11,055
2006	BLUEFISH	18.8	41,461	14,041
2007	BLUEFISH	10.3	22,813	6,099
2008	BLUEFISH	17.0	37,547	14,715
2009	BLUEFISH	37.5	82,722	33,128
2010	BLUEFISH	19.0	41,847	24,872
2011	BLUEFISH	21.0	46,271	28,551
2012*	BLUEFISH	37.4	82,342	50,808

Table 3. Connecticut recreational bluefish catch, 1981-2012.

Year	Common Name	Total Catch	PSE
1981	BLUEFISH	3,691,115	15.9
1982	BLUEFISH	6,336,921	15.5
1983	BLUEFISH	1,271,742	17
1984	BLUEFISH	3,528,965	14
1985	BLUEFISH	3,461,492	14.5
1986	BLUEFISH	2,669,046	14.2
1987	BLUEFISH	2,825,617	12.4
1988	BLUEFISH	690,694	14.4
1989	BLUEFISH	1,598,797	15.4
1990	BLUEFISH	1,262,412	12.4
1991	BLUEFISH	2,281,586	12.2
1992	BLUEFISH	1,599,891	11
1993	BLUEFISH	1,086,264	8.8
1994	BLUEFISH	793,618	10.8
1995	BLUEFISH	778,903	11.3
1996	BLUEFISH	990,957	11.3
1997	BLUEFISH	812,047	11.1
1998	BLUEFISH	791,453	14.7
1999	BLUEFISH	1,184,863	12.8
2000	BLUEFISH	1,252,963	12.4
2001	BLUEFISH	2,145,658	10.4
2002	BLUEFISH	1,231,659	9.8
2003	BLUEFISH	999,697	8.8
2004	BLUEFISH	1,568,018	17.8
2005	BLUEFISH	822,971	20.2
2006	BLUEFISH	1,674,035	26.3
2007	BLUEFISH	1,338,407	15.6
2008	BLUEFISH	1,767,062	14.3
2009	BLUEFISH	557,059	22.9
2010	BLUEFISH	1,305,697	14.1
2011	BLUEFISH	1,303,595	28.4
2012	BLUEFISH	1,185,898	15.6

* preliminary numbers

e. Review of progress in implementing habitat recommendations.

N/A

IV. Planned management programs for the current calendar year.

a. Summarize regulations that will be in effect (copy of current regulations if different from IIIc).

Recreational harvest remains limited to 10 fish regardless of size. The commercial fishery is managed through state quota system, a restricted season (open April 15-December 31) and trip limits. The trip limit is generally 500 lbs., but varies based on the percentage of state quota landed. Regulations require that the fishery be closed once the quota has been landed. On December 20th 2012, a declaration was implemented (12-21) which changed the commercial fishing season to begin on January 1st each year and end on December 31 or such sooner date as one hundred percent of the Connecticut quota of bluefish is landed. This same declaration changed the commercial trip limit from 500 lbs to 750 lbs between January 1 and April 30 until a total of 30 percent of the Connecticut quota has been landed, at which time the limit shall be one hundred pounds until the Connecticut quota has been landed.

b. Summarize monitoring programs that will be performed.

Commercial fishery bluefish landings will continue to be monitored through the Connecticut Marine Fisheries Information System (MFIS) logbooks submitted on a monthly basis by all fishermen catching or landing fish in Connecticut and all dealers that purchase fish in Connecticut. No commercial fishery-dependent biological sampling has been conducted for bluefish. However, biological sampling for ageing purposes of the recreational fishery will continue in 2013 as well as sampling onboard the Connecticut Long Island Sound Trawl Survey. Samples collected will continue to be distributed throughout the length range of the catch. The Long Island Sound Trawl Survey will continue to record numbers, biomass and size composition of bluefish taken in spring and fall surveys.

c. Highlight any changes from the previous year.

No changes have been made for 2013 for commercial fishermen or dealer reporting and fishery-independent monitoring. The new biological sampling program initiated in 2012 will be continued during 2013.

V. Plan specific requirements None

Appendix 1. Connecticut fishing regulations for bluefish

26-159a-7. Creel Limits

- (a) Unless otherwise specified in section 26-112-45 of the Regulations of Connecticut State Agencies, the daily creel limit for species taken by sport fishing methods, including spears of any kind, shall be as set forth in this subsection. No person, other than a person authorized to take finfish under a license or registration issued pursuant to section 26-142a of the Connecticut General Statutes, while on the waters of this state or on any parcel of land, structure, or portion of a roadway abutting tidal waters of this state shall possess any of the following species in excess of the identified number.
- (8) Bluefish (*Pomatomus saltatrix*): 10 fish;
- (b) This section shall not be construed to restrict the number of legally acquired fish that may be kept in storage in the home or other storage facilities, or in a commercial storage facility where seafood is handled, stored, processed, or marketed.
- (c) Any of said species taken contrary to subsection (a) of this section shall, without avoidable injury, be returned immediately to the water from which taken. Culling or high-grading, as defined in section 26-142a-16 of the Regulations of State Agencies, is prohibited, except in fishing tournaments granted an exemption by the Commissioner of Environmental Protection pursuant to section 26-159a-26 of the Regulations of Connecticut State Agencies. This subsection shall not be construed to prevent tagging and release of fish, other than striped bass, under a tagging program consistent with the Atlantic States Marine Fisheries Commission's standards for scientific tagging programs.
- (d) No person fishing under the provisions of this section or section 26-159a-2 shall also, during the same trip for which the creel limit applies, possess any fish taken under commercial fishery trip limits specified in the Regulations of Connecticut State Agencies.

Effective October 23, 1997. Amended 10/30/1998, 09/29/1999, 12/27/2000, 01/28/2002. Amended 06/19/2002 as Emergency Regulation to implement 50 fish limit for scup and to add new subsection (c) regarding release of fish without avoidable injury. Amended 03/31/2003 Atlantic Cod and Haddock as in 50 CFR, Scup to 50 fish, added winter flounder, bluefish (10), alewives and blue backs (25), tautog (4), white perch (30) and weakfish (10) added subsection (d). Amended 4/26/2005 scup 20 fish. Amended 12/27/2006 scup 25 fish, 60 for party/charter September 1 – October 31 and tagging programs. Amended 01/25/2007 culling prohibition. Amended 09/27/2007 summer flounder 5 fish, weakfish 6 fish. Amended 12/22/2008 technical corrections, scup 10 fish private angler, 45 fish party/charter, tautog 4 fish January 1 – April 30 and October 1 – December 6 and 2 fish from July 1 to August 31, capitalized "States" in (c).

26-142a-8a. Species restrictions

- (b) **Minimum Legal Length.** No person shall possess any fish taken by any commercial fishing gear or for commercial purposes less than the lengths specified below measured from the tip of the snout to the end of the tail and, notwithstanding section 26-159a-4 of the Regulations of Connecticut State Agencies, no person shall buy, sell, offer for sale or possess in a place where fish are offered for sale, any of said species less than the minimum legal length stated herein.
- (6) Bluefish (*Pomatomus saltatrix*) - 9 inches

Any of said species less than the minimum legal length taken by any commercial fishing gear shall, without avoidable injury, be returned immediately to the water from which taken. No person on board any vessel engaged in commercial fishing or landing species taken by commercial fishing gear shall possess any summer flounder fillet less than the minimum total length for the species unless the carcass of the fish from which the fillet was removed has been retained and meets the minimum

length. This subsection shall not be construed to prevent filleting of fish on shore or at the dockside.

Effective May 19, 1995 amended June 27, 1997, October 23, 1997. Amended June 25, 2002 Black sea bass 11" minimum length Amended 3/31/03 22" minimum length for cod and haddock, removed minimum length for red drum. Effective 2/26/04 Removed section on Sturgeon

26-159a-9. Bluefish (*Pomatomus saltatrix*).

- (a) No person shall use any pair trawl or purse seine to capture or take any bluefish.
- (b) No person shall use any roller rig gill net to surround any bluefish. For the purposes of this section, a roller rig gill net is defined as a gill net which is set or retrieved with the assistance of a mechanical, electrical, or hydraulic device.
- (c) Open Commercial Fishing Season. The open commercial fishing season begins April 15th each year and ends December 31st or such sooner date as one hundred percent of the Connecticut quota of bluefish as set forth in subsection (e) of this section has been landed. No holder of a license or registration issued under section 26-142a of the Connecticut General Statutes concerning the taking of finfish shall land bluefish in excess of the daily creel limit specified in section 26-159a-7 from January 1st to April 14th inclusive, or after one hundred percent of the Connecticut quota specified in subsection (e) of this section has been landed. Any such bluefish taken in accordance with a creel limit under the provisions of section 26-159a-7 shall not be used for commercial purposes.
- (d) Commercial Fishery Possession Limit.
 - (1) No holder of any commercial fishing or landing license or registration permitted to take bluefish from the waters of this state or to land bluefish in Connecticut, regardless of where such fish are taken, shall possess bluefish in excess of the limits specified as follows:
 - (A) five hundred pounds until a total of ninety-five percent of the Connecticut quota specified in subsection (e) of this section has been landed in Connecticut, at which time the limit shall be one hundred pounds until the Connecticut quota has been landed in Connecticut,
 - (B) on October first, if less than eighty percent of the Connecticut quota specified in subsection (e) of this section has been landed in Connecticut, the limit shall be one thousand pounds until a total of ninety-five percent of the Connecticut quota has been landed in Connecticut, at which time the limit shall be one hundred pounds.
 - (C) when 100 percent of the Connecticut quota is landed the possession limit shall be zero.
 - (2) The possession limits specified in subdivision (1) of this subsection shall apply to the aggregate of all persons on board the vessel per trip or per day whichever is the longer period of time. Transfer of bluefish between vessels at sea is prohibited.
 - (3) Any bluefish taken contrary to this section shall, without avoidable injury, be returned immediately to the water from which taken and no person fishing under the provisions of this section shall also, during the same trip, possess any bluefish taken under section 26-159a-7 of the Regulations of Connecticut State Agencies.
- (e) Commercial Quota. The commercial fishery quota for bluefish landed in Connecticut regardless where such bluefish are taken shall be as specified in the Atlantic Bluefish Fishery Management Plan of the Atlantic States Marine Fisheries Commission.

Effective May 19, 1995; amended March 31, 2003 moved recreational creel limit to creel limit section , added subdivision (3).

Declaration of Regulation Change (12-02)

Under the authority of 26-159a of the Connecticut General Statutes and Section 26-159a-22 of the Regulations of Connecticut State Agencies, the Commissioner of Energy and Environmental Protection is authorized to establish or adjust, by declaration, closed seasons, length limits, creel limits, trip limits and trip limit adjustment values in order to comply with interstate fishery management plans adopted by the Atlantic States Marine Fisheries Commission or the U.S. Department of Commerce.

26-159a-9. Bluefish (*Pomatomus saltatrix*).

(c) **Open Commercial Fishing Season.** The open commercial fishing season begins [~~April 15th~~] January 1 each year and ends December 31st or such sooner date as one hundred percent of the Connecticut quota of bluefish as set forth in subsection (e) of this section has been landed. [~~No holder of a license or registration issued under section 26-142a of the Connecticut General Statutes concerning the taking of finfish shall land bluefish in excess of the daily creel limit specified in section 26-159a-7 from January 1st to April 14th inclusive, or after one hundred percent of the Connecticut quota specified in subsection (e) of this section has been landed. Any such bluefish taken in accordance with a creel limit under the provisions of section 26-159a-7 shall not be used for commercial purposes.~~]

Declaration of Regulation Change (12-21)

26-159a-9. Bluefish (*Pomatomus saltatrix*).

- (c) **Open Commercial Fishing Season.** The open commercial fishing season begins [~~April 15th~~] January 1 each year and ends December 31[~~st~~] or such sooner date as one hundred percent of the Connecticut quota of bluefish as set forth in subsection (e) of this section has been landed. [~~No holder of a license or registration issued under section 26-142a of the Connecticut General Statutes concerning the taking of finfish shall land bluefish in excess of the daily creel limit specified in section 26-159a-7 from January 1st to April 14th inclusive, or after one hundred percent of the Connecticut quota specified in subsection (e) of this section has been landed. Any such bluefish taken in accordance with a creel limit under the provisions of section 26-159a-7 shall not be used for commercial purposes.~~].
- (d) **Commercial Fishery Possession Limit.**
- (1) No holder of any commercial fishing or landing license or registration permitted to take bluefish from the waters of this state or to land bluefish in Connecticut, regardless of where such fish are taken, shall possess bluefish in excess of the limits specified as follows:
- (A) between January 1 and April 30, [~~five hundred~~] 750 pounds until a total of 30 percent [~~ninety-five~~] percent of the Connecticut quota specified in subsection (e) of this section has been landed in Connecticut, at which time the limit shall be one hundred pounds until the Connecticut quota has been landed in Connecticut,

New York State Department of Environmental Conservation

Division of Fish, Wildlife & Marine Resources

Bureau of Marine Resources

205 North Belle Mead Road, Suite 1, East Setauket, New York 11733

Phone: (631) 444-0430 • Fax: (631) 444-0434

Website: www.dec.ny.gov



Joe Martens
Commissioner

2012 Compliance Report to the ASMFC for Bluefish

I. Introduction

II. Request for *de minimis* Not applicable.

III. Previous calendar year's fishery and management program

a. *Activity and results of fishery dependent monitoring*

Recreational: NYSDEC staff sampled 33 head-boat trips in 2012 targeting a variety of marine recreational species from May through October. Few of these trips targeted bluefish but the species was a regular component of the bycatch and 107 fork lengths were taken from both kept and discarded fish (Fig. 1). In addition, NYSDEC staff collected 131 lengths and otoliths from a variety of sources, including commercially harvested bluefish from markets, fish caught by recreational anglers from headboats, and larger specimens encountered by fishery-independent ocean trawling (Fig. 2). These samples have been aged and the data made available for stock assessment purposes.

Activity and results of fishery independent monitoring

Peconic Bay Small Mesh Trawl Survey: In 2012, 390 tows were conducted in the Peconic Bays, yielding 50 bluefish for an average CPUE of 0.13 bluefish per tow which is lower than the previous year (0.18 bluefish per tow) and the time series average (1987-present) of 0.22 (Fig. 3). This data is available for stock assessment purposes.

Western Long Island Seine Survey: A seine survey targeting YOY and yearling striped bass, 62 tows of a 200' seine net in Jamaica Bay, NY from May thru Oct. yielded 282 bluefish. The 2012 CPUE of 4.55 bluefish is lower than the previous year (9.92) and the time series average (1987-present) of 12.00 bluefish per tow (Fig. 3). This data is available for stock assessment purposes.

b. *Regulations in effect*

Recreational Regulations: 15 fish possession limit
No more than 10 fish less than 12" Total Length
All year
Commercial Regulations: 9" Total Length minimum size limit
See quota distribution plan (Appendix A)

c. *Harvest*

Commercial: NY commercial fishermen landed 1,102,316.5 lbs. According to dealer reports, 69.7% were not coded to any specific gear. Of landings associated w/ a gear type, 15.5% percent of landings were attributed to trawls, 8.8% to gillnet, 4.1% to hook and line/hand line and the remaining 1.9% to other gears. According to New York State vessel trip reports, 36.9% of bluefish landings were attributed to fish traps, 35.7% to gillnets, 21.9% to hook and line, and the remaining 5.5% to trawls. Florida transferred 50,000 lbs of commercial bluefish quota to New York in 2012 (Appendix B).

Recreational: NY marine recreational anglers harvested 1,006,579 bluefish in 2012, less than the 10 year average of ~1,445,000 bluefish.

See Table 1. for data on commercial and recreational bluefish harvest in NY state from 2000 to the present.

d. *Implementation of habitat recommendations* None

IV. Planned management programs for the current calendar year

- e. *Regulations in effect* See Appendix C
- f. *Monitoring programs* No changes anticipated
- g. *Changes* No changes anticipated

Fig. 1.

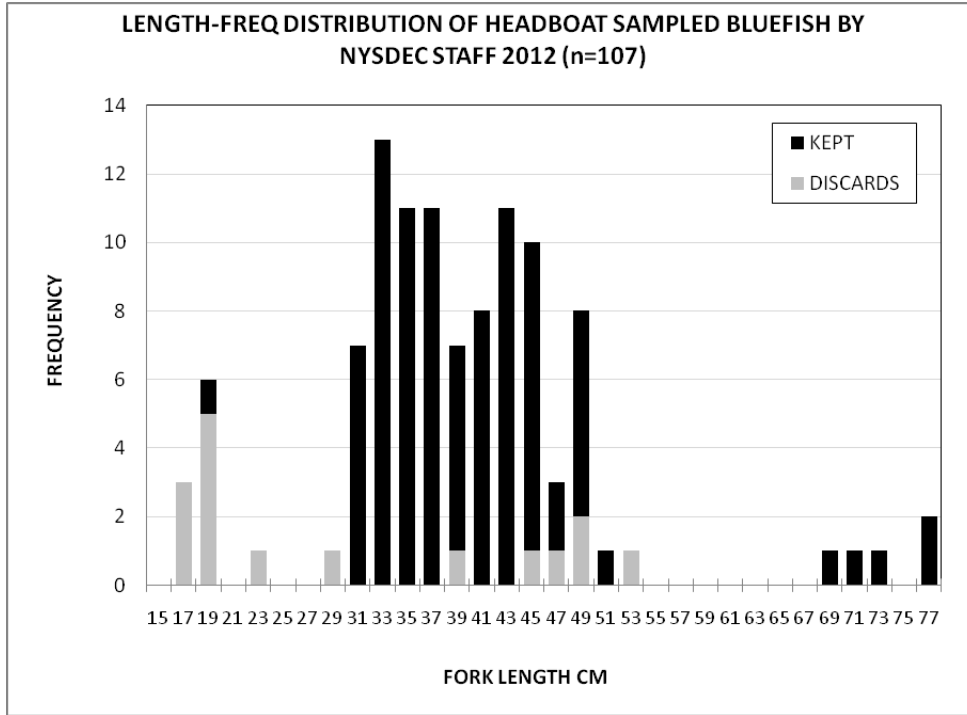


Fig. 2.

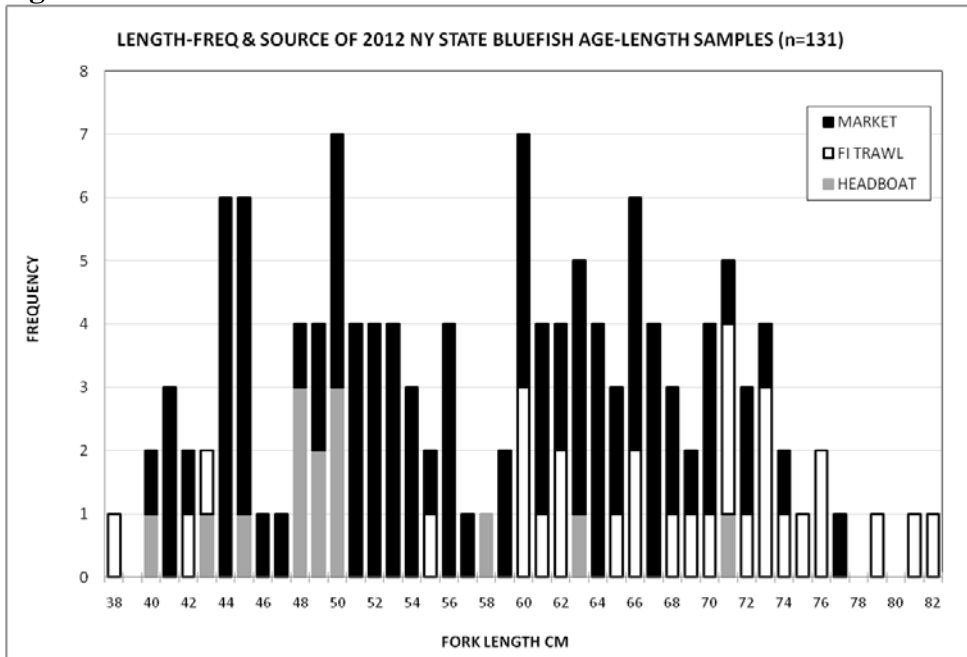


Fig. 3.

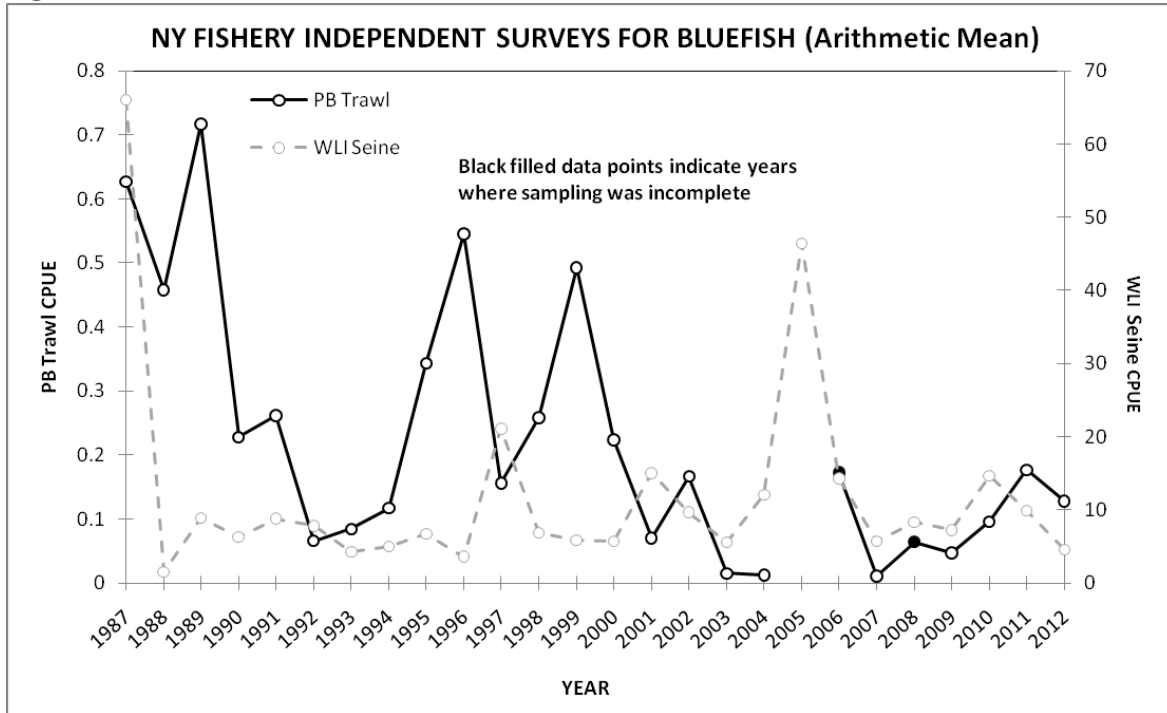


Table 1.

BLUEFISH YEAR	COMMERCIAL		GEAR					RECREATIONAL	
	Live Lbs	Value	% Hook n Line/Hand Line	Not Coded	Gill Net	Trawls	Other	No. Fish Harvested (A+B1)	PSE
2000	1,860,373.0	\$650,990.80	4.0%	0.0%	34.7%	61.0%	0.4%	718,078	15.3
2001	1,375,464.0	\$526,871.90	6.7%	0.0%	41.7%	50.9%	0.7%	1,005,457	9.2
2002	1,475,174.0	\$544,638.53	5.4%	0.0%	46.9%	47.4%	0.3%	750,577	11.4
2003	1,559,854.0	\$510,557.00	5.6%	0.0%	56.4%	37.8%	0.2%	1,146,759	9
2004	1,395,294.0	\$454,664.77	1.0%	57.6%	8.8%	24.6%	7.9%	1,894,833	16
2005	1,139,012.0	\$461,788.00	4.3%	69.0%	11.5%	11.9%	3.3%	1,683,647	20.1
2006	1,180,311.0	\$584,213.00	3.4%	73.3%	5.7%	15.6%	2.0%	1,832,376	19.2
2007	1,468,327.2	\$595,681.73	4.5%	79.6%	5.0%	6.9%	4.0%	2,150,532	22.7
2008	1,260,079.8	\$661,948.76	5.6%	78.1%	9.0%	5.2%	2.1%	1,483,713	14.1
2009	1,294,890.5	\$608,322.49	6.9%	76.0%	7.4%	5.4%	4.3%	1,293,144	14.1
2010	837,155.4	\$482,481.77	6.9%	69.9%	11.0%	11.1%	1.1%	1,026,392	16.4
2011	1,171,700.5	\$814,175.10	6.1%	72.5%	8.8%	11.9%	0.6%	927,493	16.3
2012	1,102,316.5	\$815,547.02	4.1%	69.7%	8.8%	15.5%	1.9%	1,006,579	15.1

6/6/2013 ACCSP Confidential Commercial Landings (Dealer reports)

* Gear categories have been combined to protect individual confidentiality

Appendix A.

2012 BLUEFISH DISTRIBUTION

The 2012 bluefish draft quota allocation provided by the United States Department of Commerce, National Marine Fisheries Service to the State of New York is **973,624** pounds. The quota distribution plan for bluefish is below. The purpose of this distribution plan is to fully utilize the available quota of bluefish for the maximum benefit to New York’s commercial fishery and to minimize the likelihood of a fishery closure.

2012 Bluefish Quota Distribution

	Dates	Quota (lbs)	Initial trip limit	% Distribution	Trigger	Trip limit after trigger
Period 1	January - April	146,044	5,000	15%	75%	200
Period 2	May - June	243,406	1,000	25%	75%	200
Period 3	July - August	340,768	1,000	35%	75%	200
Period 4	September - October	146,044	1,000	15%	75%	200
Period 5	November - December	97,362	1,000	10%	50%	200

Provisions to the quota distribution plan--

1. Trip limits are established to distribute quota allocation over each period and to prevent closures if possible.
2. Initial period trip limits will be set at modest levels. The percent of the period’s assigned quota share is set as a trigger to lower the trip limit. When period landings reach the stated trigger, trip limits will be lowered to prevent over-harvest.
3. Any period’s unused allocation will roll over to the next period. Currently, the Fishery Management Plan does not allow for one year’s unused quota to be rolled over to the next year.
4. If there is a year-end over-harvest that results in a deduction in the state’s quota for the following year, the deduction may be taken proportionately from each period for which the assigned quota was exceeded.
5. DEC may adjust this quota distribution plan if the level of harvest is different from what was projected to ensure maximum utilization of the scup resource and prevent the state allocation from being surpassed.
6. The final 2012 quota allocation is subject to change by adjustments made by the National Marine Fisheries Service.

Appendix B.

December 7, 2012

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

Dear Mr. Bullard:

By this letter, New York accepts the transfer of 50,000 pounds of 2012 commercial bluefish quota from the State of Florida.

Such transfers are authorized pursuant to 6 NYCRR 40.1(a) and acceptance of the transfer is consistent therewith.

Thank you for your assistance in processing this transfer request.

Sincerely,

James J. Gilmore, Jr.
Chief, Bureau of Marine Resources

JJG:sh

Cc: Robert Beal
Senator Owen Johnson
Patrick Augustine
Dr. Christopher Moore
Carly Bari
George Darcy
Jessica McCawley
Gil McRae
Nick Wiley

NEW JERSEY DEPARTMENT OF
ENVIRONMENTAL PROTECTION

DIVISION OF FISH & WILDLIFE

MARINE FISHERIES
ADMINISTRATION

NEW JERSEY BLUEFISH FISHERIES, 2012
MANAGEMENT MEASURES, HARVEST, AND RESOURCE
MONITORING
&
NEW JERSEY BLUEFISH MANAGEMENT PROGRAMS, 2013

Report By:

Michael Celestino

May 1, 2013

I. INTRODUCTION

This report was prepared to satisfy the Atlantic States marine Fisheries Commission (ASMFC) compliance reporting requirement for bluefish. In February 2012 the Bluefish Management Board approved Addendum I to Amendment 1 to the Interstate Fishery Management Plan for Bluefish which established a coast-wide biological sampling program. Specifically, the Addendum requires states that account for more than 5% of total coast wide bluefish harvest (recreational and commercial combined) for the 1998 – 2008 period are required to collect a minimum of 100 bluefish ages (50 from January through June, 50 from July through December). New Jersey had voluntarily implemented this program in 2010 and 2011 – we were able to successfully continue this program in 2012. Additionally, in December 2012 New Jersey amended its commercial bluefish regulations to modify seasons for gill nets and otter trawls such that there is now no closed season for either gear (still subject to quota limits however). The changes implemented in 2012 will continue in 2013 and beyond. There were no other significant changes in monitoring, regulations, or harvest for bluefish in 2012.

II. REQUEST FOR *DE MINIMUS* STATUS

New Jersey does not request *de minimus* status for bluefish.

III. NEW JERSEY BLUEFISH FISHERY & MANAGEMENT PROGRAM - 2012

A. FISHERY DEPENDENT MONITORING

Commercial bluefish landings were monitored through weekly dealer reports submitted to the Atlantic Coastal Cooperative Statistics Program's (ACCSP) web-based dealer reporting system – Standard Atlantic Fishery Information System (SAFIS). These reports are used to administer the commercial quota. Recreational catch and harvest was monitored through the Marine Recreational Information Program (MRIP). No length or otolith (or scale) samples are collected as part of this monitoring by the State of New Jersey.

Implementation of Addendum I:

In February 2012 the Bluefish Management Board passed Addendum I to Amendment 1 to the bluefish fishery management plan that required states that accounted for >5% of total coast-wide bluefish harvest to collect a minimum of 100 bluefish ages (50 from January - June; 50 from July - December). New Jersey voluntarily initiated this program in 2010 and continued the program in 2011 and 2012. New Jersey met the sampling and ageing requirements for 2012 (NMFS currently ageing NJ's samples – ages not yet

available). Complete details of the 2010, 2011, and 2012 are provided in Celestino (2011, 2012, and 2013a)¹, respectively, however a synopsis of the 2012 program follows: We used a number of sampling strategies including: collections from volunteer recreational anglers; collections from recreational fishing tournaments; collections from party boats. We extracted otoliths from 176 bluefish harvested from a variety of locations in NJ between May and September 2012. Fifty-five percent of the otoliths were collected from fish harvested in spring; the remainder in fall. A size-frequency plot of the fish from our collection is provided in Figure 1; we had a distinctly bimodal frequency in both seasons. Comparison of the size frequency of bluefish from our 2012 collection with the 2012 ALK from Virginia shows that while there was some overlap (e.g., over-representation of some sizes), samples from the two states are in some cases complementary – however, even when bluefish collected from the two states are combined, gaps remain in the ALK (Figures 2 and 3). Sometime during 2013 the Bluefish TC will review the results of this program. A spreadsheet with the ages from our 2010 and 2011 programs is attached to this document; ages from the 2012 program will be provided as soon as they become available.

Since 2010 New Jersey has also collected data on the relationship between bluefish racks (the fish with the fillets removed) and whole fish – collection of fish racks can be a cost-effective means to collecting biological data relative to collection of a whole fish. In 2010, when our biological collection program began, we suspected that the length of a given fish might differ if it was based on a whole fish versus a fish rack, so we began to collect paired measurements. Complete results of analyses of the 3-year data collection effort are provided in Celestino (2013b), but a brief summary of results follows: Our results indicate that seasonal and annual differences ($p < 0.05$) exist between rack lengths and whole fish lengths. In general, small racks $>$ small whole fish, while large racks $<$ large whole fish. The adjustments to rack lengths after conversions were applied were always within ± 1 cm; by year, 9-51% of NJ's rack lengths changed once converted to whole fish lengths. While we have not quantified the magnitude of observation/measurement error, our results suggest other factors also play a role (e.g., spinal slumping, spinal stretching, depending on fish size and possibly fillet technique). We also calculated two catches at age (CAAs) using an ALK constructed of whole fish length measurements (i.e., an unaltered original ALK from VA) and an ALK where we assigned all whole fish length ages to rack length sized fish (as a worst case scenario). The results of these analyses suggested modest impacts to the CAA for the year we

¹ Celestino, M. 2011. New Jersey's 2010 voluntary biological collection program for bluefish (*Pomatomus saltatrix*). NJ Department of Environmental Protection, Division of Fish and Wildlife, Port Republic, NJ 08241. 19 pp.

Celestino, M. 2012. New Jersey's 2011 voluntary biological collection program for bluefish (*Pomatomus saltatrix*). NJ Department of Environmental Protection, Division of Fish and Wildlife, Port Republic, NJ 08241. 22 pp.

Celestino, M. 2013a. New Jersey's 2012 biological collection program for bluefish (*Pomatomus saltatrix*). NJ Department of Environmental Protection, Division of Fish and Wildlife, Port Republic, NJ 08241. 25 pp.

Celestino, M. 2013b. Analysis of fork length measurements taken from bluefish (*Pomatomus saltatrix*) collected as part of New Jersey's biological collection program. NJ Department of Environmental Protection, Division of Fish and Wildlife, Port Republic, NJ 08241. 25 pp.

examined, with numeric differences within ages ranging between -140,000 to +93,000 fish (total CAA = 9.6 million fish) and within-age age composition differences of between -1 to +1.5 percentage points. Despite the modest differences between CAAs they do represent potential sources of error. The statistical catch at age model used in the coast wide stock assessment of bluefish does allow for error in the catch, and so it would be ideal if the bluefish TC developed guidance as to how (or if) states should deal with fish rack collections and measurements in light of the coast-wide model and the results presented in Celestino (2013b). Note that our analyses considered a worst-case scenario that assumed an ALK comprised entirely of fish rack lengths assigned to whole fish length ages; a more modest 33-67% rack length composition is more likely, the results of which have not yet been explored. However, with dwindling budgets and the cost savings associated with rack collections relative to other collection methods, an ALK composed of 100% racks is not unrealistic. The TC is likely to discuss the results of these analyses sometime during 2013 as they may influence the coast-wide biological collection program.

B. FISHERY INDEPENDENT MONITORING

1. Delaware River Seine Survey

Since 1980, Bureau personnel have conducted a striped bass young-of-year (y-o-y) seine survey in the Delaware River. This survey collects a variety of other species of fish and invertebrates, with moderate numbers of bluefish collected, 2,900, since its inception. The sampling scheme has been modified over the years but the core survey area, station locations and field timeframe (June – October) have remained consistent. The current sampling protocol, since 1998, consists of 32 fixed stations sampled twice a month from June through November.

Field sampling employed a bagged, 100-foot long, by 6-foot deep, by 1/4-inch mesh beach seine. All fish were identified to species level, quantified and a sub-sample of up to 30 lengths were recorded for each species from each seine haul. Basic water quality parameters, including water temperature, salinity and dissolved oxygen, were also recorded at each station. Those stations farthest up river, in the tidal fresh portion of the survey area (region 3), were excluded from the index calculation because there have been no bluefish collected in over 1,700 seine hauls in this region. The geometric mean y-o-y index is reported as the number of y-o-y (age-0)² bluefish per seine haul.

During the 2012 sampling season, there were 61 age-0 bluefish collected in 240 seine hauls, producing a Delaware River geometric mean index of 0.121 (Table 1). The 2012 index is 3% higher than the 2011 index of 0.117, lower than the ten year average (2003-2012) of 0.219, and below the long-term (1980-2012) average of 0.380 (Figure 4). The

² To avoid taking the log_e of 0, the geometric mean index is calculated as: $[e^{(\text{mean}(\log_e(\text{catch per tow} + 1)))} - 1]$. All fish ≤ 250 mm are considered age 0 fish as determined by a data workshop group in 2004 (B. Muffley, pers. comm., 2009).

majority of bluefish was collected in July (36 bluefish comprising 59% of all bluefish collected in 2012). Total number collected by month is provided in Table 2, below.

Bluefish fork lengths in 2012 ranged from 58 to 221 millimeters, with a mean length of 111.1 mm (Figures 5 and 6). The mean length in 2012 was 32% greater than in 2011.

Table 2. Total number of young-of-year bluefish collected by month (in 2012) from New Jersey's Delaware River seine survey.

	June	July	August	September	October	Sum
Number:	5	36	4	9	7	61
% of total:	8	59	7	15	11	100%

2. New Jersey Ocean Trawl Survey

The New Jersey Ocean Trawl is a multispecies trawl survey that started in August 1988 and samples the near shore waters (3 fathom – 15 fathom isobaths) from the entrance of New York Harbor south, to the entrance of the Delaware Bay five times a year (January, April, June, August and October). There are 15 strata (five strata assigned to three different depth regimes: inshore – 3 to 5 fathoms, mid-shore – 5 to 10 fathoms, and offshore – 10 to 15 fathoms). Stations are randomly selected, and station allocation per stratum is proportional to stratum size. For standard catches, the total weight of each species is measured (in kilograms) and the fork length of all individuals is measured to the nearest centimeter. For large catches, a subsample is also weighed and measured (nearest cm), and an expansion factor (total weight ÷ subsample weight) is then applied to each frequency of the length-frequency distribution from the subsample.

Substantial numbers of bluefish, more than 64,000, have been collected over the course of the survey. The most consistently high catches (and often the plurality of catches) are from the October cruise (since the survey's inception, 53% of all bluefish have been collected in October). Since 2005, when the coast wide bluefish assessment model was changed to the forward projecting statistical catch-at-age model, the NJ ocean trawl survey has been used as a fishery independent tuning index in the model. The index is calculated as a geometric mean aggregated-age index (age 0-6+) and as a geometric mean age-specific index³.

During the 2012 sampling season, there were a total of 4,342 bluefish collected, with 4,003 collected during the October cruise (92% of all bluefish collected in 2012) (Table 3). The 2012 October age-aggregated geometric mean CPUE index was 8.91, which was 33% higher than the 2011 index of 6.70, 89% higher than the time series mean (1988 –

³ To avoid taking the \log_e of 0, the geometric mean index is calculated as: $[e^{(\text{mean}(\log_e(\text{catch per tow} + 1)))} - 1]$. Unlike the method used with the Delaware River seine survey to estimate the number of age 0 fish (i.e., age 0 = fish \leq 250 mm), a calendar-year-specific (split into two seasons) age length key is used.

2012) index of 4.72 and 69% higher than the last ten years average (2003 – 2012) index of 5.29 (Table 3, Figure 7). The index from 2012 is the 3rd highest value in the time series (92nd percentile), and represents the second year of an increasing trend ($r^2 = 0.9538$, $n = 3$).

Plots of \log_{10} -transformed geometric mean catch per tow by individual stratum (for the October cruise only) are provided in Figure 8. The \log_{10} -transformed geometric mean CPUE was higher in 2012 versus 2011 in 2/3 of the strata (Figure 8). Stratum-specific CPUE generally bounces around without trend.

Plots of the geometric means of the stratum-specific (i.e., inner, middle, and outer strata, for the October cruise only) \log_{10} -transformed geometric means (a.k.a. grand geometric means) are provided in Figure 9. The grand geometric means in the inner and outer strata were greater in 2012 than in 2011 (Figure 9) and less than in the middle stratum. The grand geometric means in 2012 were at or above their respective three year average (i.e., 2012 versus mean of 2010-2012, inclusive) in all cases (Figure 9).

Age-0 bluefish accounted for 75.2% of the bluefish collected in October 2012 (based on geometric mean indices at age), which is very near the median of the time series, and slightly below the time series average age-0 composition of 77.2%. The 2012 un-weighted age 0 index, is greater than our ages 1 or 2 indices, as it always has been (Table 4); the age 0 index is also the 3rd highest in the time series (at the 92nd percentile). Our age 1 index is the 4th largest in the time series (at the 88th percentile), and our age 2+ index is the 3rd largest in the time series (at the 92nd percentile). Wide swings in year-to-year variation are common in ages 0 through 2 bluefish collected in New Jersey's ocean trawl (e.g., between 1988 and 2012, year-to-year percent changes in age 1 indices range from -97% to +6,757%, Figure 10). A plot of the age 0 and age 1 indices is provided in Figure 10.

The average size (FL) of bluefish collected in 2012, all cruises combined, was 8.2 inches (5% shorter than in 2011) with a range of 5.1 inches to 20.5 inches (117% larger and 31% smaller than the minimum and maximum, respectively, observed in 2011). Comparisons of length frequency between the October cruise and all other cruises are provided in Figures 11 and 12.

C. COPIES OF REGULATIONS – 2012

The 2012 recreational and commercial regulations are attached (Appendix I and II, respectively). In late December 2012 the commercial bluefish regulations were changed so that there was no closed season for gill nets and otter trawls. A summary of the recreational season, size, and bag limit and the commercial seasons are provided below.

Recreational Measures:

Season – All year **Bag Limit** – 15 fish per day **Size** – No size limit

Commercial Measures:

Seasons:

<u>Gear:</u>	<u>Closed Season:</u>
Gill Net	November 7 – December 31*
Pound Net	No Closed Season
Otter Trawl	December 8 – December 31*
Hook and Line	January 1 – June 15 & August 8 – December 31
Purse Seine	No Closed Season

Minimum Size = 9 inches (total length).

* The regulations provided above were in effect from January 1st through late December 2012, after which the commercial regulations were changed such that there is now no closed season for gill nets or otter trawls. Those amended regulations will continue in 2013 (i.e., no closed season for gill nets or otter trawls). During 2011 and 2012, New Jersey significantly under-harvested its commercial bluefish quota with only 51% and 45% harvested respectively so we changed our regulations in an effort to increase landings.

D. NEW JERSEY BLUEFISH HARVEST IN 2012

1. New Jersey Commercial Bluefish Harvest

Commercial bluefish landings were monitored through weekly dealer reports submitted to the Atlantic Coastal Cooperative Statistics Program's (ACCSP) web-based dealer reporting system – Standard Atlantic Fishery Information System (SAFIS). These reports are used to administer the commercial quota.

Commercial bluefish landings for New Jersey in 2012 totaled 689,471 pounds which accounted for 44% of New Jersey's quota (Tables 5 and 6). Landings in 2012 are among the lowest on record; anecdotal information suggests that this may be due to a combination of bluefish availability (though recreational catch in 2012 was near the median of the time series; see below) and market conditions.

Landings attributed to "other" gear have declined rapidly since inception of the ACCSP-SAFIS system (instituted in 2004) and through the efforts of Marine Fisheries staff working with dealers to improve reporting (Table 6). See Tables 5 and 6 for quota and harvest (all gears combined) and landings by gear types, respectively.

New Jersey does not collect or conducted additional biological sampling (i.e. length and/or age samples) of the commercial bluefish fishery at this time.

2. New Jersey Recreational Bluefish Harvest

Recreational bluefish catch and harvest statistics are obtained from the Marine Recreational Fisheries Statistics Survey (MRFSS) and Marine Recreational Information Program (MRIP)^{4, 5}. MRIP is NOAA's new methodology for the collection, analysis and reporting of recreational fisheries data; in January 2011 NOAA finalized its methodology to recalculate previous catch and harvest estimates from 2004 forward (including 2011⁶). In 2012 a methodology was established to revise pre-2004 estimates^{7, 8}, though estimates reported on the NOAA website are not adjusted (i.e., it is up to individuals to apply the advice to the MRFSS estimates available on the web). According to the MRFSS and MRIP⁹, New Jersey anglers harvested 1,147,902 bluefish in 2012, weighing 2,181,383 pounds. The number of bluefish harvested in 2012 was nearly identical to the harvest in 2011 (0.1% less) and ranks near the bottom third of the time series (31st percentile). The

⁴ <http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-data-query/queries/index> accessed 22-23 April 2013.

⁵ **Preliminary estimates** are available through Wave 6, 2012.

⁶ In 2013, all new estimates will be based on MRIP methods; for clarification, revised estimates from 2004 ff are considered "MRIP estimates."

⁷ http://www.countmyfish.noaa.gov/aboutus/downloads/MRIP_Estimation_Fact_Sheet%28Jan%2024%29.pdf

⁸ http://www.countmyfish.noaa.gov/aboutus/downloads/MRIP_Estimation_Fact_Sheet%28Jan%2024%29.pdf

⁹ http://www.st.nmfs.noaa.gov/Assets/recreational/pdf/MRFSS_MRIP_Calibration_Workshop_Report_2012.pdf

⁹ Note regarding data from MRFSS & MRIP: "Final Estimates are available for 2010 and earlier. For 2004-2011, the final estimates have been revised for all states, with the exception of Puerto Rico and Hawaii."

weight of 2012's harvest decreased by 17% from 2011 (Table 7). Estimates of bluefish recreational catch in 2012 in New Jersey increased by 2%, a position occupying the 47th percentile of NJ's catch time series (Figure 13).

Bluefish harvest in New Jersey generally declined in the early part of the time series (e.g., 1980's though the late 1990's), after which harvest was stable or increasing through the mid-2000's. Harvest generally declined after 2005 for several years, but is now generally increasing (Figure 14c). Harvest (N) in 2012 was low by historical standards though (at the 31st percentile by number and at the 9th percentile by weight). With regard to neighboring states, patterns of harvest in New York have been remarkably similar to New Jersey (see plot of New York in Figure 18d; adjusted r^2 of OLS regression = 0.8052, $p \ll 0.0001$), whereas harvest in Delaware declined slowly from the mid-1990's through the early 2000's, after which harvest patterns have variously increased and decreased without trend. Due to the magnitude of harvest in New Jersey (and comparable trends and magnitude of harvest in New York), New Jersey's harvest trends closely match those of from all mid-Atlantic states combined (Figure 14f; $r^2 = 0.9135$) as well as all Atlantic coast states combined (Figure 14g; $r^2 = 0.8568$).

Until recently, bluefish catch in New Jersey had been generally increasing since the late 1990's (Figure 14c), with a noteworthy one-year decline in 2006 and two years of decline through 2009. Catch in 2012 increased only 2% from 2011. Patterns of catch in neighboring states have been similar to that in New Jersey: New York's catch was generally increasing from the late 1990's to the early 2000's before falling in 2002. After 2002 New York's catch rose rapidly before falling again in 2006 (as happened in New Jersey). Delaware's catch likewise increased from the late 1990's until 2005 when catch declined precipitously (New Jersey and New York also experienced a decline in 2005). Harvest rose after 2005 and reached a peak in 2007 before experiencing a large decline in 2008 (New Jersey experienced a relatively large decline in 2008 as well). In 2012, total catch declined for all Atlantic coast states combined, whereas catch increased in the mid-Atlantic (states combined) relative to 2011 (Figure 14).

The mean size of the bluefish harvested in 2012 was 14.1 inches (FL) long (~10th percentile); 0.6 inches less than 2011's mean size (Table 7). While there have been oscillations over the time series, the general trend has been towards a decline in the mean size.

3. New Jersey Bluefish Non-Harvest Losses

(a) Commercial

New Jersey does have a minimum size limit (9" total length) for commercial harvest, but does not collect size frequency information on commercial harvests (i.e., estimates of gear-specific discard mortality are not available). Non-harvest mortality is assumed to be 0 pounds.

(b) Recreational

New Jersey's best estimate of non-harvest mortality is derived using the discard mortality rate reported by Fabrizio et al. (2008)¹⁰ of 38.8%, applied to the B2's reported by MRFSS [1,987,107 fish (PSE = 22.7)]. Using this method, New Jersey's estimated non-harvest mortality is 770,998 fish. See Fabrizio et al. (2008) for factors influencing the probability of bluefish catch-and-release mortality.

E. HABITAT RECOMMENDATIONS

Not applicable.

IV. PLANNED BLUEFISH MANAGEMENT PROGRAMS - 2013

a. Regulations – In addition to the changes noted above in commercial regulations (i.e., no closed season for gill nets or otter trawls) New Jersey has proposed changes to commercial regulations that have not yet been adopted (e.g., changes related to gear allocations and quota overages). New Jersey will operate under the same regulations in 2013 as were used in the latter part of 2012 (see Section III C, Commercial Measures, above; see also Appendix II), until adoption of the new regulations.

b. Bluefish Monitoring - The NJ Bureau of Marine Fisheries will continue the New Jersey ocean trawl survey. All bluefish will be counted, the total weight of all bluefish in each trawl and a sub-sample, if needed, of bluefish fork length measurements (cm) in each trawl will be recorded. A stratified age-aggregate geometric mean CPUE index and a stratified age-specific CPUE geometric mean index from the October cruise will be calculated for use in the coastwide stock assessment.

Bureau personnel will also continue the Delaware River seine survey. After each seine haul, all bluefish will be counted and length measurements will be recorded from up to 30 bluefish (total number will be recorded). A y-o-y geometric mean index will be calculated to continue the time series of bluefish recruitment in the Delaware River.

Commercial landings of bluefish will be monitored via the Atlantic Coastal Cooperative Statistics Program's (ACCSP) web-based dealer reporting system, "Standard Atlantic Fishery Information System (SAFIS)." The commercial bluefish quota will be modified as per ASMFC direction. New Jersey Marine Fisheries will continue to work with federal dealers to maintain proper coding of bluefish landings by gear.

New Jersey will continue its biological sampling program aimed at acquiring biological data through rack collection from party and charter boats, voluntary recreational angler

¹⁰ Fabrizio, M. C., F. S. Scharf, G. R. Shepherd, and J. E. Rosendale. 2008. Factors affecting catch-and-release mortality of bluefish. *North American Journal of Fisheries Management* 28:533-546.

harvests, and opportunistically as bluefish are encountered as part of unrelated fishery independent sampling for other species.

c. Planned changes in management programs.

As noted above, New Jersey modified its commercial regulations in late December 2012 to remove the closed season for gill nets and otter trawls. The changes went into effect in late December 2012 and will continue through 2013.

Table 1. Time series of survey effort, catch and geometric mean CPUE of young-of-year bluefish from New Jersey's Delaware River seine survey (most recent year highlighted in grey).

Year	No. of hauls	Total collected	Lower conf. limit	Geometric mean	Upper conf. limit
1980	21	5	-0.003	0.202	0.450
1981	13	25	0.094	0.900	2.300
1982	21	11	0.035	0.294	0.617
1983	16	24	0.409	1.007	1.859
1984	31	51	0.327	0.770	1.362
1985	46	42	0.246	0.507	0.822
1986	36	19	0.137	0.337	0.571
1987	80	42	0.190	0.324	0.474
1988	80	61	0.319	0.496	0.696
1989	80	65	0.274	0.455	0.662
1990	80	84	0.316	0.532	0.784
1991	193	170	0.288	0.408	0.540
1992	195	146	0.283	0.392	0.511
1993	153	107	0.241	0.357	0.483
1994	153	62	0.168	0.250	0.339
1995	153	160	0.342	0.488	0.651
1996	153	17	0.030	0.070	0.112
1997	154	195	0.585	0.759	0.953
1998	142	96	0.272	0.390	0.520
1999	168	153	0.377	0.513	0.663
2000	168	63	0.138	0.215	0.296
2001	168	129	0.320	0.441	0.573
2002	240	102	0.173	0.243	0.316
2003	239	63	0.072	0.125	0.181
2004	238	56	0.068	0.117	0.168
2005	238	199	0.265	0.368	0.479
2006	240	120	0.174	0.249	0.330
2007	240	146	0.228	0.315	0.408
2008	215	129	0.218	0.306	0.401
2009	238	79	0.106	0.166	0.229
2010	240	161	0.214	0.306	0.405
2011	213	57	0.060	0.117	0.176
2012	240	61	0.071	0.121	0.175
Total or mean*	4,885	2,900	0.213	0.380	0.591
2003-2012 average			0.148	0.219	0.295

* Means, rather than sums, are provided for geometric means and their confidence intervals.

Table 3. Time series of survey effort, catch and age-aggregate geometric mean CPUE index during the October cruise of the New Jersey ocean trawl survey (most recent year highlighted in grey).

Year	No. of tows - all cruises	No. collected - all cruises	No. of tows - Oct. cruise only	No. collected - Oct cruise only	Lower 95% CL	Geometric mean (CPUE) - Oct. cruise only	Upper 95% CL
1988	68	12,656	34	3,765	6.14	13.33	27.74
1989	193	4,607	37	691	3.27	5.77	9.73
1990	171	2,619	32	1,729	1.20	3.75	9.24
1991	189	1,953	39	1,472	1.19	2.68	5.20
1992	191	906	40	723	1.43	3.17	6.16
1993	187	479	39	312	1.11	2.28	4.08
1994	186	5,999	39	4,618	3.52	8.35	18.37
1995	188	1,027	39	606	2.59	4.85	8.51
1996	189	582	39	219	1.19	2.15	3.53
1997	187	3,888	39	703	1.02	2.52	5.16
1998	188	2,294	39	489	1.17	2.41	4.36
1999	186	846	39	432	0.59	1.62	3.30
2000	186	673	39	380	0.73	1.81	3.57
2001	186	115	39	64	0.37	0.78	1.31
2002	188	2,658	40	1,707	4.76	9.64	18.64
2003	188	2,322	40	2,246	2.82	5.97	11.70
2004	187	1,237	39	400	2.16	3.75	6.14
2005	186	1,549	39	686	3.37	5.93	10.00
2006	186	1,899	39	1,309	2.06	4.46	8.72
2007	187	3,997	39	1,846	3.31	6.83	13.22
2008	186	1,764	39	1,602	2.28	4.96	9.84
2009	186	689	39	413	1.99	3.61	6.10
2010	186	1,948	39	514	0.75	1.76	3.37
2011	186	3,636	39	3,057	3.23	6.70	13.01
2012	186	4,342	39	4,003	3.92	8.91	18.94
Total	4,547	64,685	964	33,986			

Table 4. Age-specific **un-weighted** geometric mean CPUE indices for bluefish collected during the October cruise of the New Jersey Ocean Trawl Survey.

Year	year	Age 0	Age 1	Age 2	Age 3	Age 4	Age 5	Age 6+
1988	1988	12.617	0.199	0.001				
1989	1989	5.327	0.411	0.020				
1990	1990	3.636	0.183	0.003				
1991	1991	2.612	0.006	0.014				
1992	1992	2.700	0.419	0.029				
1993	1993	2.065	0.070	0.090				
1994	1994	8.323	0.172	0.012				
1995	1995	4.560	0.215	0.045				
1996	1996	2.017	0.078	0.012				
1997	1997	2.440	0.046	0.021				
1998	1998	1.840	0.260	0.165	0.089	0.022	0.012	0.022
1999	1999	1.318	0.270	0.027	0.001	0.000	0.000	0.000
2000	2000	1.308	0.366	0.095	0.036	0.002	0.000	0.000
2001	2001	0.523	0.089	0.117	0.012	0.009	0.009	0.019
2002	2002	6.647	2.910	0.064	0.011	0.003	0.003	0.000
2003	2003	5.719	0.165	0.065	0.004	0.002	0.004	0.009
2004*	2004	2.353	0.797	0.370	0.187	0.008	0.020	0.014
2005*	2005	5.305	0.203	0.145	0.147	0.088	0.018	0.023
2006*	2006	4.265	0.082	0.040	0.029	0.022	0.009	0.010
2007*	2007	3.162	3.462	0.176	0.023	0.002	0.002	0.000
2008*	2008	4.516	0.421	0.014	0.008	0.002	0.000	0.000
2009*	2009	3.313	0.205	0.010	0.007	0.022	0.010	0.042
2010*	2010	1.616	0.113	0.017	0.003	0.006	0.003	0.004
2011	2011	3.424	3.250	0.008	0.000	0.000	0.006	0.011
2012	2012	6.703	2.136	0.068	0.003	0.000	0.000	0.000

* Calculated using age length keys updated in association with updated weight at age calculations (G. Shepherd). All keys in fork length cm.

Table 5. New Jersey commercial bluefish landings (all gears combined), annual quota and percent of quota harvested from 1998 – 2012.

Year	Harvest (lbs.)	Quota (lbs)	% of Quota harvested
1998	1,383,317	1,558,589	88.8
1999	1,080,236	1,558,589	69.3
2000	1,341,403	1,558,589	86.1
2001	1,286,644	1,555,701	82.7
2002	1,324,949	1,549,782	85.5
2003	1,012,386	1,549,782	65.3
2004	1,083,122	1,549,158	69.9
2005	1,191,063	1,540,688	77.3
2006	1,058,667	1,179,753	89.7
2007	1,399,059	1,270,480 ^α	110.1 ^α
2008	1,021,114	1,139,595	89.6
2009	1,410,167	1,398,454	100.8
2010	1,328,734	1,512,338	87.9
2011	705,324	1,389,049	50.8
2012	689,471	1,555,701	44.3

^α In 2007, 309,125 pounds of bluefish quota was transferred to New Jersey from the State of Florida's commercial bluefish quota, providing an adjusted quota of 1,579,605 and final harvest of 89% of the total adjusted quota.

Table 7. New Jersey recreational bluefish catch and harvest estimates (MRFSS) from 2003 – 2012 (10 years). Note: due to data collection problems with the MRFSS RDD telephone survey during Waves 2-3, 2002, preliminary estimates for this period are based upon pooled data from the previous three years (1999-2001). Note too that data from 2004 – 2011 are revised MRFSS estimates.

Year	Total Harvest (N)	PSE	Harvest Weight (pounds)	PSE	Mean Fork Length (inches)	Total Catch (N)	PSE
2003	1,570,656	8.7	3,484,309	11.4	15.8	3,483,756	6.4
2004	1,530,834	13	3,236,708	14.2	15.5	3,756,497	10.2
2005	2,367,766	13.9	7,840,584	15.3	18.5	4,660,166	9.9
2006	1,183,300	13.9	3,321,312	25.1	16.8	2,987,141	11.3
2007	1,654,412	13.3	4,277,154	16.0	16.6	4,389,472	11
2008	1,027,640	12.2	3,404,769	15.0	17.7	2,504,469	11.6
2009	813,980	13.6	3,041,928	20.1	17.4	2,290,227	12.2
2010	910,018	26.7	3,460,540	20.3	17.1	2,795,839	23.3
2011	1,149,558	26.3	2,622,125	19.4	13.5	3,060,364	16.4
2012	1,147,902	18.4	2,181,383	17	14.1	3,135,008	15.9

Figure 1. Length percent-frequency plots of bluefish collected in New Jersey in 2012, by month, as part of our biological collection program. Bin widths are 1 cm (FL).

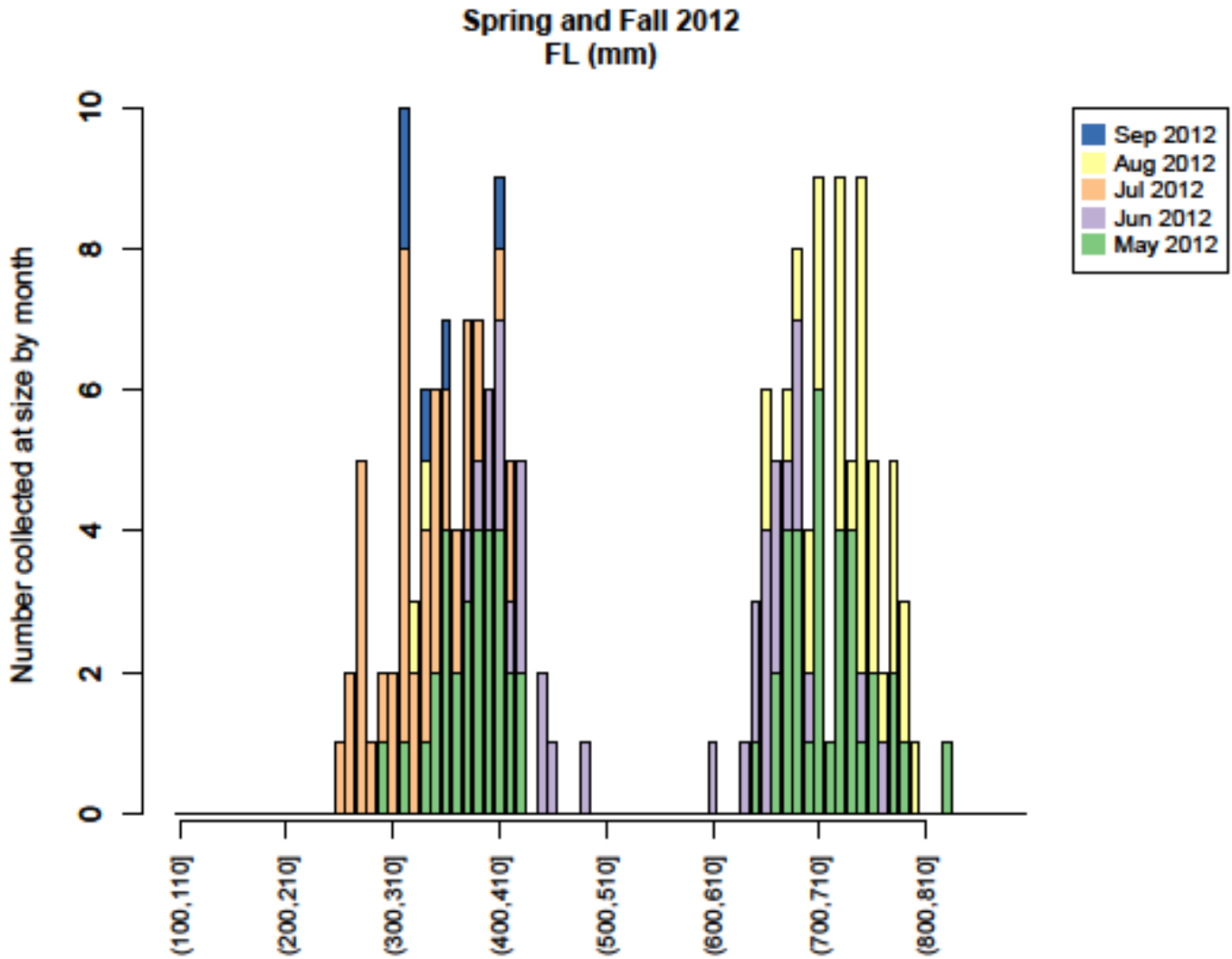


Figure 2. Stacked bar plot comparison of bluefish harvested in NJ from our biological collection program versus the size frequency of fish in the 2012 ALK (from VA). Bin widths are 1 cm. A dotted horizontal line is added at n=5 (the TC recommended sample size per 1-cm bin). Fish rack lengths were converted to whole fish lengths using 2012 season-specific regressions.

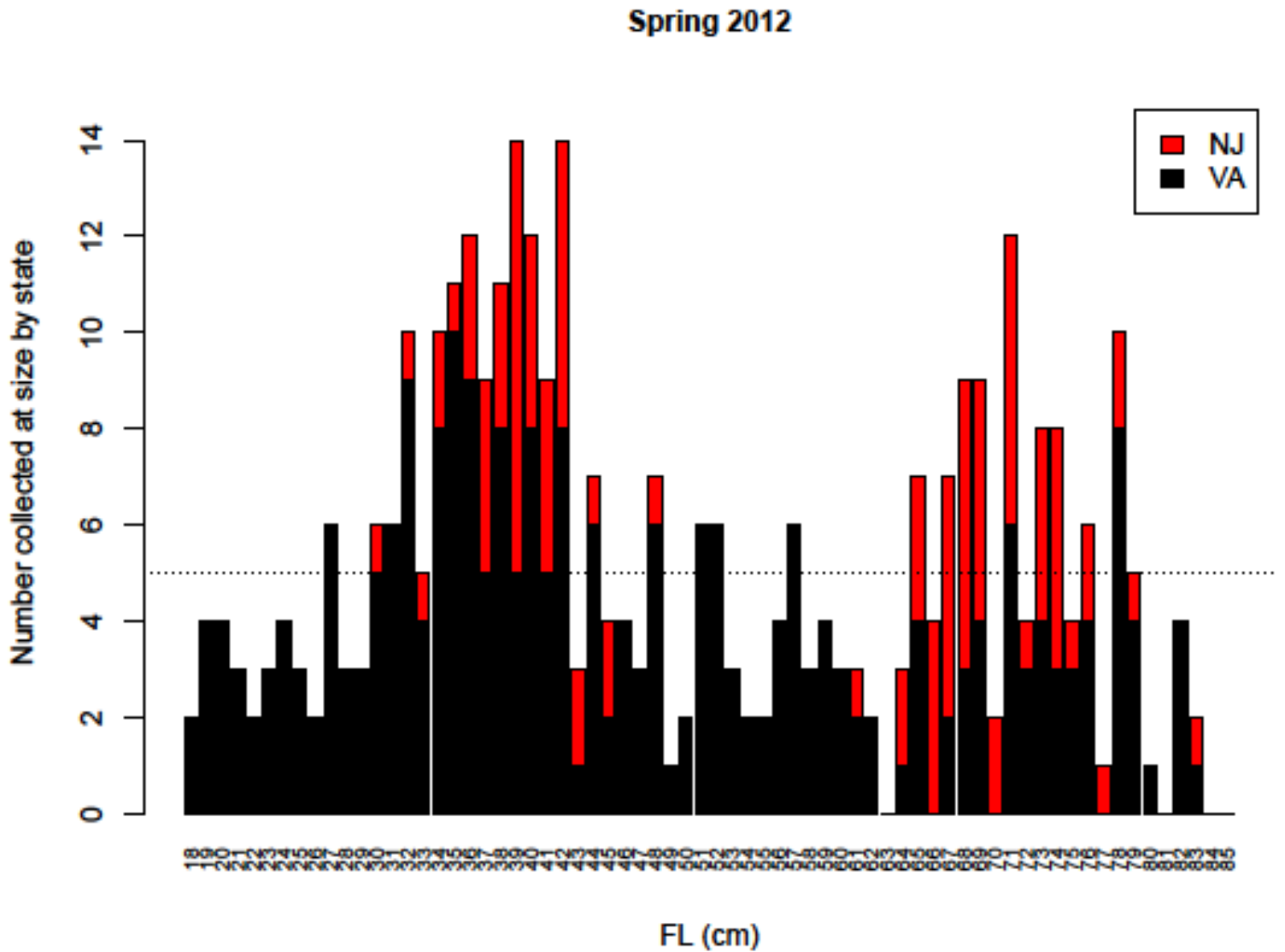


Figure 3. Stacked bar plot comparison of bluefish harvested in NJ from our biological collection program versus the size frequency of fish in the 2012 ALK (from VA). Bin widths are 1 cm. A dotted horizontal line is added at n=5 (the TC recommended sample size per 1-cm bin). Fish rack lengths were converted to whole fish lengths using 2012 season-specific regressions.

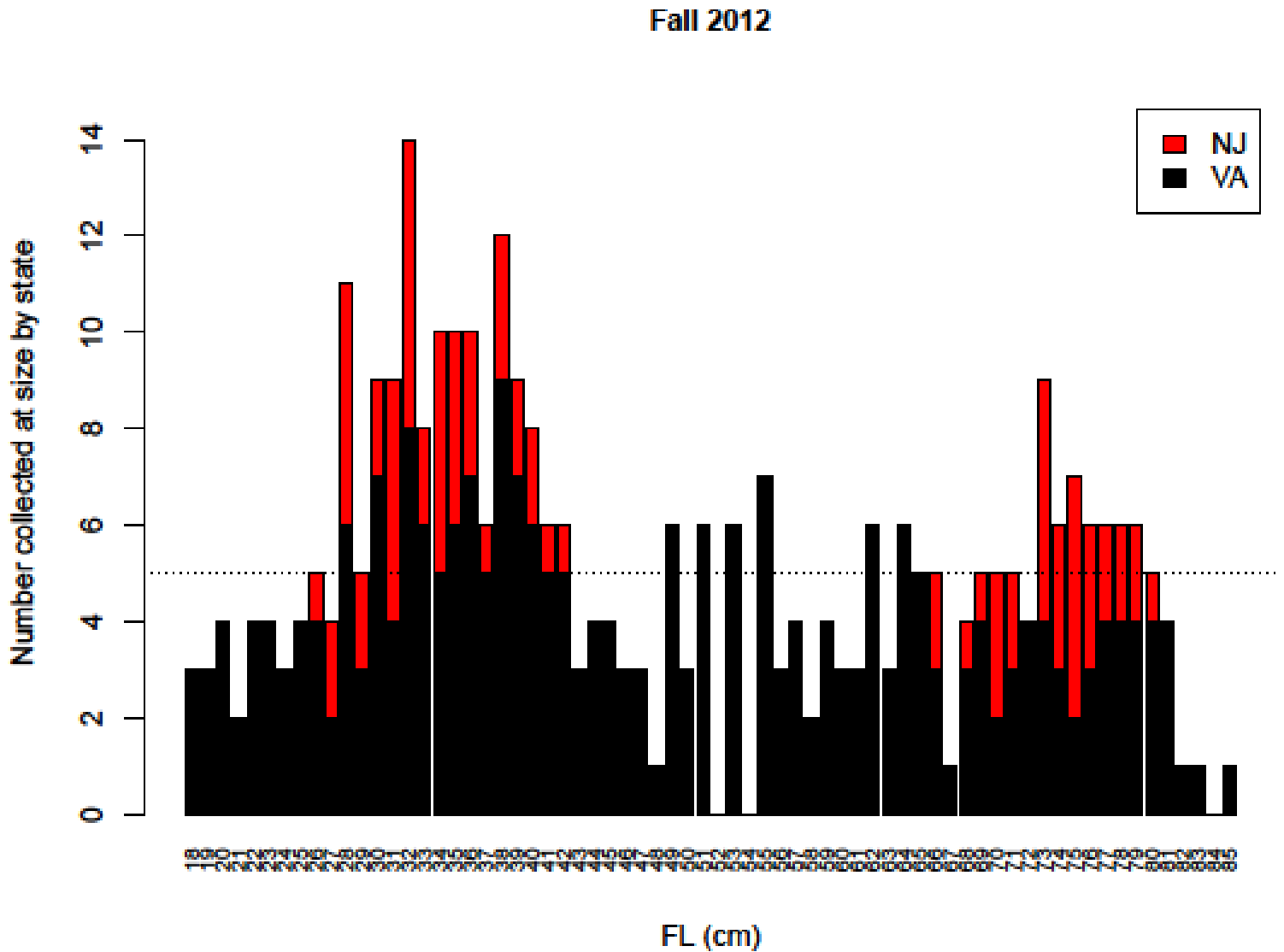


Figure 4. Time series of the young-of-year (age-0) bluefish geometric mean CPUE (\pm 95% confidence intervals) from the New Jersey Delaware River seine survey. Red line is the cumulative time series average CPUE (i.e., the mean of year n is the mean of year₁ (i.e., 1980) to year _{n}) and the purple dotted line is a three year moving average CPUE (i.e., the mean of year n is the mean of year _{$n-2$} to year _{n}).

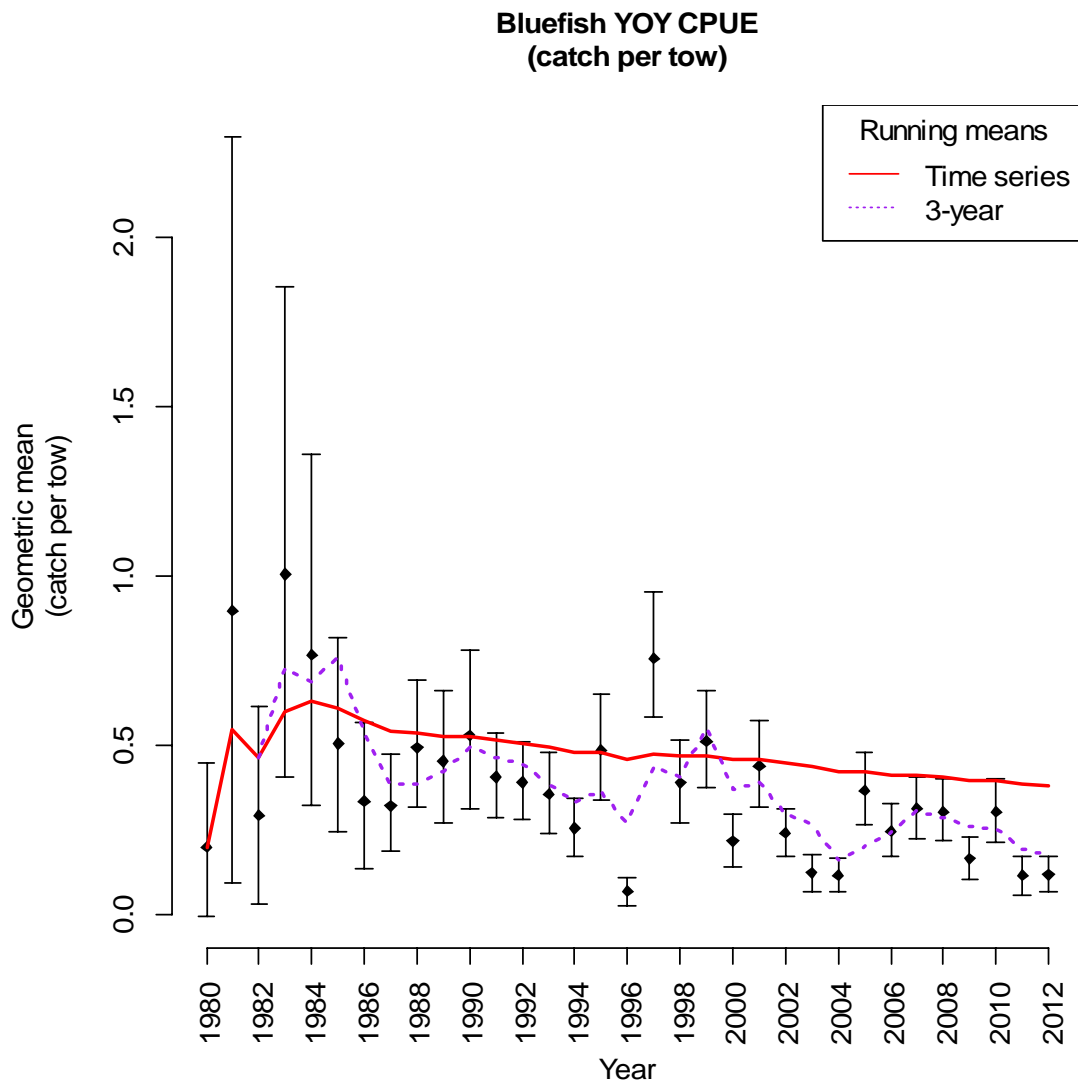


Figure 5. Percent-frequency of fork lengths measured from bluefish collected from the New Jersey Delaware River seine survey between 2001 and 2012 (the only years for which individual lengths are available). Lengths were put into 5 mm bins (starting at 0 mm). Red dotted lines are drawn at 50 mm intervals between 50 and 200 mm, inclusive, to help visualize changing distributions among years. Mean provided in plot is in millimeters.

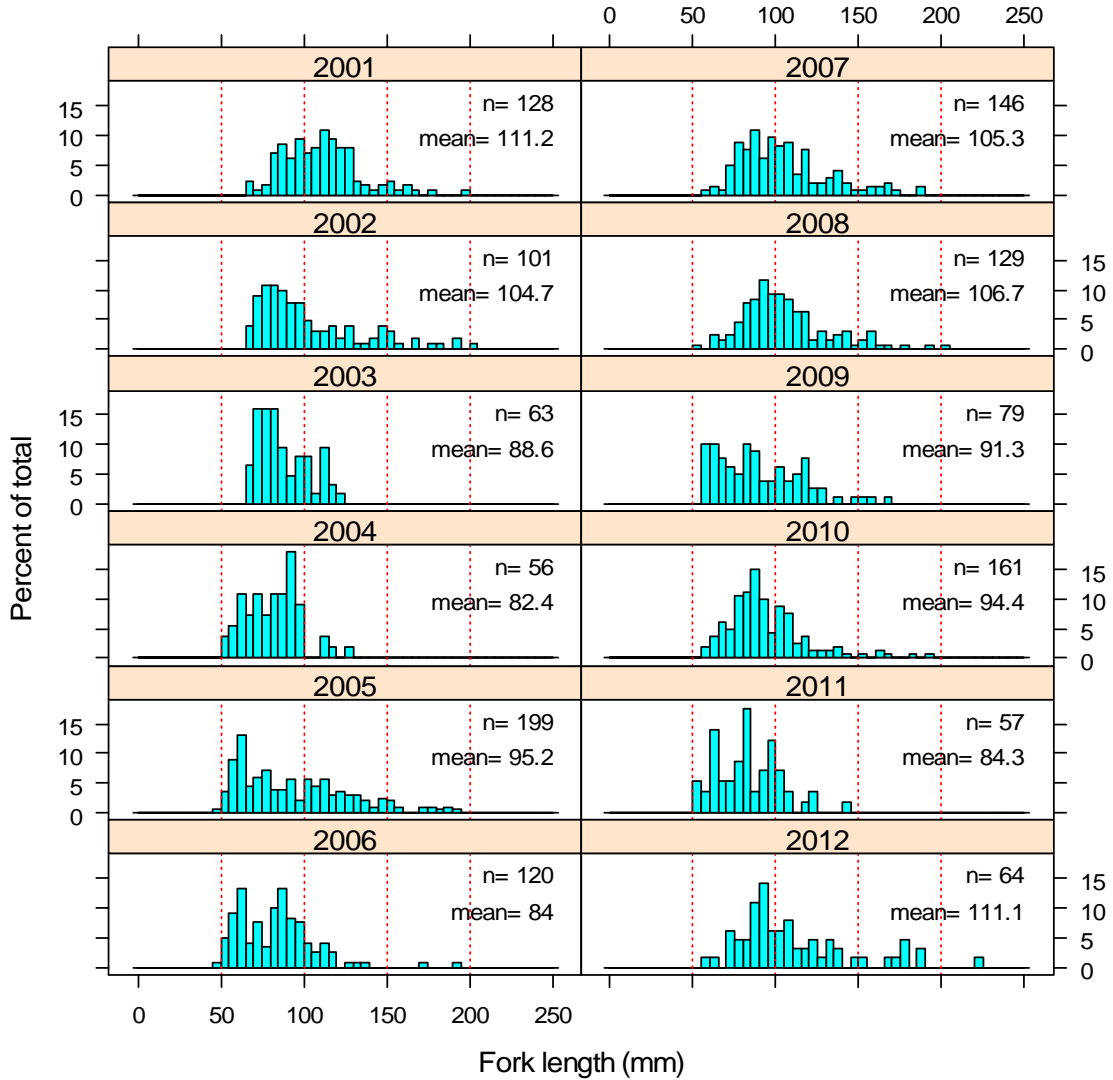


Figure 6. Percent-frequency of fork lengths measured from bluefish collected from the New Jersey Delaware River seine survey between 2008 and 2012 (5-years; note individual lengths are available from 2001 and forward) by month (6 = June, ..., 10 = October). Lengths were grouped into 5 mm bins (starting at 0 mm). Red dotted lines are drawn at 50 mm intervals between 50 and 200 mm, inclusive, to help visualize changing distributions within and among months and years. Note: the y-axes are truncated at 40% but the October 2010 (100,105] and (105,110] bins are both actually 50%; and the June 2012 (70,75] bin is actually 80% and the August (75,80] bin is actually 50%.

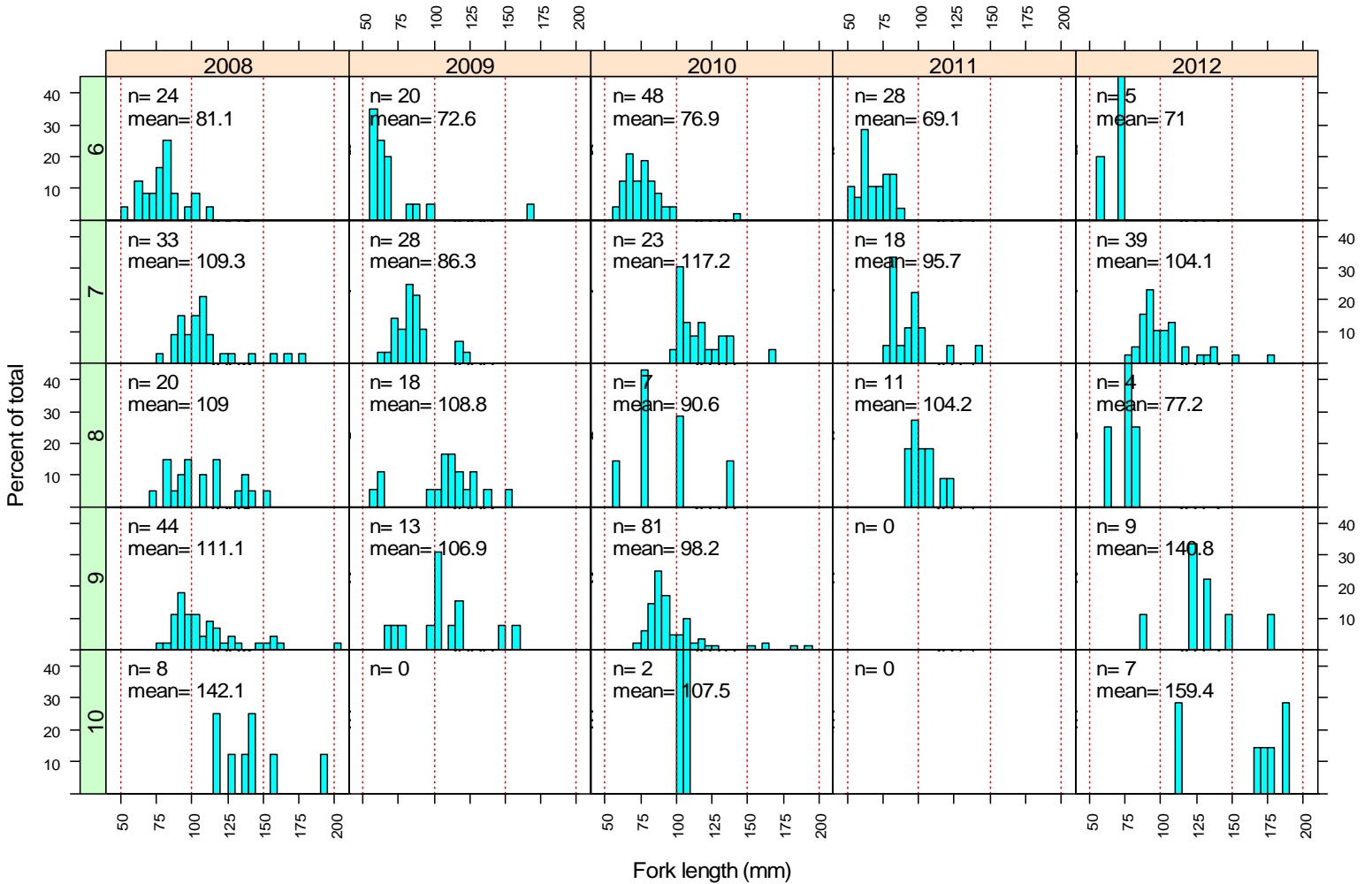


Figure 7. Age-aggregated geometric mean CPUE index (\pm 95% confidence intervals) of bluefish collected during the October cruise of the New Jersey ocean trawl survey. Red line is the cumulative time series average CPUE (i.e., the mean of year n is the mean of year₁ (i.e., 1988) to year _{n}), the blue line is a ten year moving average CPUE (i.e., the mean of year n is the mean of year _{$n-9$} to year _{n}), and the purple dotted line is a 3-year moving average CPUE.

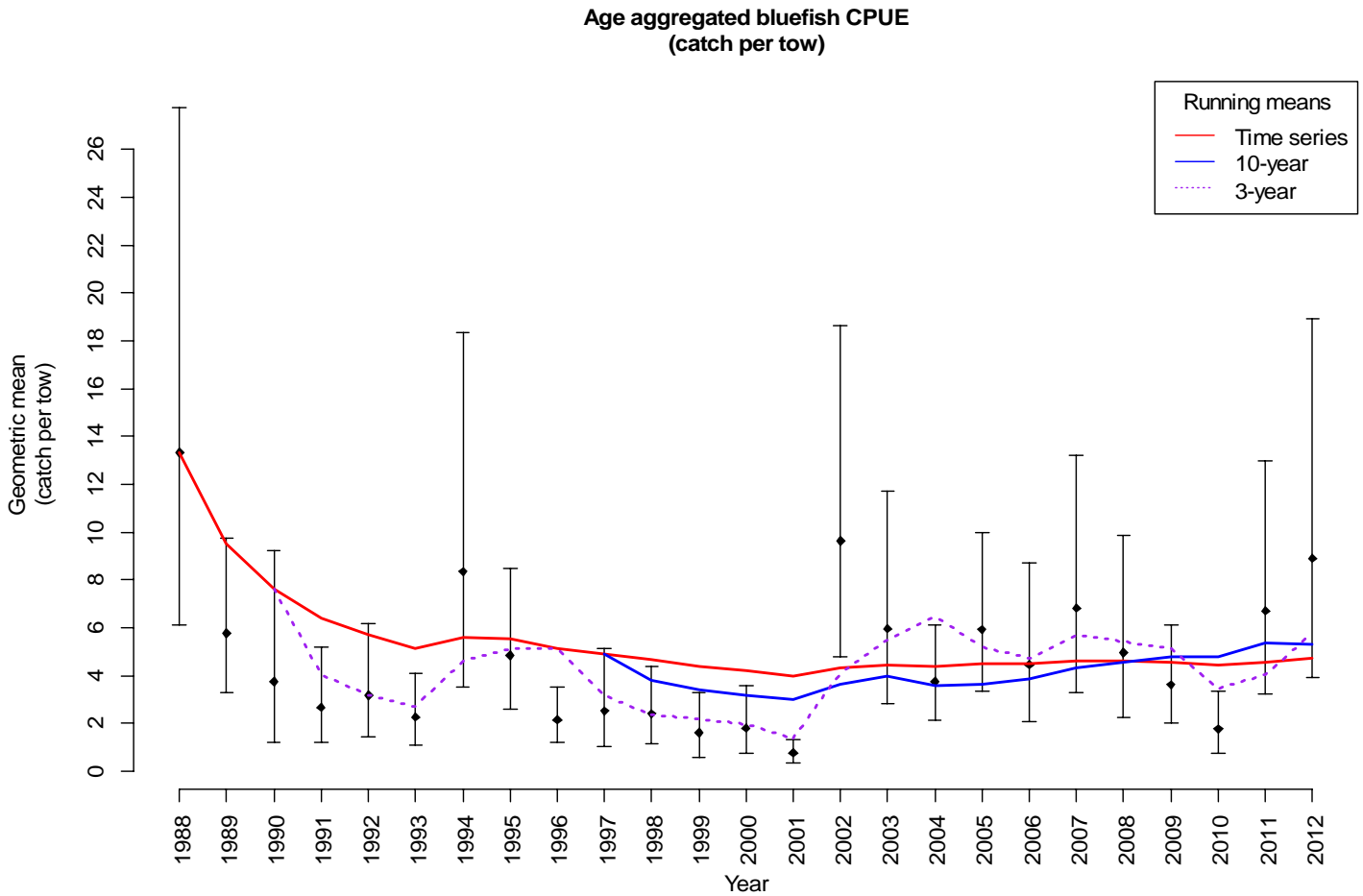


Figure 8. Age-aggregated \log_{10} geometric mean CPUE index of bluefish collected during the October cruise of the New Jersey ocean trawl survey (by survey stratum). The blue line is a three year moving average CPUE (i.e., the mean of year n is the mean of year $n-2$ to year n) to examine trends. Note that plots start in 1991 (not all strata were sampled in each stratum prior to that year). Note that due to zeros, $\log_{10}(y+1)$ is plotted.

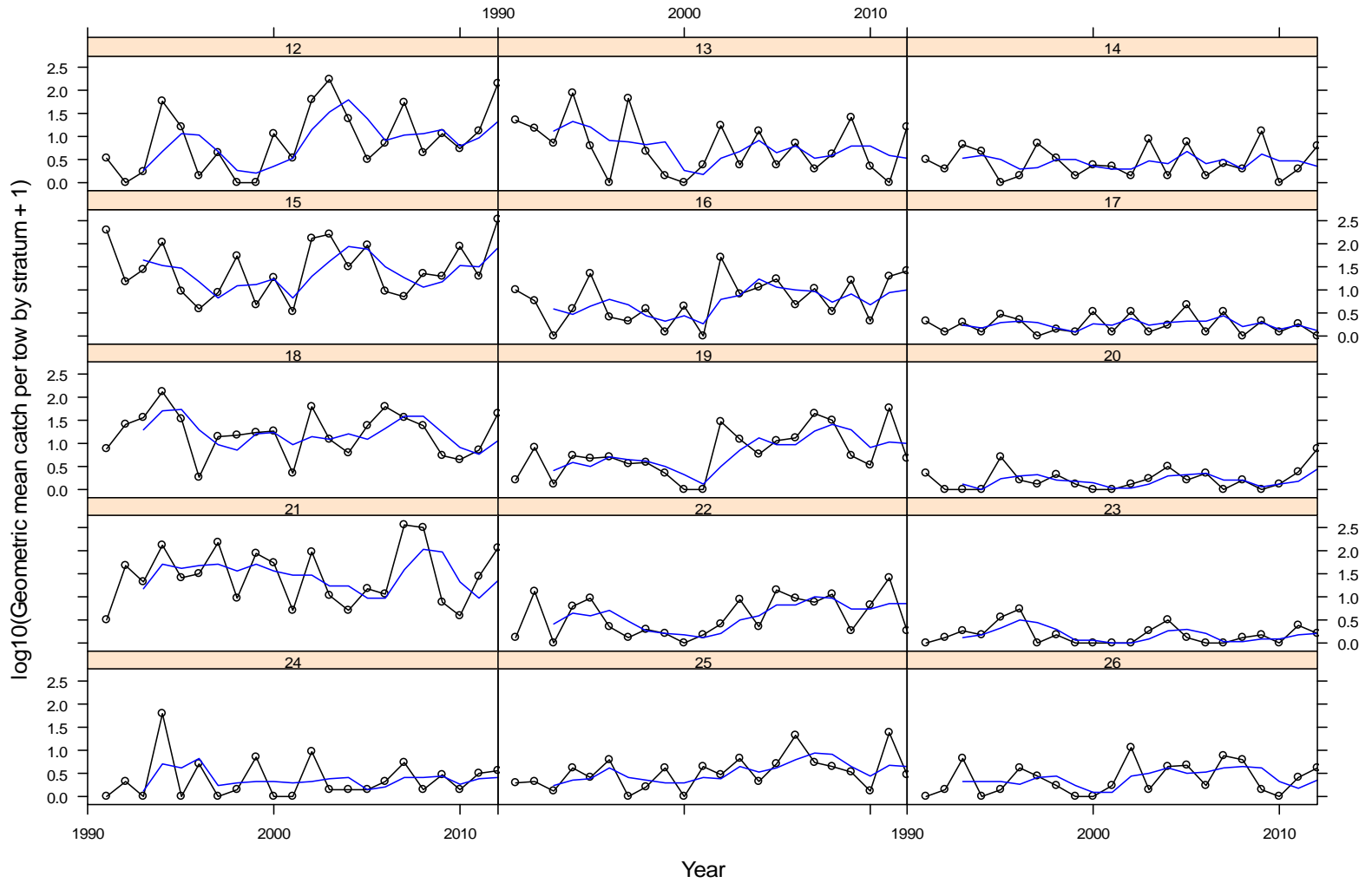


Figure 9. Age-aggregated geometric means of the stratum-specific (i.e., inner, middle, and outer strata) \log_{10} -transformed geometric means [a.k.a. grand geometric means of regional strata; $\log_{10}(y)$, not, $\log_{10}(y+1)$] of bluefish collected during the October cruise of the New Jersey ocean trawl survey. The blue solid line is a three year moving average CPUE (i.e., the mean of year n is the mean of year $n-2$ to year n) to examine trends.

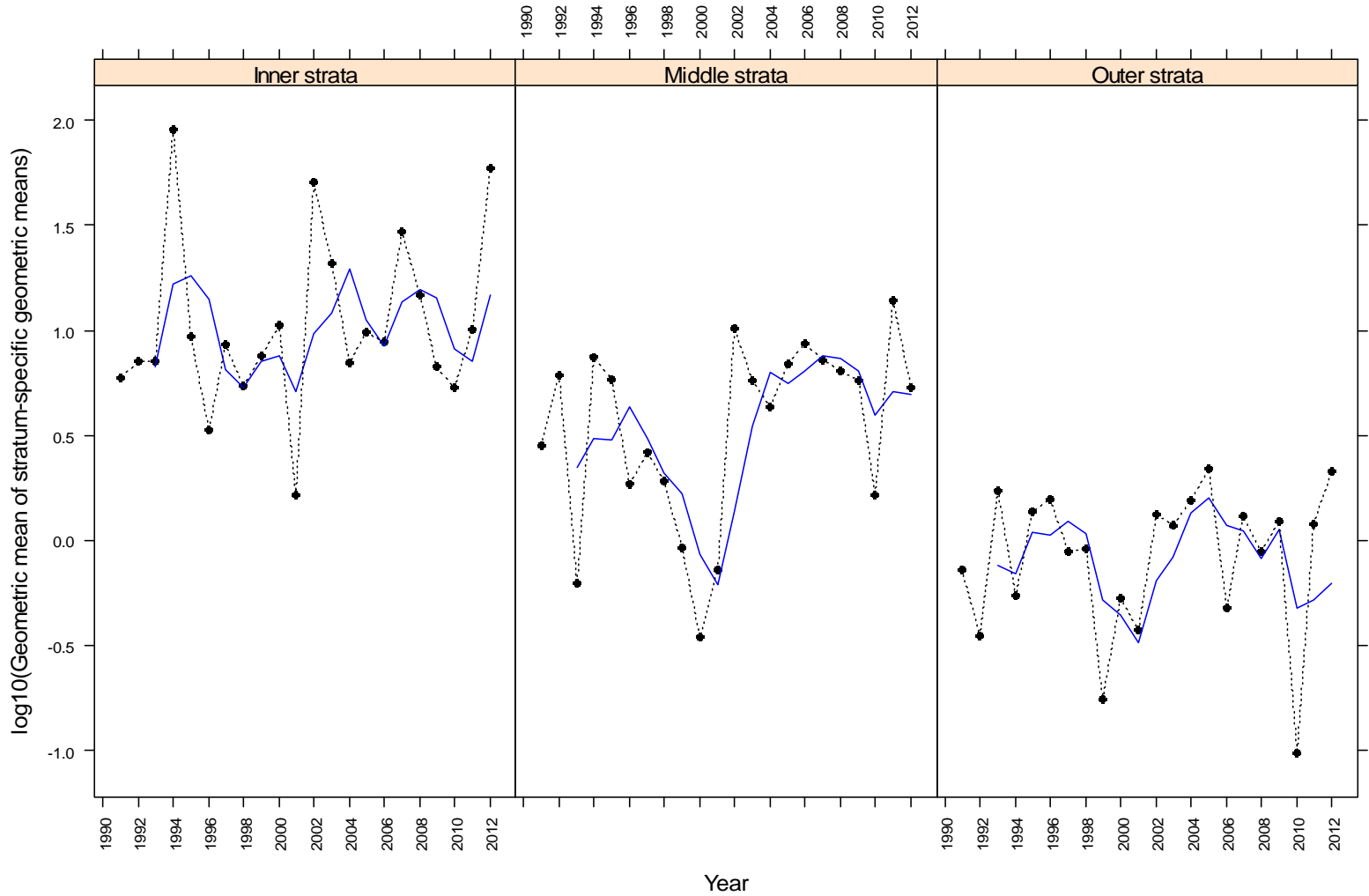


Figure 10. Age-specific un-weighted geometric mean CPUE index of age-0 and age-1 bluefish collected during the October cruise of the New Jersey Ocean Trawl Survey.

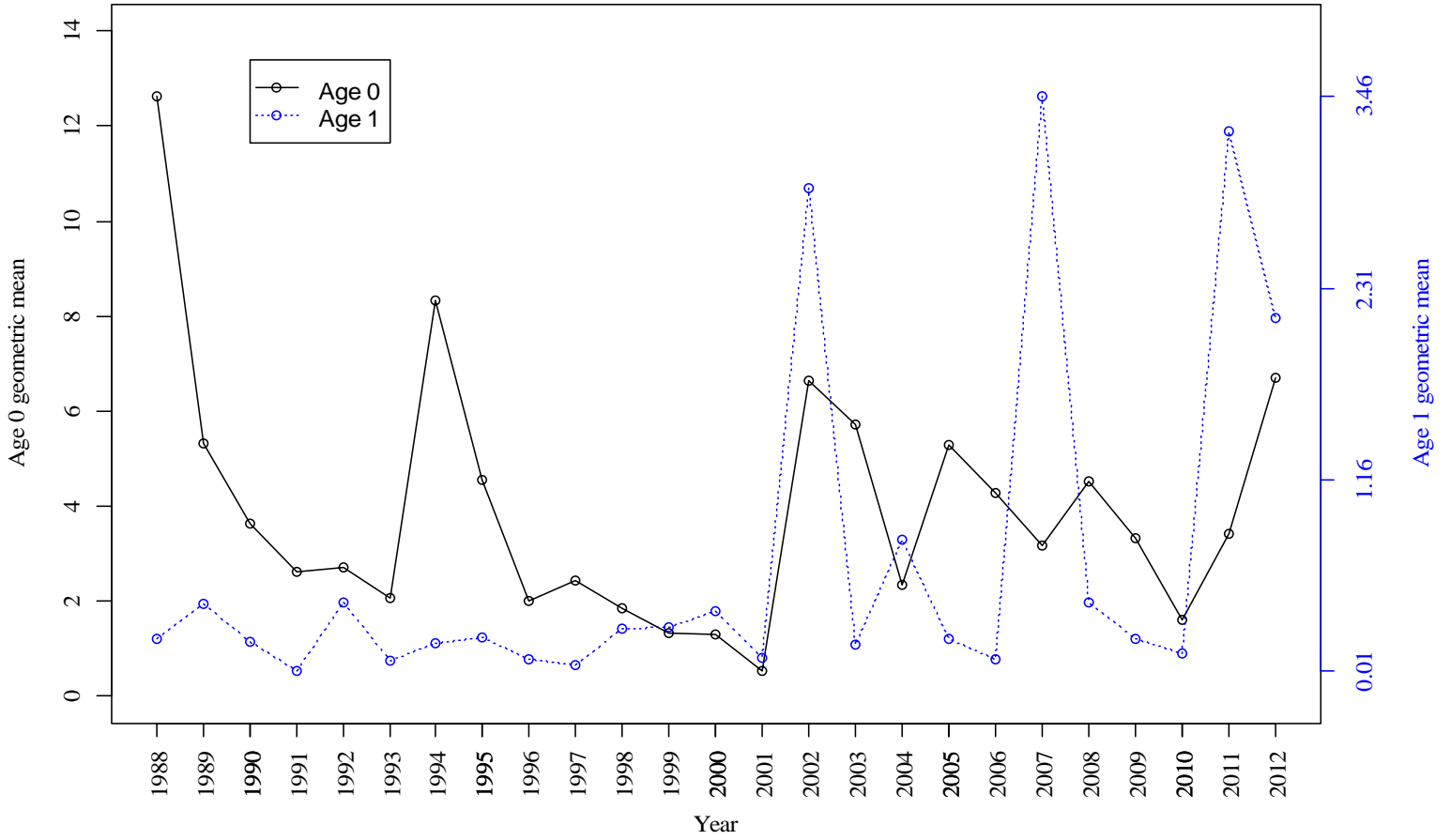


Figure 11. Percent-length frequency distribution of bluefish collected during the 2012 New Jersey ocean trawl survey for a) all 5 survey cruises and for the October cruise only, and b) for all cruises except the October cruise and for the October cruise only (note: 92% of all bluefish collected in 2012 were collected in October).

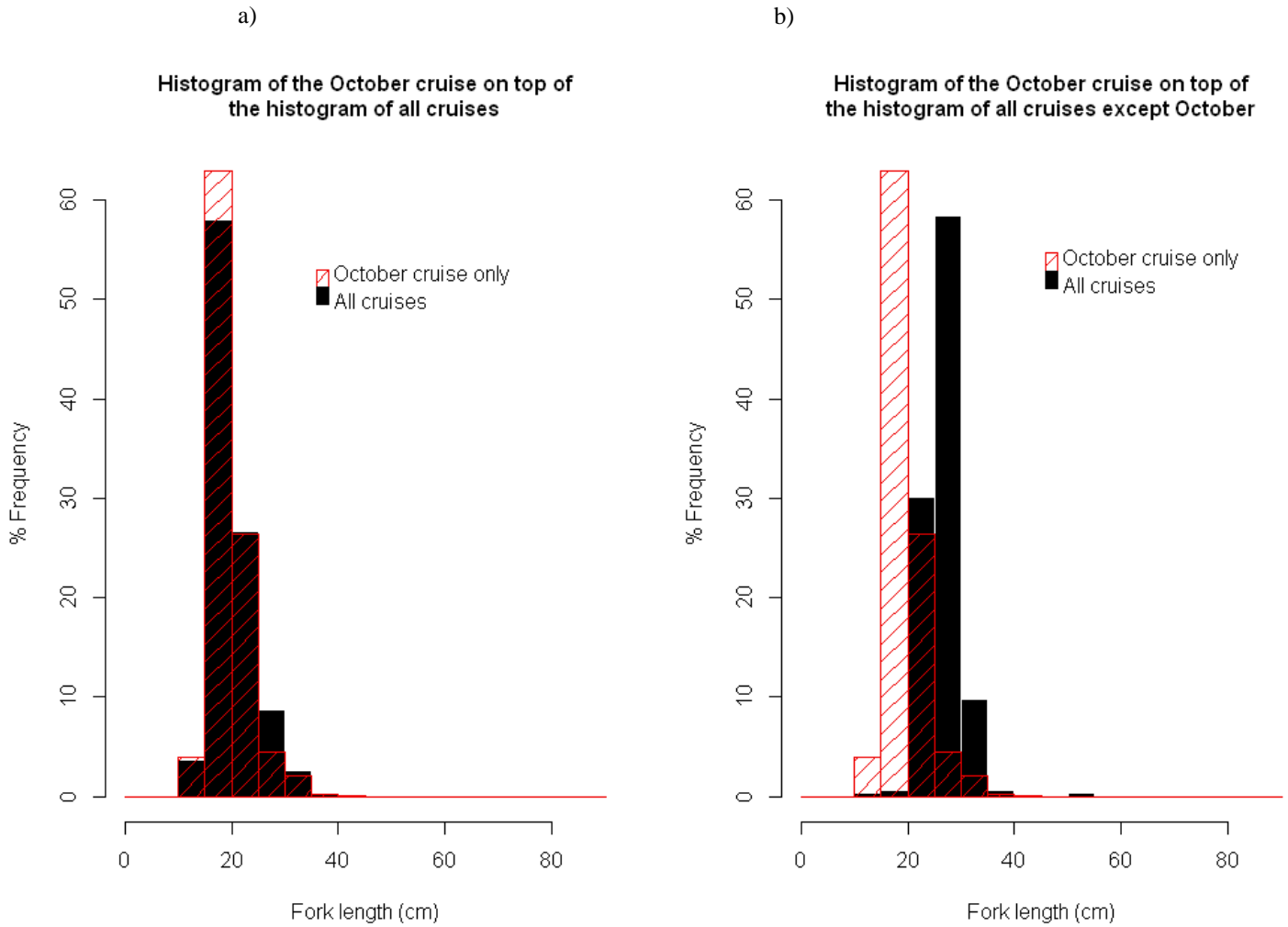


Figure 12. Percent-frequency of fork lengths measured from bluefish collected from the New Jersey ocean trawl survey between 2003 and 2013 (10 years) by cruise [1 = 1st cruise of year, ..., 5 = 5th cruise of year (the October cruise)]. Lengths were grouped into 5 cm bins (starting at 0 cm). Red dotted lines are drawn at 25 cm intervals between 25 and 75 cm, inclusive, to help visualize changing distributions among years and cruises. The means provided are in centimeters.

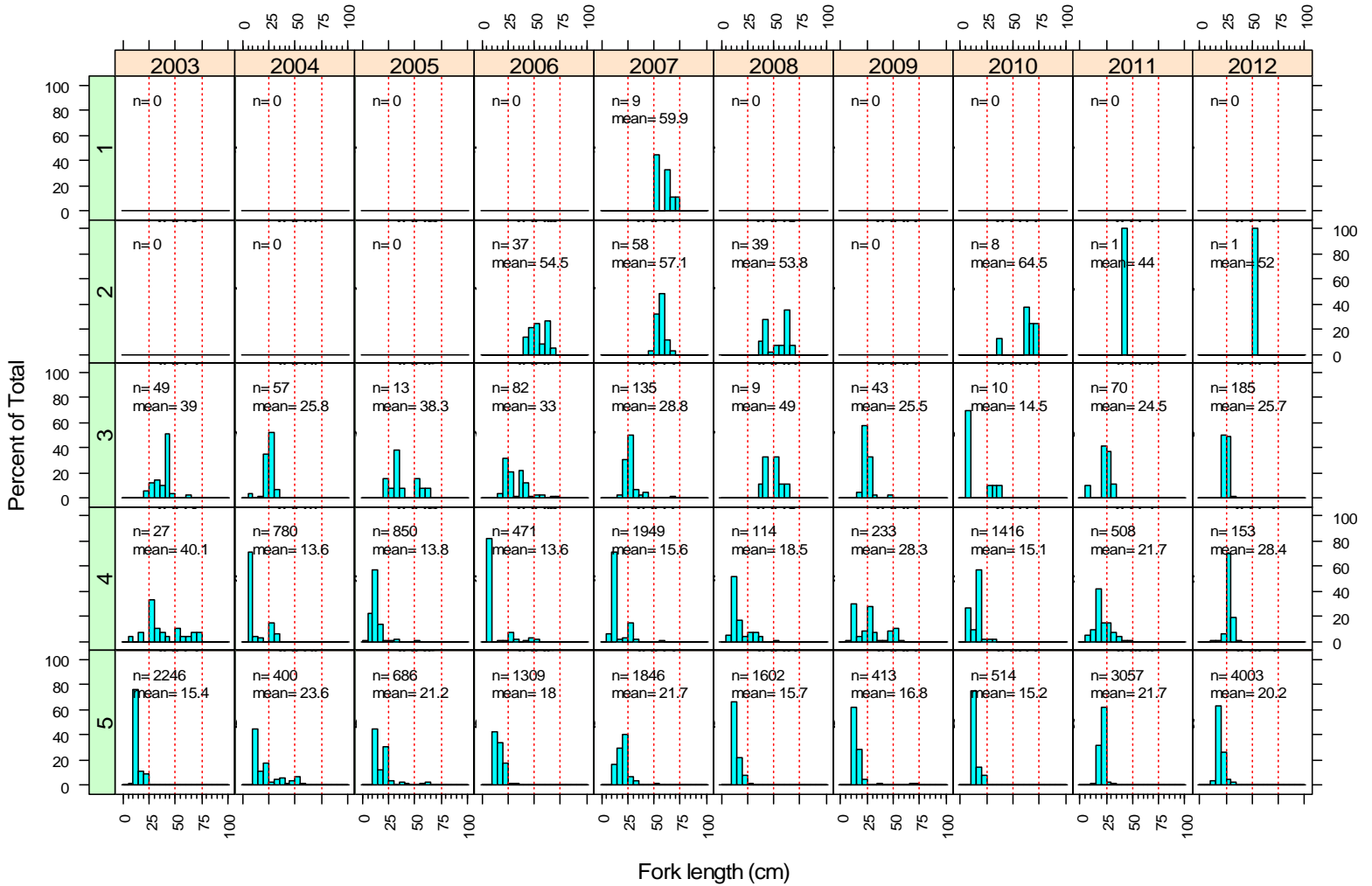
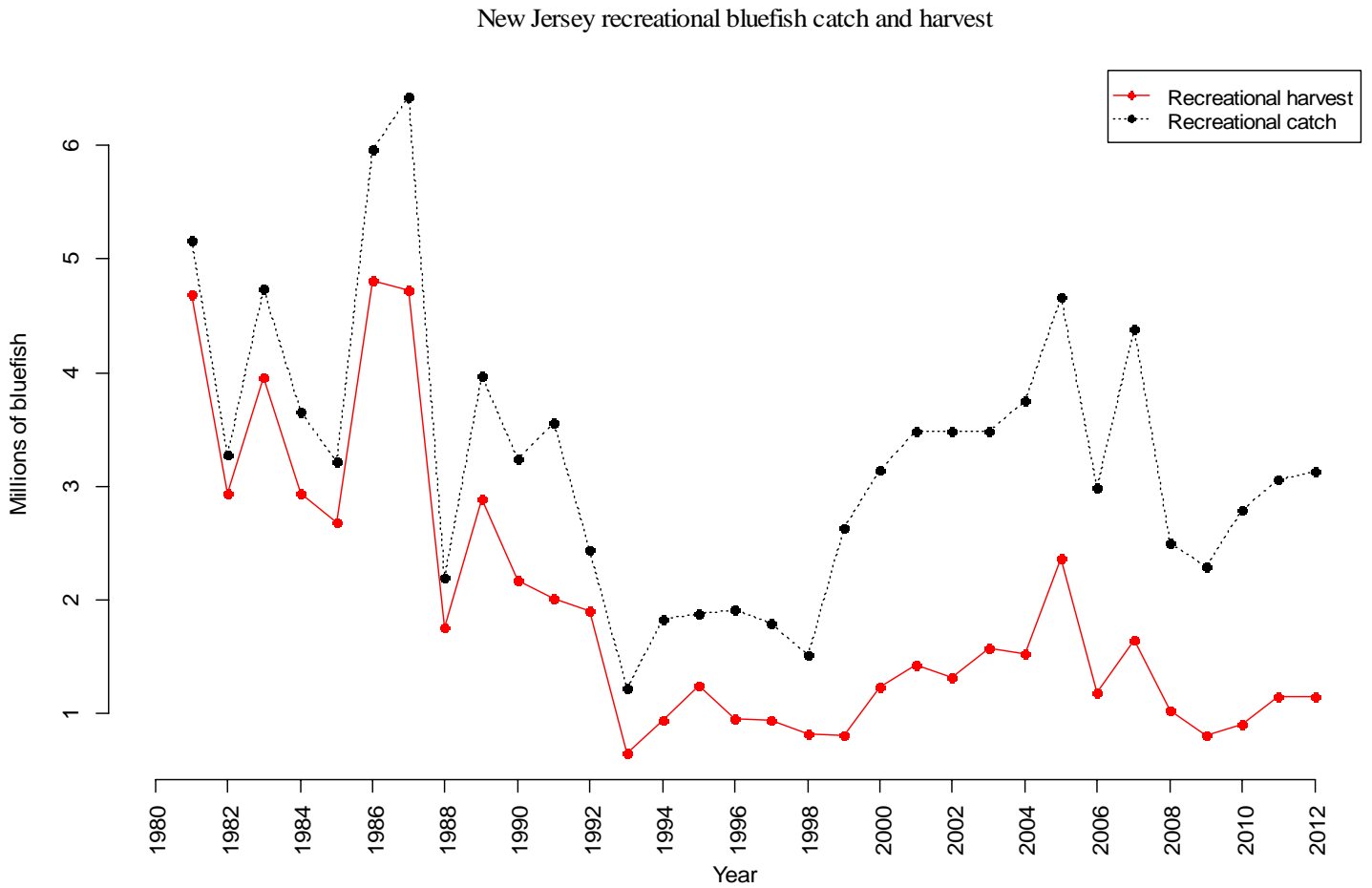
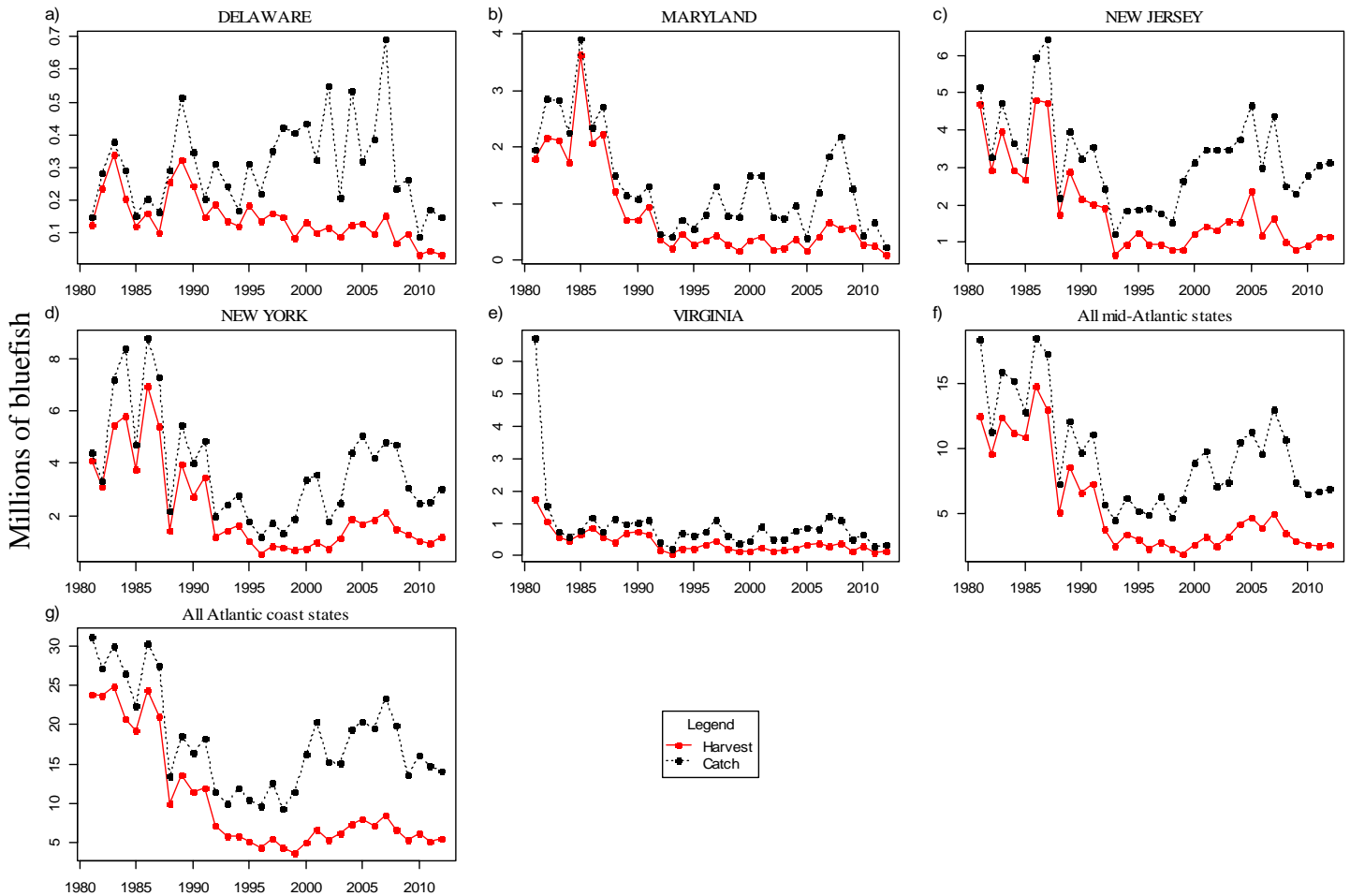


Figure 13. Time series of recreational bluefish harvest (A1+B1; solid red line) and catch (A1+B1+B2; dotted black line) estimates in New Jersey from the MRFSS and MRIP. **2012 estimates are preliminary.**



Note: Due to data collection problems with the MRFSS RDD telephone survey during Waves 2-3, 2002, preliminary estimates for this period are based upon pooled data from the previous three years (1999-2001).

Figure 14. Time series of recreational bluefish **harvest** (A1+B1, **red solid line in plot**) and **catch** (A1+B1+B2, **black dotted line in plot**) estimates for all mid-Atlantic states individually, combined, and all Atlantic coast states combined from the MRFSS and MRIP (note: range of y-axes vary, though all depict millions of fish). **2012 estimates are preliminary.**



Appendix I. 2012 Recreational Regulations N.J.A.C. 7:25-18.1 Size, season, and possession limits. (Source: <http://www.lexisnexis.com/hottopics/njcode/> accessed April 2013).

(a) For the purpose of this subchapter, the following common names shall mean the following scientific name(s) for a species or group of species, except as otherwise specified elsewhere in this subchapter.

<u>Common Name</u>	<u>Scientific Name</u>
American Eel	Anquilla rostrarata
Atlantic Cod	Gadus morhua
Atlantic Croaker	Micropogon undulatus
Atlantic Mackerel	Scomber scombrus
Black Drum	Pogonias cromis
Black Sea Bass	Centropristis striata
Bluefish	Pomatomus saltatrix
Cobia	Rachycentron canadum
Conch	Busycon carica
	Busycotypus canaliculatum
	Busycon contrarium
Dolphin	Coryphaena hippurus
Goosefish (Monkfish)	Lophius americanus
Haddock	Melanogrammus aeglefinus
Hybrid striped bass	Morone saxatilis x Morone spp.
Kingfish	Menticirrhus saxatilis
	Menticirrhus americanus
King Mackerel	Scomberomorus cavalla
Pollock	Pollachius virens
Red Drum	Sciaenops ocellatus
River herring	Alosa aestivalis (alewife)
	Alosa pseudoharengus (blueback herring)
Scup (Porgy)	Stenotomus chrysops
Shad	Alosa sapidissima
	Alosa mediocris
Shark	Large Coastal Group
	Sphyrna mokarran (Great Hammerhead)
	Sphyrna lewini (Scalloped Hammerhead)
	Sphyrna zygaena (Smooth Hammerhead)
	Ginglymostoma cirratum (Nurse Shark)
	Carcharhinus altimus (Bignose Shark)
	Carcharhinus limbatus (Blacktip Shark)
	Carcharhinus leucas (Bull Shark)
	Carcharhinus perezi (Caribbean Reef Shark)
	Carcharhinus obscurus (Dusky Shark)

Carcharhinus galapagensis (Galapagos Shark)
 Negaprion brevirostris (Lemon Shark)
 Carcharhinus brachyurus (Narrowtooth Shark)
 Carcharhinus signatus (Night Shark)
 Carcharhinus plumbeus (Sandbar Shark)
 Carcharhinus falciformis (Silky Shark)
 Carcharhinus brevipinna (Spinner Shark)
 Galeocerdo cuvieri (Tiger Shark)

Small Coastal Group

Squatina dumerili (Atlantic Angle Shark)
 Sphyrna tiburo (Bonnethead)
 Rhizoprionodon terraenovae (Atlantic Sharpnose Shark)
 Carcharhinus acronotus (Blacknose Shark)
 Rhizoprionodon porosus (Caribbean Sharpnose Shark)
 Carcharhinus isodon (Finetooth Shark)
 Carcharhinus porosus (Smalltail Shark)

Pelagic Group

Hexanchus vitulus (Bigeye Sixgill Shark)
 Hepttranchias perlo (Sevengill Shark)
 Hexanchus griseus (Sixgill Shark)
 Isurus paucus (Longfin Mako)
 Lamna nasus (Porbeagle Shark)
 Isurus oxyrinchus (Shortfin Mako)
 Prionace glauca (Blue Shark)
 Carcharhinus longimanus (Oceanic Whitetip Shark)
 Alopias superciliosus (Bigeye Thresher)
 Alopias vulpinus (Thresher Shark)

Smooth Dogfish	Mustelus canis
Spanish Mackerel	Scomberomorus maculatus
Spider crab	Libinia dubia
	Libinia emarginata
Spiny Dogfish	Squalus acanthias
Striped Bass	Morone saxatilis
Summer Flounder	
(Fluke)	Paralichthys dentatus
Tautog (Blackfish)	Tautoga onitis
Weakfish	Cynoscion regalis
	Cynoscion nebulosus
Winter Flounder	Pleuronectes americanus

(c) A person angling with a hand line or with a rod and line or using a bait net or spearfishing shall not have in his or her possession any species listed below less than the minimum length, nor shall such person take in any one day or possess more than the possession limits as provided below, nor shall such person possess any species listed below during the closed season for that species. Exceptions to this section as may be

provided elsewhere in this subchapter shall be subject to the specific provisions of any such section. Fish length shall be measured from the tip of the snout to the tip of the tail (total length), except as noted below:

Species	Minimum Size In Inches	Open Season	Possession Limit
American Eel	6	Jan. 1--Dec. 31	50
Atlantic Cod	21	Jan. 1--Dec. 31	No Limit
Atlantic Croaker	No Limit	Jan. 1--Dec. 31	No Limit
Black Drum	16	Jan. 1--Dec. 31	3
Black Sea Bass	12.5	Jan. 1--Feb. 28 May 19--Sept. 3 Sept. 23--Oct. 14 Nov. 1--Dec. 31	15 25
Bluefish	No Limit	Jan. 1--Dec. 31	15
Cobia	37	Jan. 1--Dec. 31	2
Dolphin	No Limit	Jan. 1--Dec. 31	No Limit
Haddock	21	Jan. 1--Dec. 31	No Limit
Hybrid striped bass	Refer to N.J.S.A. 23:5-45.1		
Kingfish	No Limit	Jan. 1--Dec. 31	No Limit
King Mackerel	23	Jan. 1--Dec. 31	3
Pollock	19	Jan. 1--Dec. 31	No Limit
Red Drum	18	Jan. 1--Dec. 31	1, not greater than 27 inches
River herring (Alewife, blueback herring)	No Limit	None	0
Scup (Porgy)	9	Jan. 1--Feb. 28 and July 1--Dec. 31	50
Shad Delaware Bay, and Delaware River and its tributaries	No Limit	Jan. 1--Dec. 31	6, as specified in (c)4 below

All other marine waters	No Limit	Jan. 1--Dec. 31	6, as specified in (c)4 below
Shark			1 per vessel, as specified in (c)2 below
Large Coastal Group	54	Jan. 1--May 14, and July 16--Dec. 31	
Small Coastal Group	No Limit	Jan. 1--Dec. 31	
Pelagic Group	54	Jan. 1--Dec. 31	
Smooth Dogfish	No Limit	Jan. 1--Dec. 31	No Limit
Spanish Mackerel	14	Jan. 1--Dec. 31	10
Summer Flounder (Fluke)	17.5	May 5--Sept. 28	5
Striped Bass		refer to N.J.S.A. 23:5-45.1	
Tautog	15	Jan. 1--Feb. 28	4
		Apr. 1--Apr. 30	4
		July 17--Nov. 15	1
		Nov. 16--Dec. 31	6
Weakfish	13	Jan. 1--Dec. 31	1
Winter Flounder	12	March 23--May 21	2

Appendix II. December 2012 and all of 2013 Commercial Regulations, N.J.A.C. 7:25-18.12. Commercial fishing seasons, quotas, and trip limits. (Source: <http://www.lexisnexis.com/hottopics/njcode/> accessed April 2013). **The commercial regulations provided below were in effect from late December 2012. Prior to late December, there was a closed season for gill nets (November 7 – December 31) and otter trawls (December 8 – December 31). The regulations were identical otherwise; those closed seasons were removed in late December 2012.**

(b) The following provisions are applicable to the commercial harvest of bluefish:

1. A vessel shall not land for the purpose of sale nor sell any bluefish unless such vessel is in possession of a valid Federal commercial permit for bluefish.
2. New Jersey's annual allocation of bluefish as determined by the National Marine Fisheries Service shall be allocated according to gear type as follows:
 - i. Gill Net: 60.9 percent;
 - ii. Pound Net: 14.9 percent;
 - iii. Otter Trawl: 14.7 percent;
 - iv. Purse Seine: 7.5 percent; and
 - v. Hook and Line: 1.8 percent.
3. A vessel shall not land nor sell any bluefish taken by the gear type specified in (b)2 above except during the respective open season specified below.

Gear	Open Season
Gill Net	Jan. 1 through Dec. 31
Pound Net	Jan. 1 through Dec. 31
Otter Trawl	Jan. 1 through Dec. 31
Hook Line	June 16 through August 7
Purse Seine	Jan. 1 through Dec. 31

4. A dealer shall not accept any bluefish landed in New Jersey taken by the respective gear specified in (b)2 above except during the respective open season specified in (b)3 above.

5. As specified in (b)2 above, the annual bluefish quota for the purse seine fishery shall be 7.5 percent of New Jersey's annual commercial bluefish quota as allocated by the

National Marine Fisheries Service. No purse seine vessel shall land and no dealer shall accept any bluefish landed in New Jersey that have been harvested by purse seine in excess of the annual purse seine quota or after the purse seine season has been closed. If the annual purse seine quota is exceeded in any one calendar year, the overharvest shall be deducted from the purse seine quota in the next subsequent calendar year(s).

6. No fish dealer shall accept any bluefish from any vessel or harvester unless such dealer is in possession of a valid Federal dealer permit.

7. No dealer shall accept any bluefish from any vessel unless said vessel is in possession of a valid Federal commercial permit for bluefish.

8. Any individual or vessel landing bluefish in New Jersey for the purpose of sale shall sell all bluefish to a Federally permitted bluefish dealer.

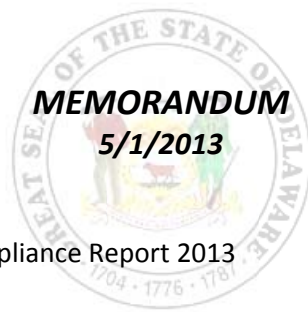
9. All permitted bluefish dealers shall provide weekly landing reports to the Division on a form supplied by the Commissioner.

10. A party or charter vessel possessing a Federal permit to commercially harvest bluefish by angling or hook and line or spearfishing and when operating under the permit shall be subject to the following:

i. Crew size shall be limited to no more than five persons, including the captain; and

ii. The vessel shall not carry any passengers for hire. When carrying passengers for hire, the bluefish permit is not valid and the possession limits and seasonal restrictions as specified in N.J.A.C. 7:25-18.1 apply.

11. The Commissioner, or his or her designee, may close the season for the respective gear in (b)3 above upon four days public notice of the projected date the quota for the respective gear shall be landed. Such notice shall be sent by first class mail to all commercial docks and commercial fishing organizations on the mailing list of the Division.



To: ASMFC, M. Waine
From: Desmond Kahn
Subject: State of Delaware Bluefish Compliance Report 2013

I. Introduction

No changes occurred with respect to monitoring and regulations in 2012. Commercial harvest was 7,326.2 kg (16,150.5 lbs., Delaware Division of Fish and Wildlife data); recreational harvest was estimated at 33,273 bluefish in numbers and 16,700 kg (36,815.2 lbs., MRIP estimates). Commercial harvest increased by 39.7% from the 2011 harvest. Conversely, the preliminary recreational harvest decreased by 27% in numbers and 36% in weight from the 2011 MRIP estimates.

II. Request for de minimis - N/A

III. 2012 Fishery and Management Program

a. Fishery-dependent Monitoring

Commercial fishery landings statistics are summarized from mandatory, fisherman-reported monthly logbook submissions to the State of Delaware. Recreational fishery statistics are estimated from the Marine Recreational Information Program (MRIP) of the National Oceanic and Atmospheric Administration (NOAA).

b. Fishery-independent Monitoring

Two fishery-independent trawl surveys are conducted in Delaware Bay to provide indices of young-of-the-year (Figure 1) and adult bluefish abundance (Appendix 1). Adult indices for 2012 cannot be calculated until an age-length key is available (will be updated soon).

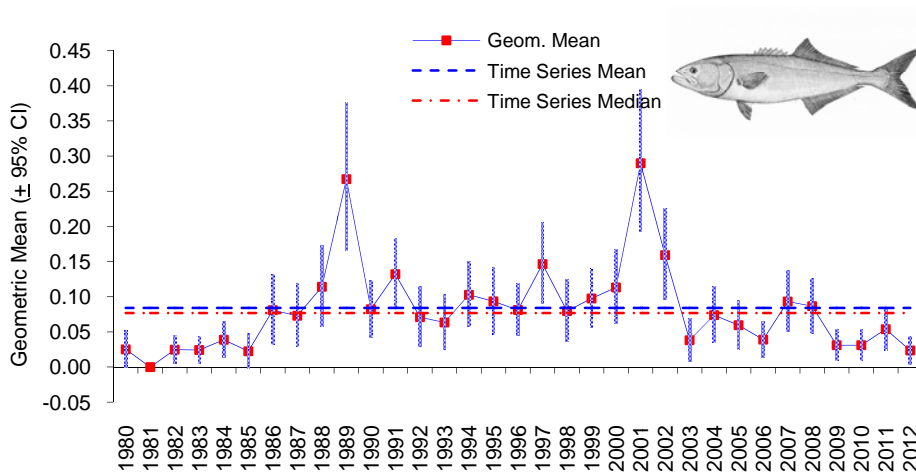


Figure 1. Annual catch per tow of young-of-the-year bluefish from the 16-foot trawl survey. Values are expressed as the geometric mean catch (numbers) per tow.

c. 2013 Harvest Regulations

1. *Commercial fishery*. No restrictions (same as 2012).
2. *Recreational fishery*. 10 fish bag limit, no size or season restrictions (same as 2012).

d. 2012 Harvest

1. *Commercial fishery harvest*

Total commercial landings were 7,326.2 kg (16,150.5 lbs.) in 2012. The majority (89%) of the commercial landings were captured with gill nets (Table 1). Due to confidentiality restrictions, only three of the four gears used can be revealed. Commercial landings from 1997-2012 are given in Table 2 and Figure 2.

2. *Recreational fishery harvest*

The preliminary recreational landings estimate (Type A + B1) was 33,273 in numbers and 16,700 kg (36,815 lbs.) in 2012 (MRIP data) (Table 3). These preliminary landings numbers and weight decreased by 27% and 36%, respectively, from the estimates for 2011 (Figure 3). The mean size of the landed fish was 323.6 mm and 0.5 kg (Table 3).

Table 1. 2012 commercial bluefish landings in Delaware, by gear type.

Gear	Landings (kg)	Landings (lb)
Drift Gill Net	6,487.2	14,301
Fixed Gill Net	130.2	287
Hook and Line	704.7	1,553.5
Unspecified	4.1	9
Grand Total	7,326.2	16,150.5

Table 2. Annual commercial bluefish landings in Delaware (1997-2012).

Year	Landings (kg)	Landings (lb)	% Change from Previous Year
1997	12,099	26,673	-
1998	12,575	27,722	4%
1999	8,298	18,293	-34%
2000	13,131	28,948	58%
2001	8,588	18,934	-35%
2002	18,049	39,791	110%
2003	13,329	29,386	-26%
2004	11,062	24,387	-17%
2005	16,936	37,336	53%
2006	18,742	41,319	11%
2007	8,864	19,541	-52%
2008	10,325	22,762	16%
2009	10,048	22,152	-3%
2010	8,646	19,061	-14%
2011	5,245	11,559	-39%
2012	7,326	16,150.5	39.7%

Table 3. MRIP statistics for Delaware, 1997-2012. Harvest (A + B1) numbers, weight, and size estimates, and numbers released (TYPE B2) with associated proportional standard errors (PSE).

Year	Harvest (A+B1)	Num PSE	Kg (A+B1)	Kg PSE	Mean Length	Mean Wt kg (A+B1)	Released Alive (B2)	Num PSE
1997	158,807	14.9	69,963	14.1	310.9	0.4	193,056	22.5
1998	149,749	16.6	91,489	15	329.5	0.6	274,589	22.1
1999	84,247	19.9	41,754	19.3	314.8	0.5	322,548	26.1
2000	131,815	17.2	99,005	19.1	338.7	0.8	303,491	16.3
2001	101,503	14.2	86,089	18.3	367.5	0.8	220,644	13.1
2002	116,616	11.3	81,076	18.1	335.3	0.7	435,157	13.1
2003	89,387	15.8	74,405	16.9	403.3	0.8	119,732	14.5
2004	126,224	18.8	44,837	15.1	290.5	0.4	408,034	39.2
2005	127,120	17.0	101,876	13.9	361.1	0.8	190,721	25.5
2006	96,982	21.7	105,794	16.8	328.3	1.1	288,994	19.7
2007	153,056	16.2	70,172	14.3	322	0.5	538,156	24.1
2008	68,592	32.3	43,559	21.5	325.6	0.6	167,326	27.4
2009	97,912	21.4	51,187	25.8	321.5	0.5	167,083	18.4
2010	32,365	21.4	17,662	20.5	331.5	0.5	57,496	24.1
2011	45,786	22.4	26,051	27.0	320	0.6	127,519	27.2
2012	33,273	26.1	16,700	25.1	323.6	0.5	116,327	33.0

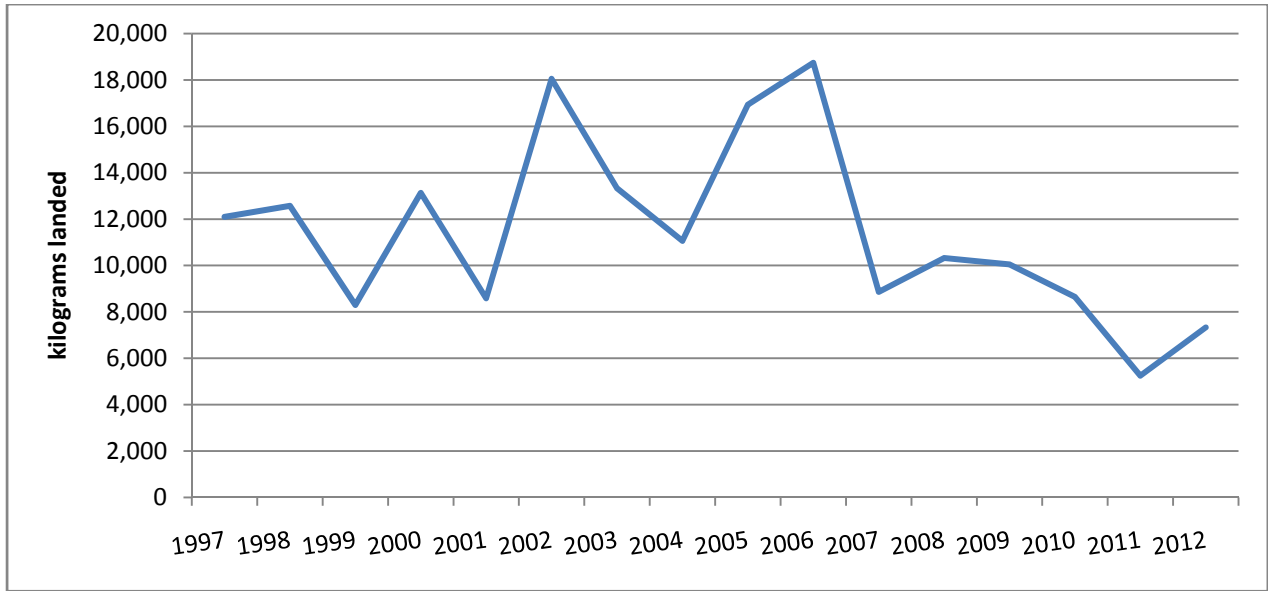


Figure 2. Delaware commercial landings, 1997-2012.

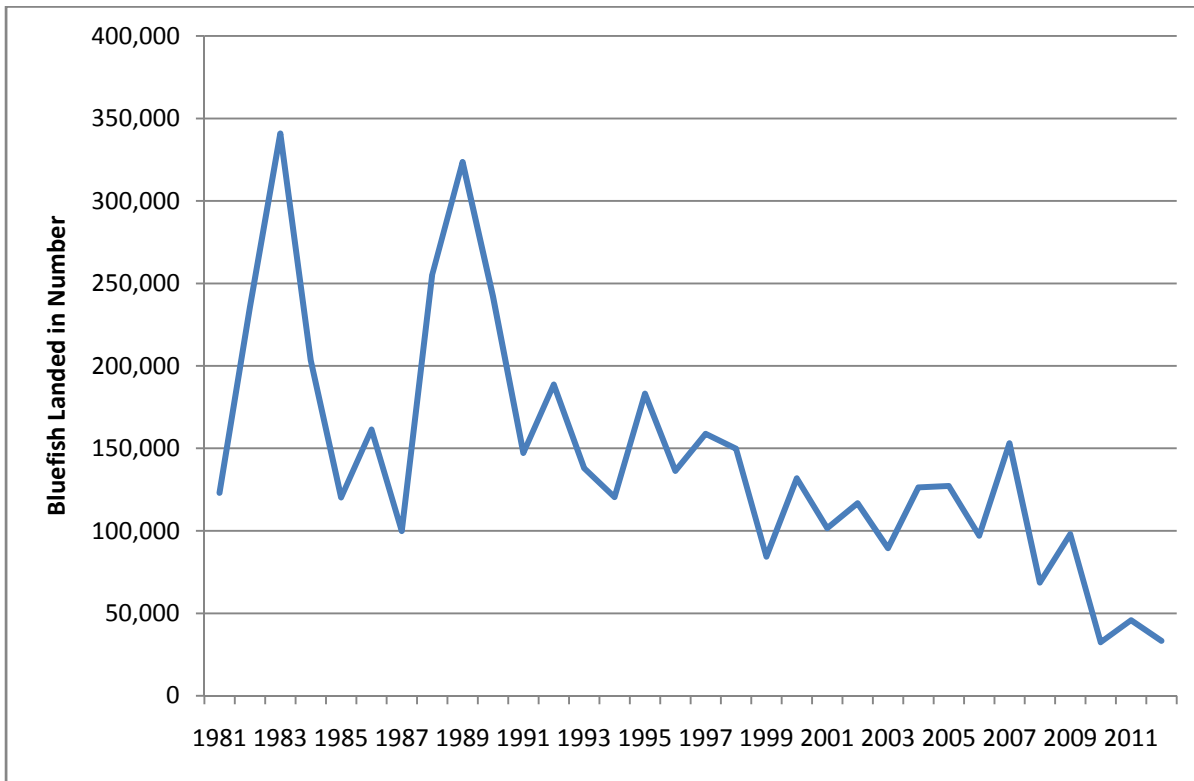


Figure 3. Recreational landings (A + B1), 1981-2012.

IV. *Planned Management Program for 2013*

- a. No changes in the management program are planned for 2013.
- b. Long-term trawl indices of Delaware Bay will continue as described in III b.
- c. No changes will occur with respect to fishery regulations and fishery-independent monitoring.

V. *Plan-specific requirements*

- a. Bluefish – no plan specific requirements.

VI. *Law Enforcement Reporting Requirements*

- a. Bluefish - no plan specific requirements.

Literature Cited

Delaware Division of Fish and Wildlife. Mandatory, statewide commercial harvest logbook reports.

MRIP. Queries from data collected by the Marine Recreational Information Program of the National Oceanic and Atmospheric Administration, from the web address:

<http://www.st.nmfs.gov/st1/recreational/queries/index.html>.

Appendix 1.

Age-specific indices of bluefish abundance in Delaware Bay. Index values = geometric mean catch per tow. Note that the age 0 index (Young-of-year Index) is the geometric mean catch per tow from our Juvenile Trawl Survey, while the indices for ages 1 and 2 are from our Adult Groundfish Trawl Survey.

YEAR	GM_0	GM_1	GM_2
1966		0.206377	0.008415
1967		0.062046	0.002388
1968		0.044578	0.00492
1969		0.100908	0.010102
1970		0.076453	0.063741
1971		0.231709	0.086822
1972		0	0
1973		0	0
1974		0.336698	0.018539
1975		0	0
1976		0	0
1977		0	0
1978	0	0	0
1979	0	0.140464	0.119995
1980	0.025247	0.462476	0.072752
1981	0	0.379131	0.043948
1982	0.024619	0.185645	0.050975
1983	0.024331	0.276648	0.028239
1984	0.038921	0.22337	0.024782
1985	0.022498	0	0
1986	0.080824	0	0
1987	0.072881	0	0
1988	0.114083	0	0
1989	0.267205	0	0
1990	0.082201	0.682634	0.014842
1991	0.132106	0.208553	0.004125
1992	0.070903	0.21065	0.003046
1993	0.063317	0.220328	0.012714
1994	0.102848	0.29505	0.003538
1995	0.093364	0.375954	0.030792
1996	0.081069	0.425782	0.017163
1997	0.146522	0.316501	0.022934
1998	0.079516	0.581041	0.107494
1999	0.097453	0.439128	0.033538
2000	0.113234	0.364897	0.046902
2001	0.289852	0.555281	0.107099
2002	0.159162	1.209688	0.04686
2003	0.038143	0.223908	0.011864
2004	0.073973	0.835536	0.03049
2005	0.059576	0.126592	0.008711
2006	0.038969	0.070469	0.019703
2007	0.093301	0.320852	0.021408
2008	0.086503	0.172193	0.016319
2009	0.030987	0.2816	0.029375
2010	0.031149	0.383446	0.066376
2011	0.05	0.14	0.01

**Maryland 2012 Bluefish (*Pomatomus saltatrix*) Compliance Report
To the
Atlantic States Marine Fisheries Commission**

Prepared by:

**Eric Q. Durell
Genine K. Lipkey**

**Maryland Department of Natural Resources
Fisheries Service**

April 2013

I. Introduction

Bluefish (*Pomatomus saltatrix*) are caught in Maryland's Atlantic Ocean and Chesapeake Bay waters. During 2012, Maryland's recreational anglers operated under a ten fish creel limit and an 8-inch minimum size limit. Commercial fishermen operated under an 8-inch minimum size limit and an annual quota of 309,707 pounds. Maryland commercial fishermen have not exceeded the quota since the system was established in 1995. Both fisheries are open year-round.

II. Request for *de minimis*

N/A

III. Fishery and Management Programs

a.) Fishery Dependent Monitoring

Fishery dependent sampling for bluefish consists of commercial pound net monitoring by the Chesapeake Bay Finfish Program's Migratory Species Survey from May through September. Bluefish encountered in pound nets in 2012 ranged from 146 to 575 mm TL. The sample length frequency shows a bimodal distribution with peaks at 220 mm and 340 mm (Figure 1). Of the 877 fish measured, 41% were between 200 and 259 mm (7.9 and 10.2 inches) TL.

b.) Fishery Independent Monitoring

Fishery independent bluefish monitoring consists of seine surveys in the Chesapeake Bay and Atlantic coastal bays. Direct comparisons between the surveys are not possible because of differing gears and sampling methodologies.

The Chesapeake Bay Finfish Program's Estuarine Juvenile Finfish Survey is used to develop an annual index of relative abundance for juvenile bluefish. The index is based on selected sample sites where bluefish have historically been encountered, and is the average of the natural log transformed (catch+1) values. The 2012 Chesapeake Bay juvenile bluefish index was 0.07, below the time-series average of 0.2 (Figure 2).

The Atlantic Program's Coastal Bays Seine Survey also develops an index of relative abundance for juvenile bluefish using natural log transformed (catch+1) values. The 2012 Coastal Bays index of 0.37 was below the time-series average of 0.43 (Figure 3).

c.) Regulations

Maryland bluefish regulations for 2012:

FISHERIES SERVICE 08.02.05.10

.10 Bluefish.

A. Minimum Size. A person may not catch or possess bluefish less than 8 inches in total length.

B. Recreational Catch Limit. Except for a person licensed to catch finfish for sale, a person may not catch or possess more than ten bluefish per day.

C. Commercial Catch Limit. A coastwide quota and daily catch limit to be shared by Atlantic states will be established and published by National Marine Fisheries Service and the Atlantic States Marine Fisheries Commission.

D. General. The Secretary:

(1) May modify catch limits or open or close a season in State waters by publishing notice in a daily newspaper of general circulation at least 48 hours in advance, stating the effective hour and date; and

(2) Shall make reasonable effort to disseminate public notice through various other media so that an affected person has reasonable opportunity to be informed.

SOURCE: COMAR (<http://www.dsd.state.md.us/comar/>)

d.) Commercial and Recreational Landings

A preliminary accounting of Maryland's 2012 commercial bluefish harvest was 87,587 pounds (Figure 4; source: MDDNR Fisheries Statistics Project), similar to 2011. Late reporting and the addition of landings from federal waters (reported to directly to NMFS) will add to this figure. Commercial landings should be queried later in the year for an updated value.

Approximately 69% of the commercial harvest was caught in the Atlantic Ocean (Table 1). Gill nets and pound nets accounted for over 73% of the harvest (Table 2). Sixty-five percent of the commercial harvest occurred between August and December (Table 3).

The 2012 Marine Recreational Information Program (MRIP) estimate of Maryland bluefish harvest (Type A+B1) was 93,559 fish (128,284 lbs), a 64% decrease from last year (Figure 5) (source: <http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-data-query/queries/index>, Feb 20, 2013 download).

Ninety-six percent of the annual recreational harvest occurred between July and October (Table 4). Shore-based anglers caught nearly half the recreational harvest and charter boat accounted for an additional 30% (Table 5). Ninety-nine percent of Maryland's recreational bluefish harvest occurred in inland waters (Table 6).

The 2012 MRIP estimate of Maryland recreational live discards (Type B2) was 136,245 fish, a 66% decrease from last year (Figure 6). Similar to the harvest, 98% of Type B2 discards occurred in inland waters (source: <http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-data-query/queries/index>, Feb 20, 2013 download).

e.) The plan has no habitat requirements.

IV. Planned Management for 2013

- a.) The NMFS Atlantic Bluefish Fishery Specifications for 2013 and 2014 were proposed on February 20, 2013. Proposed 2013 and 2014 Maryland commercial quotas are 272,443 pounds and 260,374 pounds, respectively (Federal Register, Vol. 78, No. 34, pp. 11809-11813).
- b.) The Migratory Species Survey, Estuarine Juvenile Finfish Survey, and Coastal Bays Seine Survey will continue in 2013.
- c.) No changes to creel limits, minimum size, or seasons will be made for 2013.

V. Plan Specific Requirements

None

VI. Law Enforcement Requirements

None

Table 1. Maryland commercial bluefish landings by area, 2012.

Area	Landings (Pounds)	Percent Landings
Chesapeake Bay	25,354	29.0
Ocean (>3 miles offshore)	27,161	31.0
Ocean (0-3 miles offshore)	33,233	37.9
Coastal Bays	1,839	2.1
Total	87,587	100.0

Table 2. Maryland commercial bluefish landings by gear type, 2012.

Gear	Landings (Pounds)	Percent Landings
Gill net, anchor	4,434	5.1
Gill net, drift	42,647	48.7
Gill net, stake	117	0.1
Haul seine	3,005	3.4
Hook and line	2,148	2.5
Otter Trawl	17,702	20.2
Pots, fish	2	0.0
Pots, lobster	45	0.1
Pound net	17,487	20.0
Total	87,587	100.0

* Values may not sum due to rounding

Table 3. Maryland commercial bluefish landings by month, 2012.

Month	Landings (Pounds)	Percent Landings
January	4,475	5.1
February	19,249	22.0
March	1,490	1.7
April	425	0.5
May	768	0.9
June	1,192	1.4
July	2,676	3.1
August	7,128	8.1
September	8,652	9.9
October	3,166	3.6
November	23,752	27.1
December	14,614	16.7
Total	87,587	100.0

Table 4. Maryland recreational bluefish harvest (Type A+B1) by MRIP wave, 2012.

Date	Wave	Harvest (numbers of fish)	Percent Harvest
January-February	1	0	0.0
March-April	2	0	0.0
May-June	3	3,431	3.7
July-August	4	64,049	68.5
September-October	5	26,079	27.9
November-December	6	0	0.0
Total		93,559	100.0

* Values may not sum due to rounding

Table 5. Maryland recreational bluefish harvest (Type A+B1) by MRIP mode, 2012.

Mode	Harvest (numbers of fish)	Percent Harvest
Private/rental boats	17,350	18.5
Shore-based anglers	46,579	49.8
Charter boats	28,398	30.4
Party boats	1,232	1.3
Total	93,559	100.0

Table 6. Maryland recreational bluefish harvest (Type A+B1) by MRIP area, 2012.

Area	Harvest (numbers of fish)	Percent Harvest
Ocean (> 3 miles offshore)	1,175	1.3
Ocean (<=3 miles offshore)	197	0.2
Inland	92,187	98.5
Total	93,559	100.0

* Values may not sum due to rounding

Figure 1. Length frequency of bluefish from Maryland's Chesapeake Bay pound net survey, May-September, 2012.

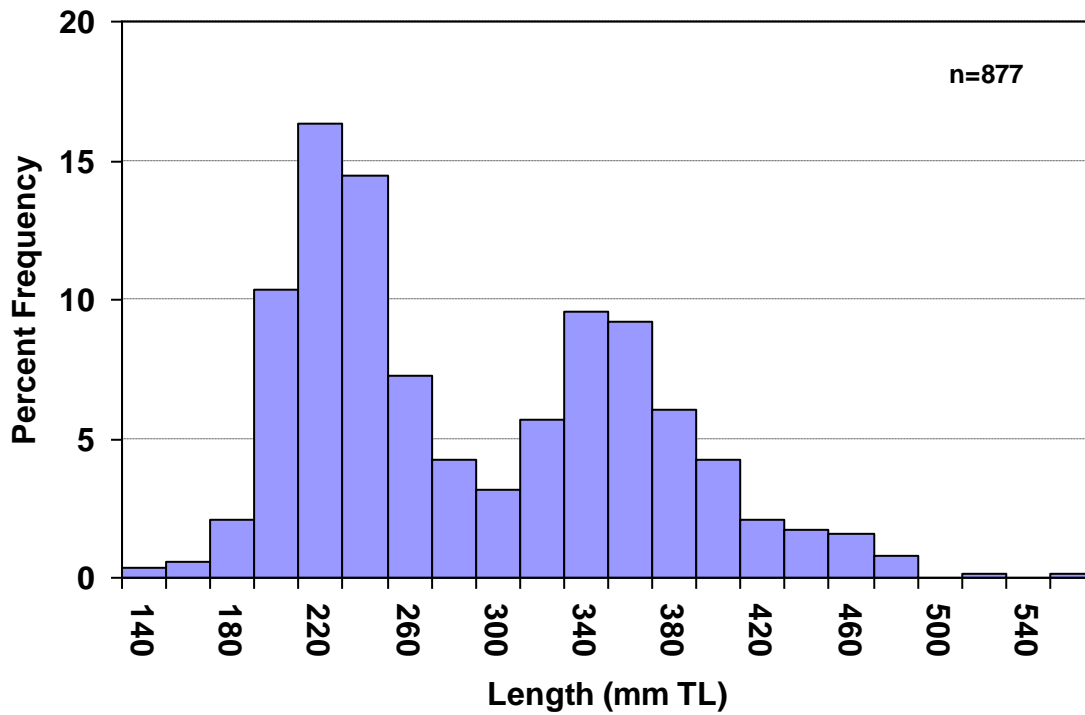


Figure 2. Bluefish juvenile index from Maryland's portion of the Chesapeake Bay.

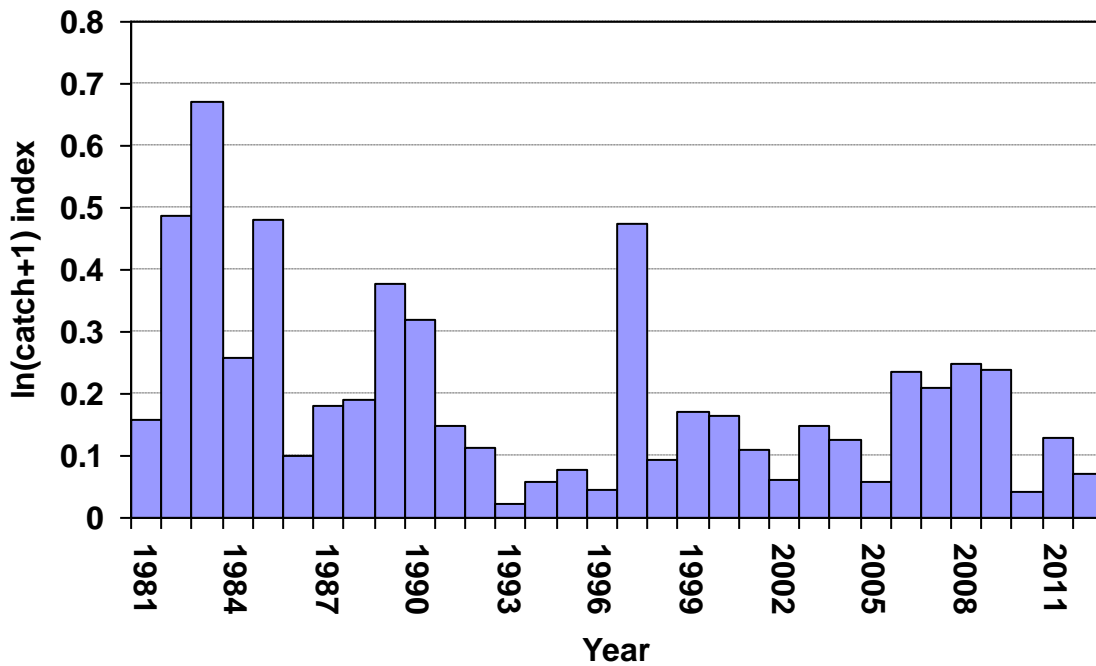


Figure 3. Bluefish juvenile index from Maryland's Coastal Bays seine survey.

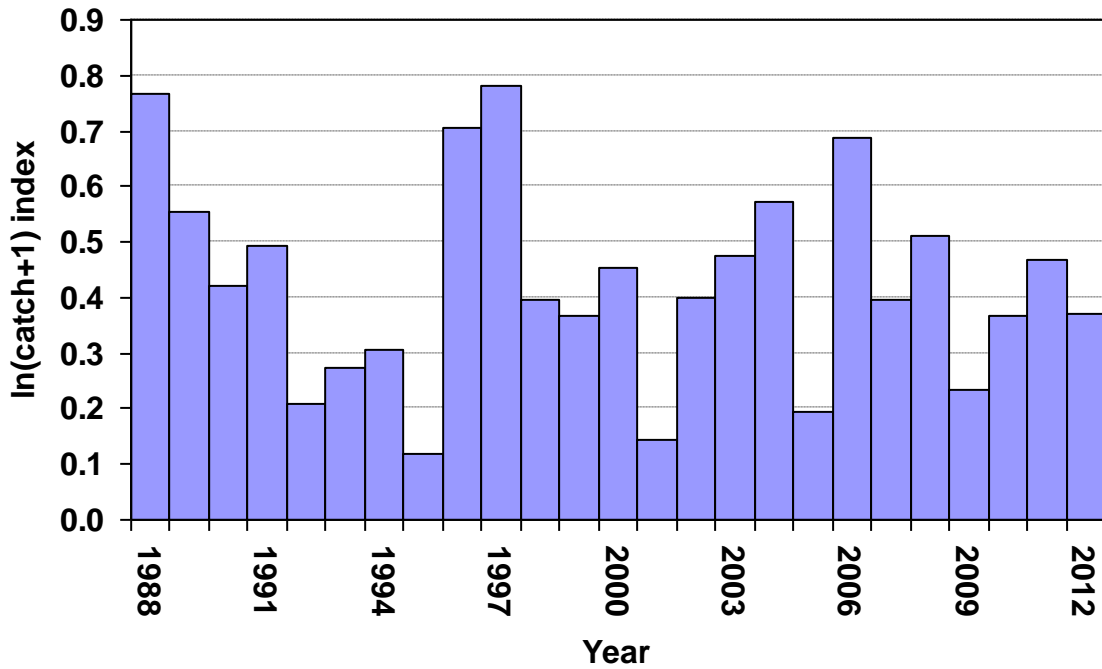


Figure 4. Maryland commercial bluefish landings (source: NMFS Annual Commercial Landings Statistics through 2011; preliminary 2012 data from MDDNR Commercial Fisheries Statistics Project).

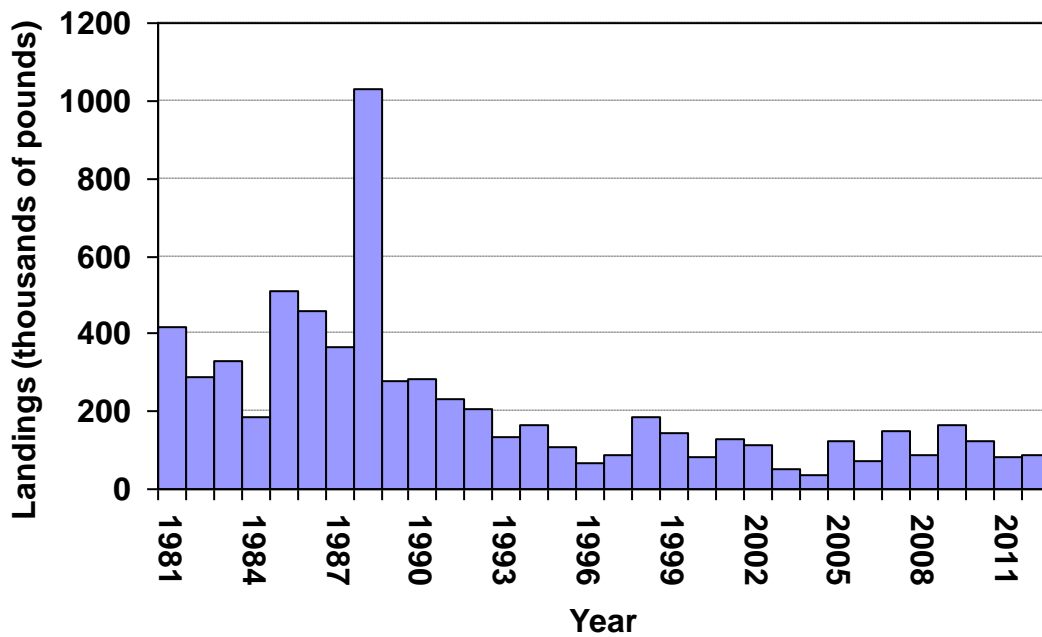


Figure 5. Maryland recreational bluefish harvest, Type A+B1 (source: MRIP*).

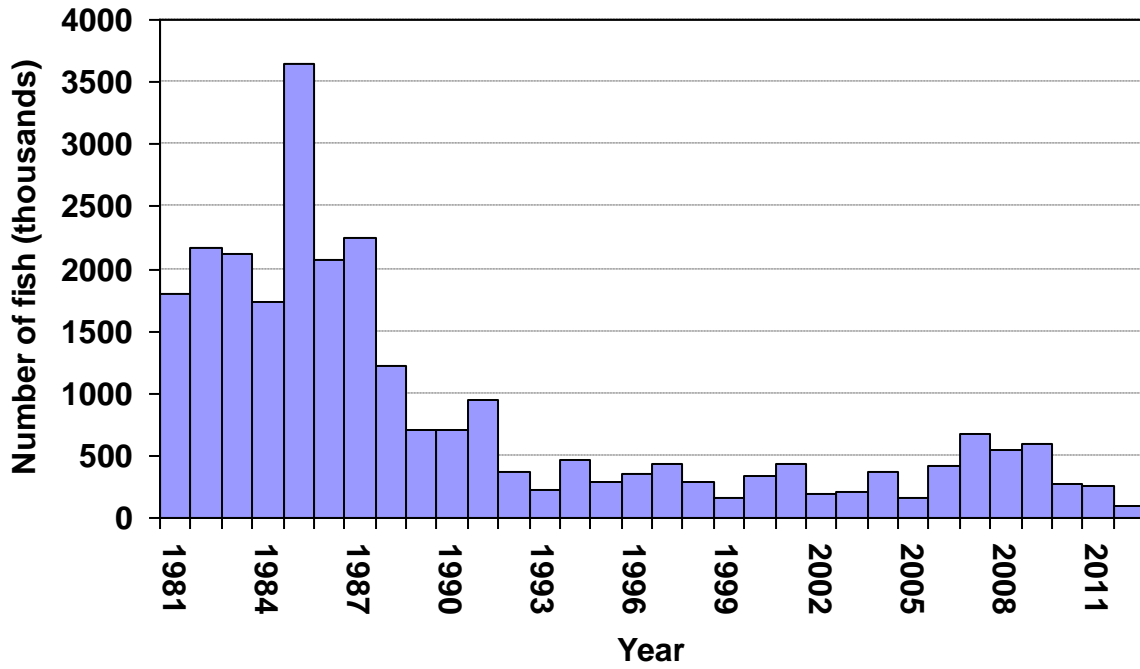
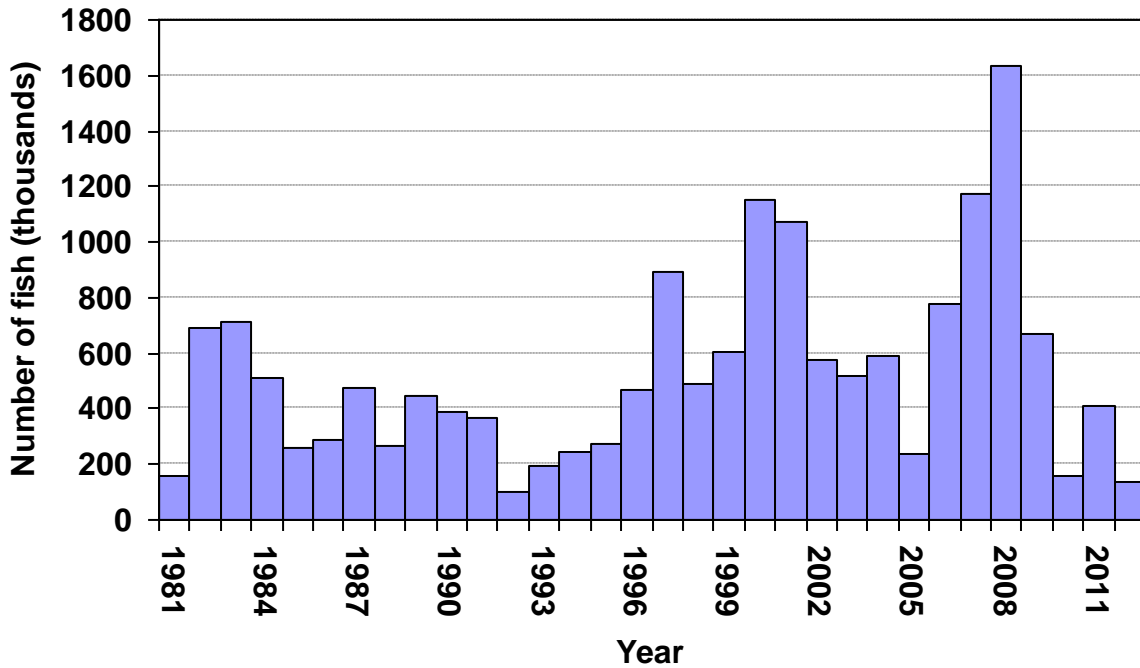


Figure 6. Maryland recreational bluefish live discards, Type B2 (source: MRIP*).



*MRIP estimations methods begin in 2004



MARYLAND - VIRGINIA
"Potomac River Compact of 1958"

Potomac River Fisheries Commission

222 Taylor Street
P.O. BOX 9

Colonial Beach, Virginia 22443

TELEPHONE: (804) 224-7148 · (800) 266-3904 · FAX: (804) 224-2712



Bluefish **2012 Compliance Report** May 1, 2013

I. Introduction

Commercial harvest of bluefish in the Potomac River in 2012 was about 67 percent higher than the 2011 value (Figure 1). Pound net effort (number of fishing days) increased to the 2005 level (Table 3); however, the pound net CPUE (lbs/PN net-days fished) declined by 46 percent.

II. Request *de minimis*, where applicable – N/A

III. Previous calendar year's fishery and management program

A. Fishery Dependent Monitoring

Pound nets are the primary commercial gear for bluefish. Haul seines, hook and line, and several miscellaneous gear types can occasionally contribute to the total bluefish harvest.

The PRFC has no 'state-by-state quota' under the MAFMC/ASMFC FMP. Our weekly mandatory reporting tracking system of commercial harvest from the Potomac River allows us to report commercial bluefish landings information to Maryland and Virginia on a timely basis. We also have a provision for closing the commercial fishery in the Potomac River upon notification from both Maryland and Virginia that their bluefish quotas have been filled and their inland fisheries are closed.

B. Fishery Independent Monitoring

Maryland DNR personnel have conducted an annual juvenile abundance survey since 1954. Bluefish data has been recorded from 1961 to the present. Fixed stations and some auxiliary stations are used each year for a beach haul seine survey in which the juveniles of all species encountered are identified and recorded. The 2012 Geometric Mean Index for bluefish in the Potomac River was zero, down from a 0.11 value in 2011 (Figure 3). Refer to the MD DNR web site for complete information at <http://www.dnr.state.md.us/fisheries/juvinindex/index.html>

C. Regulations in effect

There is no minimum commercial size limit. The season is open from January 1 through December 31, subject to daily harvest limits being imposed when 80 percent of the quota is landed and/or total closure if the quota is reached.

In 2011, it became mandatory for pound netters to have six PRFC approved fish cull panels installed in the sides of their pound nets. Studies have shown that when these cull devices are used, 66 percent of bluefish less than 10 inches are released alive and unharmed.

The 2012 recreational and charter boat bluefish regulations included a season of January 1st through December 31st and a ten fish per person per day creel limit.

D. Harvest

Commercial bluefish harvest from the Potomac River in 2012 totaled 54,085 pounds. This estimate is from the PRFC’s mandatory commercial daily harvest reporting system. The pound net fishery effort is expressed as “PN fishing days” which is one pound net fished one time (net-days fished). The haul seine effort is expressed as “hauls” and is one fishing of the haul seine and the hook & line effort is expressed as “HL hours fished”. The fyke net effort is expressed as “FN fishing day” and is one fyke net fished one day. The term “gear days” is used to express effort for the miscellaneous gear types.

<u>Harvest (lbs.)</u>	<u>Gear</u>	<u>Effort</u>
53,707	Pound net	1,105 PN fishing days
167	Haul seine	21 hauls
65	Hook & line	6 HL hours fished
25	Fyke net	3 FN fishing days
121	Miscellaneous	9 gear days

For the private recreational fishery, the PRFC ‘adds-on’ to the MRFSS phone survey. Results are reported and included as either MD or VA catches. The National Saltwater Angler Registry (NSAR) was begun in 2010 and the PRFC directed all of their licensed sport fishermen and guests to register. The PRFC provided an area on the back of the sport fishing licenses for recording names and NSAR numbers. For all charter boats licensed to operate in the Potomac River, contact information is supplied to the NOAA For Hire Survey.

Tables and Figures:

Table 1 shows the Potomac River commercial harvest of bluefish from 1964 through the reporting year.

Table 2 shows the annual Potomac River charter boat harvest of bluefish, and the estimated numbers and sizes of released bluefish from 1993 through 2004.

Table 3 shows commercial pound net harvest of bluefish and CPUE.

Figure 1 illustrates the Potomac River commercial bluefish harvest.

Figure 2 illustrates the Potomac River commercial bluefish harvest and pound net CPUE.

Figure 3 illustrates the Potomac River geometric mean catch for young-of-year bluefish.

IV. Planned management programs for the current calendar year

A. Summarize regulations that will be in effect

The pound net fishery is a limited entry fishery, with a maximum of 100 licenses on a total riverwide basis. A pound net is defined as a fixed fishing device with one head, trap or pound measuring not less than 20 feet square at the surface of the water on the channel end and only one leader or hedging not less than 300 feet in length. Effective January 1, 2011 – all pound nets in the Potomac River must have at least six PRFC approved fish cull panels properly installed in each pound net to help release undersize fish. These fish cull panels were being used by some pound netters on a voluntary basis prior to 2011. As a conservation measure, these cull devices allow escapement of at least 66 percent of bluefish less than ten inches.

B. Summarize monitoring programs that will be performed

We expect Maryland will continue the annual juvenile abundance survey. We will continue mandatory harvest reports.

C. Highlight any changes from the previous year – Already noted.

Table 1

Potomac River Commercial Harvest (lbs) for BLUEFISH by gear type

YEAR	HAUL SEINE	POUND NET	FYKE NET	GILL NET	H & L	MISC.	LBS LANDED IN			TOTAL
							MD	VA		
1964	-	-	-	-	-	18,390	60	18,330	18,390	
1965	-	-	-	-	-	37,280	322	36,958	37,280	
1966	-	-	-	-	-	12,032	-	12,032	12,032	
1967	-	-	-	-	-	15,847	-	15,847	15,847	
1968	-	-	-	-	-	37,145	619	36,526	37,145	
1969	-	-	-	-	-	25,676	980	24,696	25,676	
1970	-	-	-	-	-	82,136	2,999	79,137	82,136	
1971	-	-	-	-	-	122,701	5,500	117,201	122,701	
1972	-	-	-	-	-	79,315	3,038	76,277	79,315	
1973	-	-	-	-	-	384,338	8,756	375,582	384,338	
1974	-	-	-	-	-	541,774	16,818	524,956	541,774	
1975	-	-	-	-	-	545,790	20,262	525,528	545,790	
1976	-	499,985	-	4,623	-	5,011	39,995	469,624	509,619	
1977	2,330	718,275	-	5,357	-	-	45,289	680,673	725,962	
1978	773	240,858	-	4,738	-	17,084	13,520	249,933	263,453	
1979	1,347	466,713	-	5,229	-	-	29,874	443,415	473,289	
1980	500	726,021	-	10,794	-	-	32,966	704,349	737,315	
1981	-	434,123	-	10,557	-	-	15,432	429,248	444,680	
1982	63	295,236	-	16,099	-	-	18,140	293,258	311,398	
1983	-	330,566	-	37,256	225	-	11,308	356,739	368,047	
1984	-	278,624	-	17,287	645	-	8,906	287,650	296,556	
1985	-	553,476	-	18,575	9,676	-	36,295	545,432	581,727	
1986	-	239,310	-	61	8,865	-	28,979	219,257	248,236	
1987	2,110	101,905	-	20	1,289	-	4,642	100,682	105,324	
1988	-	1,143,142	-	14,073	8,109	-	78,022	1,087,302	1,165,324	
1989	179	60,208	-	-	629	-	3,278	57,738	61,016	
1990	-	383,385	-	2,072	480	-	25,486	360,451	385,937	
1991	-	167,525	-	-	342	-	9,279	158,588	167,867	
1992	-	31,236	-	-	99	-	2,223	29,112	31,335	
1993	-	26,316	-	8	2	-	1,038	25,288	26,326	
1994	8	46,669	20	-	24	-	908	45,813	46,721	

Table 1 continued

Potomac River Commercial Harvest (lbs) for Bluefish

YEAR	HAUL SEINE	POUND NET	FYKE NET	GILL NET	H & L	MISC.	LBS LANDED IN		TOTAL
							MD	VA	
1995	-	55,610	-	-	5	-	1,717	53,898	55,615
1996	68	23,902	2	-	3	-	991	22,984	23,975
1997	61	53,434	74	-	211	-	2,703	51,077	53,780
1998	229	47,303	18	-	17	1	7,897	39,671	47,568
1999	51	53,502	-	4	7	-	7,351	46,213	53,564
2000	119	32,253	120	-	197	5	3,759	28,935	32,694
2001	376	126,467	916	-	11	82	18,067	109,785	127,852
2002	1,202	96,167	20	-	155	4	10,404	87,144	97,548
2003	-	23,764	112	-	2	1	2,138	21,741	23,879
2004	11	58,580	35	-	20	1	1,809	56,838	58,647
2005	-	89,932	-	-	35	-	23,079	66,888	89,967
2006	19	45,555	26	-	8	3	4,539	41,072	45,611
2007	-	79,835	13	-	319	11	12,117	68,061	80,178
2008	36	86,671	47	-	212	-	17,219	69,747	86,966
2009	67	36,937	192	-	172	26	10,512	26,882	37,394
2010	211	50,544	121	81	35	520	3,134	48,378	51,512
2011	50	34,933	374	-	97	751	4,571	31,634	36,205
2012	167	53,707	25	-	65	121	6,860	47,225	54,085

Table 2

Potomac River Charter Boat Bluefish Catches

<u>Year</u>	<u>Harvest</u>		<u>Released</u>	
	<u># Fish</u>	<u>Pounds</u>	<u># Fish</u>	<u>Avg. Size (in.)</u>
1993	1,369	4,215	56	8
1994	5,810	9,470	242	12
1995	9,915	22,676	363	15
1996	2,689	3,917	224	11
1997	4,047	7,073	661	12
1998	3,057	8,846	182	15
1999	1,664	3,535	84	11
2000	4,958	7,301	223	12
2001	4,510	8,363	84	13
2002	3,322	6,902	101	12
2003	611	1,004	86	11
2004	2,407	2,697	0	0
2005 - 2012	NOAA for Hire Survey			

Table 3

Potomac River Commercial Bluefish Pound Net Harvest

<u>Year</u>	<u>Pounds</u>	<u>Effort</u>	<u>CPUE</u>
1976	499,985	3,829	130.58
1977	718,275	3,414	210.39
1978	240,858	3,799	63.40
1979	466,713	3,986	117.09
1980	726,021	6,685	108.60
1981	434,123	*	
1982	295,236	*	
1983	330,566	*	
1984	278,624	*	
1985	553,476	*	
1986	239,310	*	
1987	101,905	*	
1988	1,143,142	4,106	278.41
1989	60,208	3,016	19.96
1990	383,385	2,946	130.14
1991	167,525	2,886	58.05
1992	31,236	2,357	13.25
1993	26,316	1,756	14.99
1994	46,669	2,428	19.22
1995	55,610	2,612	21.29
1996	23,902	1,646	14.52
1997	53,434	2,015	26.52
1998	47,303	2,172	21.78
1999	53,502	1,694	31.58
2000	32,253	1,497	21.55
2001	126,467	2,062	61.33
2002	96,167	1,716	56.04
2003	23,764	1,243	19.12
2004	58,580	1,149	50.98
2005	89,932	1,112	80.87
2006	45,555	882	51.65
2007	79,835	1,047	76.25
2008	86,671	1,006	86.15
2009	36,937	704	52.47
2010	50,544	721	70.10
2011	34,933	329	106.18
2012	53,707	1,105	48.60

* No effort data available between 1981 - 1987

Figure 1

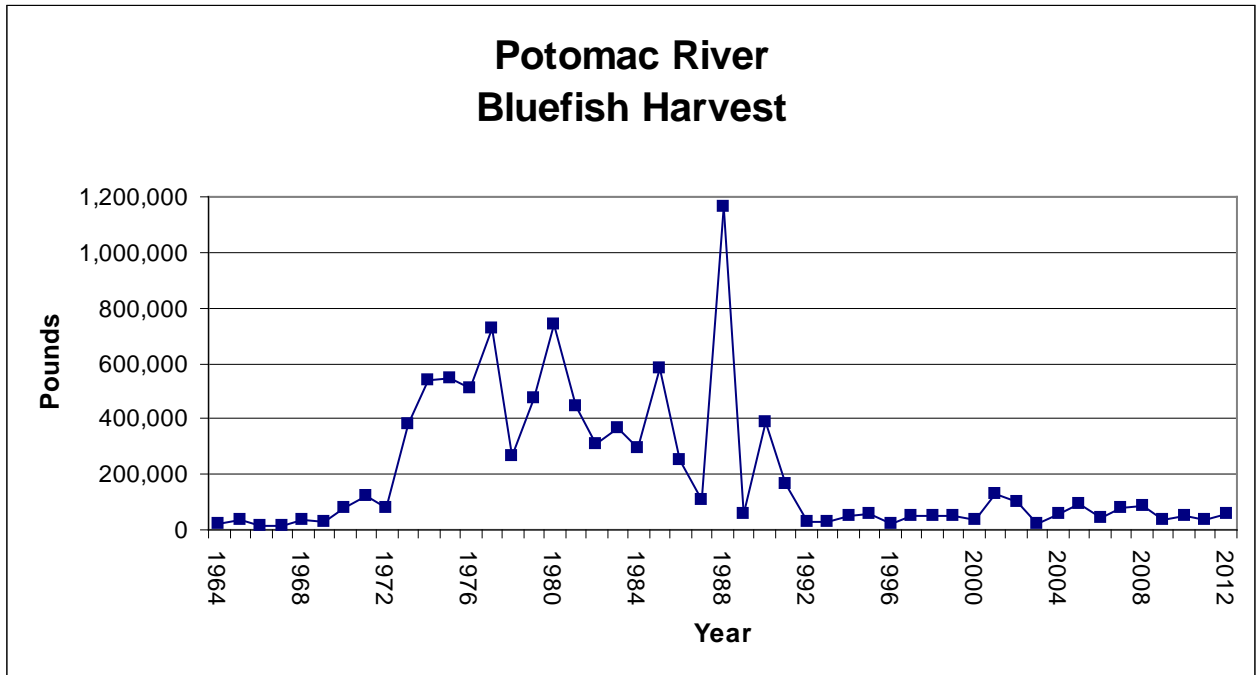


Figure 2

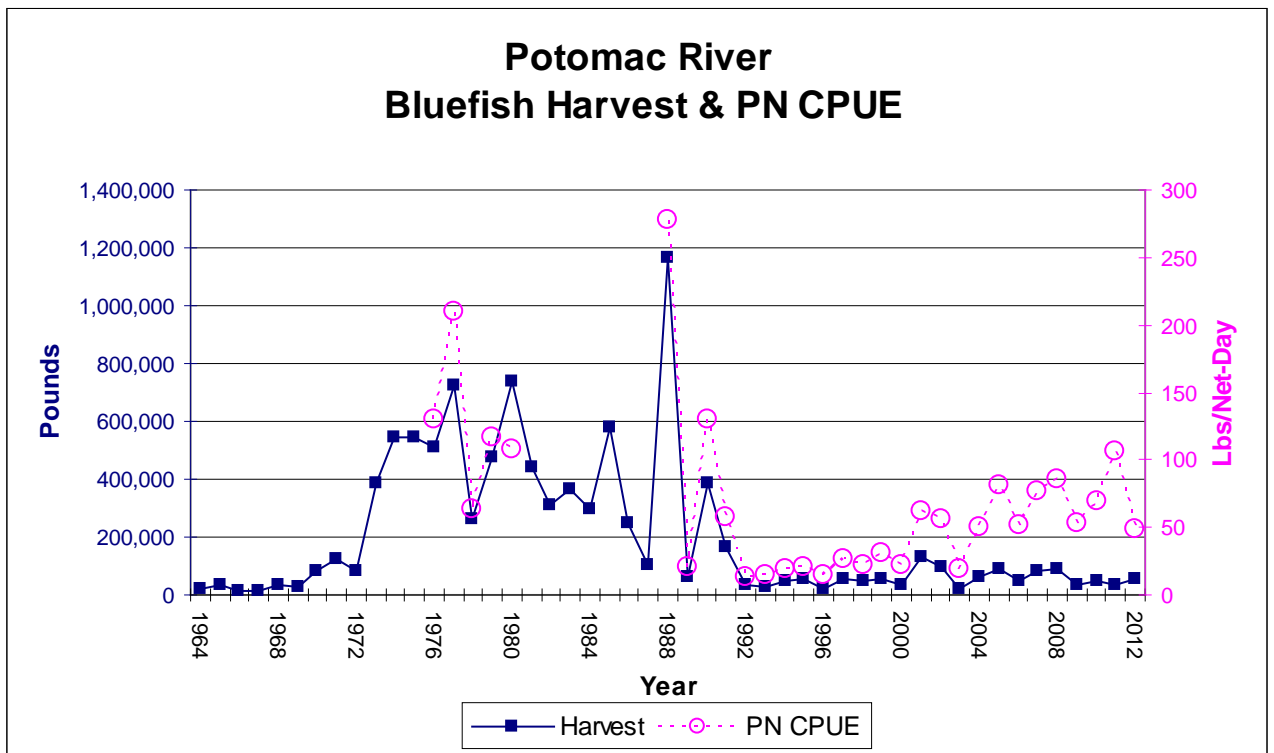
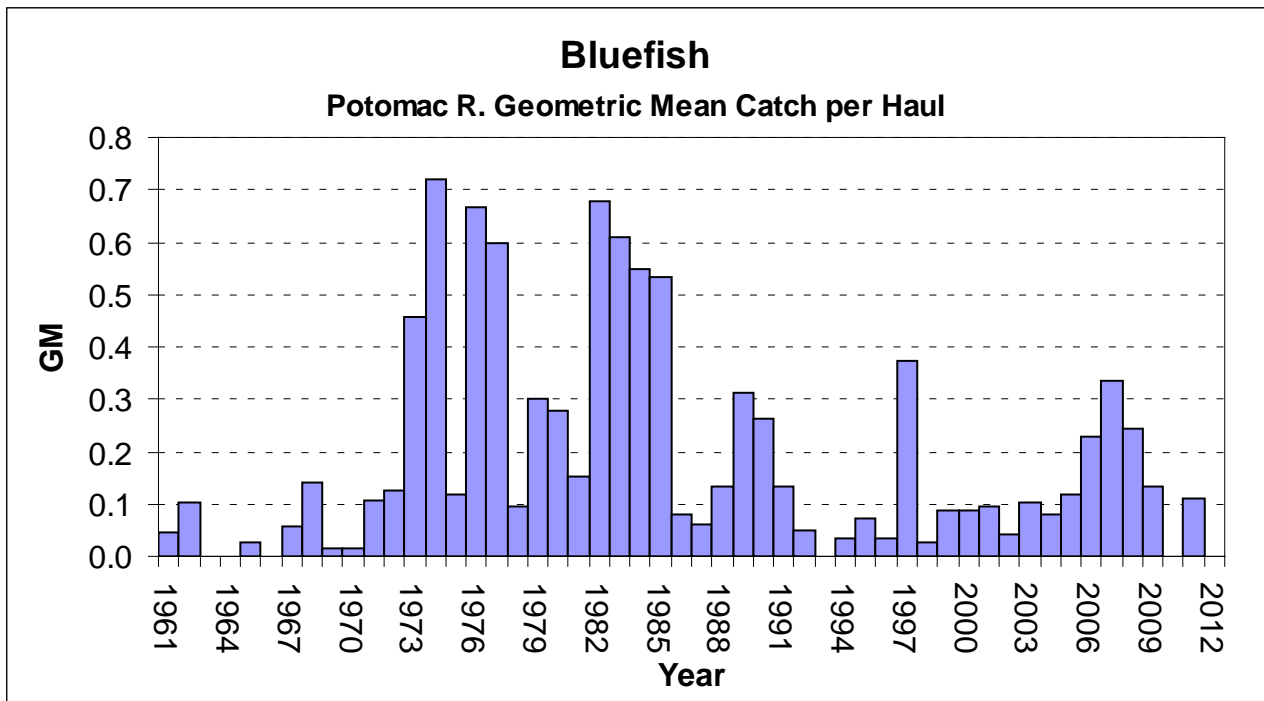


Figure 3





COMMONWEALTH of VIRGINIA

Marine Resources Commission

2600 Washington Avenue
Third Floor
Newport News, Virginia 23607

Douglas W. Domenech
Secretary of Natural Resources

Jack G. Travelstead
Commissioner

May 1, 2013

MEMORANDUM

TO: Michael Waine, Bluefish Fisheries Management Plan Coordinator
Atlantic States Marine Fisheries Commission

FROM: Allison Watts, Fisheries Management Planner
Virginia Marine Resources Commission

SUBJECT: Virginia's Bluefish Compliance Report for 2012 Fishing Year

I. Introduction

The VMRC continues to maintain a 10-fish possession limit, with no minimum possession size limit, for its recreational fishery. According to the Marine Recreational Information Program (MRIP), Virginia's preliminary 2012 recreational landings were 140,652 fish (118,383 pounds; Table 1). The 2012 recreational average weight was 0.8 pounds, compared to 0.6 pounds in 2011. The five-year average recreational harvest (2008-2012) was 213,078 fish (205,758 pounds).

The 2012 commercial bluefish fishery quota was 1,225,649 pounds. The preliminary 2012 commercial landings were 235,287 pounds, compared to 253,982 pounds in 2011 (see Table 2). These commercial landings are bluefish harvested from state waters, and are considered preliminary. Bluefish harvested in federal waters and landed in Virginia are not yet available. A commercial landings update will be provided when a final estimate is available.

II. Request for *de minimis*, where applicable

N/A

An Agency of the Natural Resources Secretariat

www.mrc.virginia.gov

Telephone (757) 247-2200 (757) 247-2292 V/TDD Information and Emergency Hotline 1-800-541-4646 V/TDD

III. Previous calendar year's fishery and management program

A. Activity and results of fishery-dependent monitoring (provide general results and references to technical documentation).

The VMRC has maintained a mandatory harvester-based reporting system since 1993. In addition, the VMRC requires seafood buyers to maintain real-time records of purchases from harvesters. This system allows us to obtain up-to-the-day bluefish landings totals during the final months of the season, if necessary. Roughly ten to fifteen buyers account for the majority of Virginia's bluefish landings. If any of the total landings projections indicate that the quota will be surpassed, these buyers' records will be monitored daily.

Tables 2, 3 and 4 provide information on Virginia commercial bluefish landings, by year, gear type, and month for the 1994 through 2012 time period. According to preliminary data, gill net harvest accounted for an average of 59% of total commercial landings from 2008 through 2012 (see Table 3). Trawl data, which include offshore harvests of bluefish landed in Virginia, are not yet available for 2012. The average trawl landings for the 2008 through 2011 period were approximately 7%.

On average, from 2008 through 2012, the highest landings occurred monthly in October (20% of the five-year period). As 2012 landings data are completed, any average data may change.

Since 1989, the VMRC Biological Sampling Program has collected bluefish length, weight, and sex data principally from the commercial fishery. Summaries of length collections for the 2010 through 2012 period are included in this report (Table 5). Since 1998, the VMRC has collected otoliths for ageing purposes from bluefish. Tables 6a and 6b provide results of the age distribution for 2012, by one-centimeter fork length intervals.

B. Activity and results of fishery-independent monitoring (provide general results and references to technical documentation).

Bluefish are among the species collected by the Virginia Institute of Marine Science Juvenile Trawl Survey, which produces juvenile abundance indices for species of top commercial, recreational or ecological importance in Virginia. Because bluefish are not highly vulnerable to the trawl gear, an abundance index value is not provided for this species; however, catch data for bluefish are included in the report.

More information on this trawl survey can be found on the VIMS website at: http://www.vims.edu/research/departments/fisheries/programs/juvenile_surveys/data_products/index.php.

- C. Copy of regulations that were in effect, including a reference to the specific compliance criteria as mandated in the FMP.

Chapter 4 VAC20-450-10 et seq., “Pertaining to the Taking of Bluefish,” which was in effect for 2012, is attached to this report as Attachment I.

- D. Harvest broken down by commercial (by gear type where applicable) and recreational and non-harvest losses (when available).

Table 1 provides Virginia recreational landings of bluefish, in pounds and numbers, from 1994 through 2012 (2012 data are considered preliminary and incomplete). Table 2 provides gear-specific Virginia commercial bluefish landings.

- E. Review of progress in implementing habitat recommendations.

Virginia follows the lead of the NMFS, MAFMC and ASMFC on EFH issues.

IV. Planned management programs for the current calendar year

- A. Summarize regulations that will be in effect (copy of current regulations if different from III c).

Chapter 4 VAC 20-450-10 et seq. is attached (Attachment I) and is not different from III.C above.

- B. Summarize monitoring programs that will be performed.

Monitoring programs are described in Section V (Plan Specific Requirements).

- C. Highlight any changes from the previous year.

The only change to the VMRC bluefish regulation for 2012 was the adjustment of the commercial quota.

Attachment I.

**VIRGINIA MARINE RESOURCES COMMISSION
PERTAINING TO THE TAKING OF BLUEFISH
CHAPTER 4VAC20-450-10 ET SEQ.**

PREAMBLE

This chapter is promulgated pursuant to authority contained in §28.2-201 of the Code of Virginia. This chapter amends and re-adopts, as amended, previous Chapter 4 VAC 20-450-10 et seq., which was adopted May 24, 2011 and effective June 1, 2011. The effective date of this chapter is July 1, 2012.

4 VAC 20-450-10. PURPOSE.

The purposes of this chapter are to control the recreational harvest of bluefish and to establish a commercial quota system for Virginia bluefish landings, in cooperation with the Mid-Atlantic Fishery Management Council and other coastal states, to prevent overfishing.

4 VAC 20-450-20. BLUEFISH POSSESSION LIMIT.

- A. It shall be unlawful for any person fishing with recreational hook and line, rod and reel, spear, gig or other recreational gear to possess more than 10 bluefish. Any bluefish taken after the possession limit of 10 fish has been reached shall be returned to the water immediately.
- B. When fishing from a boat or vessel where the entire catch is held in a common hold or container, the possession limit shall be for the boat or vessel and shall be equal to the number of persons on board legally eligible to fish multiplied by 10. The captain or operator of the boat or vessel shall be responsible for any boat or vessel possession limit.

4 VAC 20-450-30. COMMERCIAL LANDINGS QUOTA.

- A. During the period of January 1 through December 31, commercial landings of bluefish shall be limited to 1,225,649 pounds.
- B. When it is projected that 95% of the commercial landings quota has been realized, a notice will be posted to close commercial harvest and landings from the bluefish fishery within five days of posting.

C. It shall be unlawful for any person to harvest or land bluefish for commercial purposes after the closure date set forth in the notice described in subsection B of this section.

4 VAC 20-450-40. PENALTY:

As set forth in §28.2-903 of the Code of Virginia, any person violating any provision of this chapter shall be guilty of a Class 3 misdemeanor, and a second or subsequent violation of any provision of this chapter committed by the same person within 12 months of a prior violation is a Class 1 misdemeanor.

* * * * *



North Carolina Department of Environment and Natural Resources

Division of Marine Fisheries

Patrick L. McCrory
Governor

Dr. Louis B. Daniel III
Director

John E. Skvarla, III
Secretary

North Carolina's Bluefish Compliance Report – 2012 Fishing Year

April 30, 2013

1. Introduction

There were no significant changes in monitoring, or regulations. Commercial landings were the lowest in 40 years. This could be because of changes in fishing effort or decreases in abundance as indicated from the Bluefish 2012 stock assessment update.

The commercial quota allocated to North Carolina for 2012 was originally 3,307,827 pounds, but decreased to 3,207,827 pounds (due to a commercial quota transfer to New Hampshire). North Carolina 2012 commercial bluefish landings totaled 758,839 pounds at a value of \$349,240.

The North Carolina biological sampling program regularly monitors the catches of major landing areas and predominant gear utilized along the coast. North Carolina was one of the few states that could provide long-term biological information (length & weight, by gear, year) for the commercial harvest for bluefish stock assessments.

2. Request for de minimis, where applicable. N/A

3. Previous calendar year's fishery and management program.

a. Activity and results of fishery dependent monitoring (general results and ref).

Commercial bluefish landings and the bluefish commercial quota are monitored through the North Carolina trip ticket program. Under this program, licensed fishermen can only sell commercial catch to licensed NCDMF fish dealers. The dealer is required to complete a trip ticket every time licensed fishermen land fish. Trip tickets capture data on gears used to harvest fish, area fished, species harvested, and total weights of each individual species. Trip tickets are submitted to NCDMF by the 10th of the month following the month in which the landings occurred. Landings are available approximately 30-45 days after they are submitted from the dealers.

Fishery dependent sampling of North Carolina commercial fisheries has been ongoing since 1982 (conducted under Title III of the Interjurisdictional Fisheries Act, and funded in part by the U.S. Department of Commerce, National Marine Fisheries Service). Predominant fisheries sampled include the ocean sink net fishery, estuarine gill net fishery, winter trawl fishery, long haul seine/swipe net fisheries, beach haul seines, and pound net fisheries (Assessment of North Carolina Commercial Finfisheries, North Carolina Department of Health and Natural Resources, Division of Marine Fisheries Completion Reports 2007-2012).

Gill nets are the predominant commercial gear; estuarine gillnets landed 57% of the 2012 NC bluefish catch, while ocean gillnets accounted for 38% of the total landings (Table 1). The ocean gill net fishery peaks during January-March, but is active from November through April, depending on weather conditions. Estuarine gill nets are active year round, but bluefish are most common during the spring and summer months. Long haul seines/swipe nets and ocean trawls were historically important but their contribution decreased in recent years as each accounted for 3% of the 2012 state landings.

Recreational fishing activity is monitored through the Marine Recreational Fisheries Statistics Survey (MRFSS).

The North Carolina Division of Marine Fisheries (NCDMF) collected bluefish otoliths from commercial and recreational fisheries, as well as from NCDMF fishery independent sampling. North Carolina has completed aging bluefish otoliths from years 2006 through 2011. For 2012, there were a total of 860 bluefish otolith samples collected. Each fish was measured for fork and total length, total weight and sex were recorded, as well as sexual maturity and ovary weight for females. These otolith samples have all been aged by the first reader and will be aged by a second reader and the final ages will be determined by May or June 2013.

b. Activity and results of fishery independent monitoring.

A fisheries independent gill net survey was initiated in North Carolina in 2001. The objective of this project is to provide annual independent relative abundance indices for key estuarine species in Pamlico Sound that can be incorporated into stock assessments and used to improve bycatch estimates, evaluate management measures, and evaluate habitat usage. Results from this project will be used by the NCDMF and other Atlantic coast fishery management agencies to evaluate the effectiveness of current management measures and to identify additional measures that may be necessary to conserve marine and estuarine stocks. Developing fishery independent indices of abundance for target species allows the NCDMF to assess the status of these stocks without relying solely on commercial and recreational fishery dependent data. Sampling is a stratified random sampling design in Pamlico Sound, utilizing multiple mesh gill nets (3.0-6.5 inch, ½ inch increments). Excluding menhaden, bluefish were the second most abundant species encountered and only exceeded by spot. The annual index of relative abundance or catch per unit effort (CPUE) was calculated as the number of fish per 12-hour soak time per 240 yards of net for all regions and strata combined. The total area of each region by strata was quantified using the one-minute by one-minute grid system and then used to weight the observed catches for calculating the abundance indices. Weighted bluefish CPUE's ranged from 4.3 (n=1,293) in 2003 to 7.7 (n=2,310) in 2007, and was 5.5 in 2011 (n=1,505). A wide range of bluefish size classes was represented, as bluefish caught ranged from 4.5-32.3 inches FL from 2003-2011. The mean size caught in 2011 was 14.3 inches FL and ranged from 4.7 to 30.6 inches FL. The 2012 weighted CPUE and length values were not available at the time of this report.

c. Copy regulations that were in effect, including reference to specific compliance criteria as mandated in the FMP.

The FMP for bluefish welcomes individual states to implement management measures in addition to those required by the FMP or FMP amendments. The scope of North Carolina's bluefish proclamation authority is limited to actions which "comply with or utilize conservation equivalency to comply with the management requirements incorporated in the plan" (15A NCAC 2M.0511). Therefore, because of the federal increase in bluefish bag limit from 10 to 15 fish (February 2001), North Carolina did have the proclamation authority to increase the NC bluefish bag limit to 15 fish in order to stay in compliance. A proclamation (FF-42-2001) was issued June 19, 2001. An additional restriction that only 5 of the 15 fish could be >24" TL, did not fall within the proclamation authority of the NCDMF Director, and required a NC rule change. This conservation measure had full support of recreational anglers and advisory committees, was passed unanimously by the NC Marine Fisheries Commission (4/23/2002), and the rule went into effect 4/01/2003.

15A NCAC 3M.0511 BLUEFISH

(a) In order to comply with or utilize conservation equivalency to comply with the management requirements incorporated in the Fishery Management Plan for Bluefish developed cooperatively by the Mid-Atlantic Fishery Management Council and the Atlantic States Marine Fisheries Commission, the Fisheries Director may, by proclamation, take any or all of the following actions for bluefish:

- (1) Taken by a commercial fishing operation:
 - (A) Specify size;
 - (B) Specify seasons;
 - (C) Specify areas;
 - (D) Specify quantity;
 - (E) Specify means/methods; and
 - (F) Require submission of statistical and biological data.
- (2) Taken for recreational purposes:
 - (A) Specify size;
 - (B) Specify quantity.

(b) It is unlawful to possess more than 15 bluefish per person per day for recreational purposes. Of these 15 bluefish, it is unlawful to possess more than five bluefish that are greater than 24 inches total length.

*History Note: Authority G.S. 113-134; 113-182; 113-221; 143B-289.52;
Eff. March 1, 1994;
Amended Eff. March 1, 1996;
Temporary Amendment Eff. September 9, 1996;
Amended Eff. April 1, 1997;
Temporary Amendment Eff. July 1, 1999;
Amended Eff. April 1, 2003; August 1, 2000.*

d. Harvest by commercial (gear type) and recreational, and non-harvest losses (when available).

Table 1. Summary of North Carolina commercial harvest (lbs) of bluefish, by gear, and percent (%) contribution to 2012 landings.

Gear	Landings (lbs)	Percent(%)
Estuarine gillnet	429,252	57
Ocean gillnets	291,555	38
Long Haul	21,539	3
Ocean Trawl	4,345	1
Pound nets	6,608	0
Beach Seine	2,744	0
Others	2,796	1
Combined	758,839	100

Recreational landings of bluefish caught in North Carolina in 2012 (942,104 pounds, 854,515 fish) was 15% lower than the average weight and 23% lower than the average number caught from 2006 to 2010. Bluefish caught recreationally in North Carolina are predominantly small fish. The size of fish sampled from

2012 ranged from 6 to 35 inches, while nearly 80% of the fish sampled ranged from 9 to 13 inches. Less than 2% of the fish sampled were greater than 24 inches.

Non-harvest losses continue to be difficult to quantify. Since there is no minimum size requirement for bluefish taken commercially or recreationally, regulatory discards should be minimal. However, regulatory discards could be more significant should a closure occur as a result of the bluefish quota being met.

e. Review of progress in implementing habitat recommendations.

No new implementation at this time.

4. Planned management programs for the current calendar year.

Same as in 2012.

South Carolina
Bluefish Fishery and Management Program
Compliance Report for the Year 2013



May 1, 2013

Prepared by: Joseph C. Ballenger, Ph.D.

Marine Resources Division
South Carolina Department of Natural Resources

INTRODUCTION

Bluefish continue to be a minor species for South Carolina in terms of the state's overall commercial and recreational landings, and in fact both segments of the fishery target bluefish rarely. In 2012, we implemented no regulatory changes under state law that would affect South Carolina's bluefish landings or any reporting requirements for the fishery.

I. REQUEST FOR *DE MINIMIS*

The bluefish ISFMP allows for a state to request *de minimis* status if their commercial landings for the most recent year are less than 0.1% of the coast-wide commercial landings. Reported commercial landings for South Carolina in 2012 were 92 lbs with a value of \$44 (Table 1). South Carolina therefore requests a continuation of *de minimis* status for this fishery

II. BLUEFISH FISHERY AND MANAGEMENT PROGRAM

A. Fishery Dependent Monitoring

South Carolina's bluefish fishery is predominately recreational (and non-directed) in nature, with minor commercial landings each year from a non-directed fishery. Fishery dependent data related to bluefish are available primarily through the SCDNR State Finfish Survey (SFS), the National Marine Fisheries Service's Marine Recreational Information Program (MRIP), and an SCDNR-managed mandatory trip reporting system for licensed charter boat operators. SCDNR Staff also obtain limited fishery dependent bluefish data through the cooperation of recreational anglers participating in the South Carolina Marine Game Fish Tagging Program (MGFTP).

State Finfish Survey – The State Finfish Survey (SFS) is a fishery dependent intercept survey designed to collect primarily catch/effort data and limited length measurements of selected species taken by private boat anglers in South Carolina waters and federal waters off the state. During 2012, SFS personnel measured a total of 30 bluefish with a mean, median, and modal total length of 352, 351, and 362 mm, respectively (Table 2). SFS data were edited and key entered in-house, and added to in-house databases.

(SCDNR Person of Contact: Eric Hiltz (hiltze@dnr.sc.gov))

Marine Recreational Information Program Currently, MRIP estimates of bluefish landings using the updated MRIP calculations are available for the years 2004-2012, though the data for 2012 is still considered preliminary (Table 3). Please note that the new MRIP calculation procedures based on the surveys has resulted in adjusted recreational landings for the state of South

Carolina in previous years. South Carolina landings data (all modes/all areas) for 2012 show 196,032 fish harvested (A+B1), weighing a total of 60,495 kg, with a mean length of 275 mm and mean weight of 0.3 kg. The estimated number landed, but released alive (B2), is 163,629 fish. This data was queried from the MRIP webpage (<http://www.st.nmfs.noaa.gov/SASStoredProcess/do?>) on April 29, 2013 (personal communication from the National marine Fisheries Service, Fisheries Statistics Division).

Charter Boat Trip Reporting – South Carolina implemented a mandatory charterboat fishery trip reporting system in 1992. Bluefish are not normally targeted but are caught by charter boat anglers from spring through early fall, primarily in nearshore coastal waters and often around marine artificial reefs. Information from the charter boat logbook program indicated that in 2012 charter boats operating in South Carolina landed 2,503 bluefish weighing 3,437.5 lbs (Table 4). An additional 5,260 and 82 bluefish were released alive and dead, respectively (Table 4).
(SCDNR Person of Contact: Eric Hiltz (hiltze@dnr.sc.gov))

South Carolina Marine Game Fish Tagging Program – The SCDNR has sponsored this cooperative public tagging program since 1974, seeking the participation of recreational anglers to help collect information concerning the movements and biology of marine finfish species. However, bluefish have not been included on the list of priority species. Nevertheless, participants in this program have tagged and released bluefish since 1978, although the annual numbers are extremely small. However, in 2012 bluefish were one of the species that were discontinued for tag and release, thus we didn't tag any bluefish in 2012 (Table 5). Further, we also did not recapture any bluefish that had been tagged in previous years (

Year	Total Charter Trips	Trips Targeting	# Landed	Weight (lbs) Landed	Released			Total Caught
					Alive	Dead	Total	
1993	4843	27	492	930			905	1397
1994	5696	23	745	1301			991	1736
1995	5683	34	1189	1875			1554	2743
1996	5901	10	388	772			849	1237
1997	6231	18	859	1453			2083	2942
1998	7791	80	1222	2528			4419	5641
1999	7979	18	912	1777	3693		3693	4605
2000	9115	28	656	1332	4305	40	4345	5001
2001	8846	28	487	729	4247	8	4255	4742
2002	8837	11	628	906	3616	10	3626	4254

2003	8594	21	737	1028	4502	79	4581	5318
2004	8580	8	734	1099	3377	63	3440	4174
2005	9130	12	639	1232	3421	85	3506	4145
2006	8980	7	885	1567	3367	44	3411	4296
2007	9525	20	1599	2388	4035	111	4146	5745
2008	8933	97	1851	2857	3646	89	3735	5586
2009	9229	105	1395	2456	3624	26	3650	5045
2010	10491	143	1264	2146	4247	54	4301	5565
2011	11108	206	1872	2776	4548	70	4618	6490
2012	12195	21	2503	3437.5	5260	82	5342	7845

Table 5). In general, historically there have been very few bluefish recaptures reported. Tagging activity in the spring off South Carolina tends to result in tag recaptures primarily to the north, with documented movement as far north as Maryland. Bluefish tagged later in the year have been documented to move to the south as far as Florida. The small sample size of this data set is emphasized.

(SCDNR Person of Contact: Robert Wiggers (wiggersr@dnr.sc.gov))

B. Fishery Independent Monitoring

No specific SCDNR programs or projects are solely focused on gathering or analyzing fishery independent bluefish data at this time. However, bluefish occur sporadically in samples from projects such as the Southeast Area Monitoring and Assessment Program – South Atlantic (SEAMAP-SA) and the Inshore Finfish Monitoring Program. Historically the numbers encountered by these programs tended to be extremely low with most of the fish encountered being small and presumably young.

However, prior to 2011, there was some sporadic opportunistic effort by these programs to collect bluefish for age, growth and reproduction analyses (Table 6). This resulted in the collection and retention of approximately 2900 bluefish samples over the years 2002-2010 primarily through SEAMAP-SA coastal trawl surveys throughout the region from Cape Hatteras, North Carolina, and Cape Canaveral, Florida. A limited number of samples were also derived from samples retained by the SCDNR State Finfish Survey (fishery-dependent samples) and Inshore Finfish Monitoring Program personnel. For each of these samples we have date of collection and, for most, location (GPS coordinates or state) of capture. SCDNR Inshore Finfish Monitoring Program personnel have worked on processing and aging all historical (2000-2010) bluefish samples in preparation for the benchmark stock assessment of bluefish, with age data now being available.

Beginning in 2011, the sampling of bluefish via the SEAMAP-SA coastal trawl survey became more formalized. This resulted in the collection of 313 bluefish distributed from Cape Hatteras, North Carolina, to Cape Canaveral, Florida in 2011. Of these samples, 83, 39, 47, and 144 were retained from off the coasts of Florida, Georgia, South Carolina and North Carolina south of Cape Hatteras, respectively. As reported last year, SEAMAP-SA personnel have aged each of these individuals, with SCDNR providing the ages as part of the 2012 ASMFC bluefish annual compliance report. Sampling via the SEAMAP-SA program continued in 2012 with an additional 226 samples being collected. In 2012, a total of 13, 39, 58, and 116 samples were retained from off the coasts of Florida, Georgia, South Carolina and North Carolina south of Cape Hatteras, respectively. Aging of these samples are currently ongoing. Please note that sample retention for bluefish via SEAMAP-SA was based on length bins, rather than on probability sampling from the entire population. Thus the age distribution of these samples may not reflect the age distribution of the population as fish were not randomly selected.

Additional samples derived from the Inshore Finfish Monitoring section and State Finfish Survey are available from SC waters (Table 6).

(SCDNR Person of Contact: SEAMAP-SA – Jeanne Boylan (boylanj@dnr.sc.gov), Inshore Finfish Monitoring – Steve Arnott (arnotts@dnr.sc.gov), State Finfish Survey (hiltze@dnr.sc.gov))

C. Bluefish Regulations in Effect

Section 50-5-2730 of the South Carolina Code of Laws allows the state to mandate the federal bluefish recreational bag limit in state waters since this bag limit is established under the provisions of the Magnuson-Stevens Fishery Conservation and Management Act. Section 50-5-1915 requires for-hire boats to maintain a logbook of catch data.

Section 50-5-380 of the South Carolina Code gives the Department authority to require wholesale dealers and others to submit mandatory landings reports on a monthly basis. This information forms the basis for the state's commercial landings monitoring. Additionally, Section 50-5-360 requires that anyone who buys, receives, or handles any live or fresh saltwater fish or any saltwater fishery products taken or landed in the state must obtain a wholesale dealers license.

D. Commercial Harvest

Currently, there is no directed commercial fishery for bluefish in South Carolina, and landings for this species tend to represent only an incidental component of other coastal hook-and-line fisheries. Commercial landings occur primarily in the months of March, April, and May each year, with fish often being in the 10 to 12 pound range. During 2004-2012, commercial bluefish landings ranged from 92 (2012) to 367 (2008) lbs (Table 1).

E. Habitat Recommendations – Not applicable

III. PLANNED BLUEFISH MANAGEMENT PROGRAMS

a. Regulations in Effect

No regulatory changes are anticipated for bluefish in 2013.

b. Monitoring Programs that will be Performed

No new programs dedicated to the monitoring of bluefish are planned at this point.

c. Changes from the Previous Year

None.

IV. PLAN SPECIFIC REQUIREMENTS – Not applicable

V. TABLES

Table 1: Reported South Carolina commercial bluefish harvest for the years 2004-2012.

Year	Gear	Weight (lbs)	Value (\$)
2004	Bandit Reel	298.89	\$70.40
2005	Bandit Reel	127.78	\$33.10
2006	Bandit Reel	132.22	\$43.80
	Rod and Reel	17.78	\$7.10
2007	Bandit Reel	302.22	\$126.00
2008	Bandit Reel	291.11	\$212.00
	Electramate	46.67	\$42.00
	Rod and Reel	28.89	\$33.00
2009	Bandit Reel	143.33	\$62.10
	Rod and Reel	24.44	\$11.00
	Troll Gear	8.89	\$5.60
2010	Bandit Reel	416.67	\$133.05
	Troll Gear	15.56	\$7.00
2011	Bandit Reel	282.22	\$134.60
	Dive	25.56	\$6.90
	Electramate	40.00	\$10.00
	Handlines (Rod and Reel)	114.59	\$128.63
	Rod and Reel	10.00	\$2.70
2012	Bandit Reel	53.33	\$26.50
	Electramate	38.89	\$17.50

Table 2: Number of recreationally caught bluefish intercepted and measured by the SCDNR State Finfish Survey for the years 2004-2011. All length measurements are for total length (TL).

Year	n	Min TL		Max TL		Mean TL			Median TL		Modal TL		
		mm	in	mm	in	mm	SE	in	SE	mm	in	mm	in
2004	85	290	11.4	575	22.6	412	7.38	16.2	0.291	425	16.7	447	17.6
2005	90	284	11.2	682	26.9	453	7.14	17.8	0.281	450	17.7	493	19.4
2006	169	219	8.6	630	24.8	410	6.90	16.2	0.272	408	16.1	362	14.3
2007	96	290	11.4	617	24.3	453	7.30	17.8	0.288	459	18.1	434	17.1
2008	90	251	9.9	963	37.9	425	9.73	16.7	0.383	409	16.1	395	15.5
2009	121	225	8.9	624	24.6	374	5.83	14.7	0.230	369	14.5	342	13.5
2010	112	212	8.3	476	18.7	333	4.34	13.1	0.171	340	13.4	317	12.5
2011	29	218	8.6	543	21.4	323	14.67	12.7	0.578	315	12.4	294	11.6
2012	30	294	11.6	445	17.5	352	7.71	13.9	0.303	351	13.8	362	14.3

Table 3: Marine Recreational Information Program (MRIP) annual harvest estimates for bluefish in South Carolina waters (All Modes/All Areas Combined) for the years 2004-2012 (Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division (<http://www.st.nmfs.noaa.gov/SASStoredProcess/do?>), April 29, 2013). PSE = proportional standard error.

Year	Estimate Status	Harvest											
		Observed (A)		Reported (B1)		Harvest Weight (A+B1)		Average Length		Average Weight		Released Alive (B2)	
		n	PSE	n	PSE	Weight (kg)	PSE	Length (mm)	PSE	Weight (kg)	PSE	n	PSE
2004	Final	66,151	38.1	66,862	32.5	53,335	25.2	308	35.4	0.4	35.5	386,264	32.6
2005	Final	79,589	38.3	167,054	48.6	78,120	33.1	273	49.2	0.3	48.3	316,726	24.8
2006	Final	64,822	45.1	68,885	28.8	31,255	26.5	251	37.4	0.2	37.4	622,242	23.5
2007	Final	85,565	24.8	89,807	29.2	52,689	19.5	276	27.0	0.3	27.4	677,031	16.7
2008	Final	59,702	33.4	67,697	34.1	43,940	26.3	284	34.1	0.3	35.6	333,028	16.6
2009	Final	62,694	57.5	72,205	38.7	56,548	33.9	313	47.5	0.4	47.9	252,310	32.7
2010	Final	51,481	35.6	392,859	53.0	159,954	49.3	303	67.6	0.4	68.1	318,430	24.1
2011	Final	92,125	33.2	132,933	43.7	72,564	25.1	289	40.5	0.3	38.5	551,024	19.6
2012	Preliminary	46,714	44.4	149,318	39.2	60,495	29.8	275	44.3	0.3	43.5	163,629	33.6

Table 4: For-hire charter boat logbook data reported landings, weight of landings, and number released for bluefish from 1993-2011.

Year	Total Charter Trips	Trips Targeting	# Landed	Weight (lbs) Landed	Released			Total Caught
					Alive	Dead	Total	
1993	4843	27	492	930			905	1397
1994	5696	23	745	1301			991	1736
1995	5683	34	1189	1875			1554	2743
1996	5901	10	388	772			849	1237
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2009	9229	105	1395	2456	3624	26	3650	5045
2010	10491	143	1264	2146	4247	54	4301	5565
2011	11108	206	1872	2776	4548	70	4618	6490
2012	12195	21	2503	3437.5	5260	82	5342	7845

Table 5: Bluefish tagged and recaptured by year during the annual South Carolina Marine Game Fish Tagging Program.

Year	Number Tagged	Number recaptured
1978	4	0
1979	2	0
1980	4	0
1981	3	0
1983	32	0
1984	12	0
1985	6	0
1986	20	0
1987	14	0
1988	46	0
1989	113	3
1990	130	2
1991	88	1
1992	143	5
1993	88	7
1994	84	3
1995	140	4
1996	152	0
1997	357	10
1998	614	13
1999	205	1
2000	157	2
2001	88	2
2002	145	2
2003	53	0
2004	56	2
2005	100	0
2006	63	0
2007	65	0
2008	24	0
2009	3	0
2010	12	0
2011	3	0
2012	0	0

Table 6: Historical bluefish samples retained for age and growth analysis by personnel of the SEAMAP-SA coastal trawl survey (SEAMAP), Inshore Finfish Monitoring, and State Finfish Survey (SFS) programs.

Year	SEAMAP	SFS	Inshore Finfish Monitoring			Total
			Hook-&-Line	Gill Net	Trammel Net	
2002	300	–	–	–	5	305
2003	336	–	–	–	9	345
2004	625	–	7	–	1	633
2005	421	–	–	28	–	449
2006	165	–	13	–	3	181
2007	221	–	38	–	9	268
2008	290	–	25	–	8	323
2009	159	–	39	–	8	206
2010	125	14	30	–	3	172
2011	313	7	30	–	2	352
2012	226	6	13	–	1	246



MARK WILLIAMS
COMMISSIONER

A.G. 'SPUD' WOODWARD
DIRECTOR

March 14, 2013

Michael W. Waine
Fishery Management Plan Coordinator
Atlantic States Marine Fisheries Commission
1050 N. Highland Street, Suite 200A-N
Arlington, VA 22201

Michael:

Please find enclosed Georgia's 2012 Bluefish Compliance Report.

Sincerely,

Ryan Harrell
Marine Fisheries Section

cc: Pat Geer
Spud Woodward

Georgia's 2012 Bluefish Compliance Report

I. Introduction

Bluefish remain a non-targeted species in Georgia waters and in the federal EEZ adjacent to Georgia. All recreational and commercial harvest results from bycatch. Preliminary estimates of recreational harvest as estimated through the MRIP suggests that 5,964 fish were harvested in 2012 (Type A + B1). Recreational fishing regulations for 2012 remained unchanged from previous years. Georgia Board of Natural Resources Rule 391-2-4.04 restricts fishermen lacking a federal commercial permit to a 15 fish daily bag/possession limit with a 12-inch (fork) minimum length. Open season is March 16 to November 30. All bluefish must be landed whole and transfer at sea is prohibited. This combination bag / minimum length limit and season has previously been determined to achieve conservation equivalency to the 10 fish bag limit currently specified in the Bluefish FMP. The commercial fishery in Georgia is basically non-existent with no reported landings in 2012. Exact poundage is confidential due to the low number of harvester / dealers. Commercial harvesters are restricted to the same creel, size, and season limits as recreational fishermen.

II. Request for *de minimus*

For the year 2013, Georgia respectfully requests a continuation of its *de minimus* status in this fishery. Georgia's commercial landings were well below the 5,402 lb *de minimus* quota (0.1% of the 5,402,138 lbs. coast-wide total landings for 2011), though exact landings are confidential due to the number of harvesters/dealers involved.

III. Previous calendar year's fishery and management program

a. Activity and results of the fishery dependent monitoring.

TIP Sampling - Coastal Resources Division (CRD) personnel continue to participate in the collection of biometric and catch/effort data from offshore commercial finfish fishing trips using NMFS Trip Interview Program (TIP) collection protocol. Specific activities consisted of field collection of both biometric and associated trip catch and effort data for use by the NMFS Southeast Fisheries Science Center (SEFSC). During 2012, interviews were conducted; however, no bluefish were observed.

Bycatch Characterization - CRD conducts fishery-dependent bycatch characterization studies aboard large trawl whelk vessels. These studies are supported through CRD's federally funded Atlantic Coastal Fisheries Cooperative Management Act (P.L. 103 - 206) project. Participation in the whelk fishery continues to diminish, and this year was no exception. Fishing effort was minimal and staff was unable to collect bycatch information in the whelk fishery in 2012.

b. Activity and results of fishery independent monitoring

As a *de minimus* state, Georgia does not conduct an independent bluefish monitoring program. However, there are fishery independent surveys prosecuted in areas where bluefish may be encountered. These programs include the Ecological Monitoring Survey (EMS) and the Marine Sportfish Population Health Survey (MSPHS).

EMS

Each month, a 40-ft flat otter trawl is used in a fixed station survey conducted in the inshore (creeks, rivers, and sounds) and nearshore waters associated with six of Georgia estuaries (Wassaw, Ossabaw, Sapelo, St. Simons, St. Andrew, and Cumberland sounds). During 494 tows, 9 bluefish were observed. Bluefish lengths ranged from 140 - 275 mm FL, averaging 231.7 mm FL. The average weight of the fish was 166.6 grams.

MSPHS

The MSPHS is a multi-faceted ongoing process used to collect information on the biology and population dynamics of recreationally important finfish. Currently two Georgia estuaries are sampled on a seasonal basis using entanglement gear.

During the June to August period, young-of-the-year red drum in the Altamaha/Hampton River and Wassaw estuaries are collected using gillnets to gather data on relative abundance and location of occurrence. Bluefish are captured as bycatch in this gear. Fish are measured and released. During 2012, 216 net sets resulted in the capture of 14 bluefish with an average length of 263.6 mm FL.

During September to November, fish populations in the Altamaha River delta and Wassaw estuaries are monitored using trammel nets to gather data on relative abundance and size composition. Centerline lengths are measured in millimeters and total numbers recorded by species. During 2012, 158 net sets resulted in the capture of 16 bluefish with an average length of 298.9 mm FL.

c. Copy of regulations that were in effect, including a reference to the specific compliance criteria as mandated in the FMP.

All Georgia Codes sections and DNR Board Rules referenced herein have been previously submitted.

d. Harvest broken down by commercial, recreational and non-harvest losses.

Commercial Landings - Year 2012 commercial landings of bluefish were less than Georgia's *de minimus* quota. The exact poundage is confidential because less than three harvesters/dealers reported landings. Bluefish were harvested in federal and state waters and were taken by hook and line or bandit reels.

Recreational Landings - Year 2012 MRIP preliminary expanded total catch data indicate Georgia anglers landed 53,906 bluefish across all modes (PSE 28.1). For Type A and B1 harvest modes, 5,947 bluefish were estimated to have been taken recreationally in Georgia (PSE 45.8).

Additionally, Georgia collects fisheries dependent data through the Marine Sportfish Carcass Recovery Project. Anglers donate filleted fish carcasses along with information about their fishing trip. During the year, 4,145 fish carcasses were given to the department for biological sampling. No bluefish were included in those donations.

- e. **Review of progress in implementing habitat recommendations.**
N/A

IV. Planned management programs for the current calendar year

- a. **Summarize regulations that will be in effect.**

2013 Management Program - All current regulations regarding bluefish will remain in effect through the year 2013. Rule 391-2-4.04 restricts fishermen lacking a federal commercial permit to a 15 fish daily bag/possession limit. All harvest and possession must adhere to a 12-inch (fork) minimum length. Open season is between March 16 and November 30. All bluefish must be landed whole, and transfer at sea is prohibited.

- b. **Summarize monitoring programs that will be performed.**

Pursuant to Georgia law (O.C.G.A. Section 27-4-118 and Board of Natural Resources Rule 391-2-4-.09) all commercial harvesters landing seafood in Georgia are required to record their harvest and submit these records to the Department of Natural Resources. Historically, Georgia's commercial seafood landings have been collected as part of the Cooperative Statistics Program. As Georgia's participation in ACCSP continues to increase, catch/effort and economic information have been added to the harvest data collected for every commercial fishing trip terminating in Georgia. These data are collected monthly and afford Georgia's marine fishery managers the opportunity to conduct real time monitoring of the status and trends in our commercial fisheries.

Monitoring of the commercial fishery for both bycatch characterization and landings will continue.

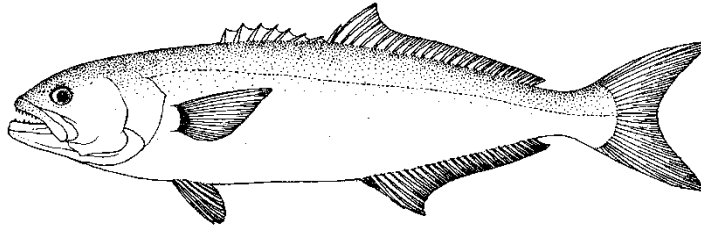
O.C.G.A 27-4-110 requires that anyone wishing to engage in commercial fishing in the salt waters of Georgia must obtain a commercial fishing license. Further O.C.G.A. 27-4-118 requires that each commercial fisherman maintain a record and report their landings to and in a manner specified by the Department of Natural Resources. Those reporting requirements are detailed in Board Rule 391-2-4-.09. Additionally, any Georgia seafood dealer must be licensed by the Department of Agriculture (O.C.G.A. 26-2-312) and maintain records and report to the Department of Natural Resources per O.C.G.A 27-4-136 and Board Rule 391-2-4-.09.

The Ecological Monitoring Survey, Marine Sportfish Population Health Survey, and Marine Sportfish Carcass Recovery Project will be continued during 2013. Bluefish captured during these activities will be measured to determine length.

c. Highlight any changes from the previous year.

No changes have occurred in Georgia's bluefish regulations.

**The 2013 Atlantic States Marine Fisheries Commission Compliance Report for
bluefish, *Pomatomus saltatrix*, on Florida's Atlantic coast**



**Joseph Munyandorero
Florida Fish and Wildlife Conservation Commission
Fish and Wildlife Research Institute
St. Petersburg, Florida**

April 22, 2013

Executive Summary

- * In 2012, Florida's total landings of bluefish (*Pomatomus saltatrix*) on the Atlantic coast were 551,953 pounds, of which 68% came from the recreational sector.
- * Preliminary estimates of commercial landings and effort for bluefish in 2012 amounted to 178,173 pounds from 5,337 trips. Landings were mainly taken during fall-spring months using gillnets (59.2%), hook-and-line (32.3%), and cast nets (7.7%), from Federal waters (63.4%), inland waters (13.4%), and state territorial sea (23.2%).
- * In 2012, there was full-trip-limit and quota compliance for the bluefish commercial fishery on the Atlantic coast of Florida, because no commercial fisher exceeded the 7,500-pound daily limit and the 2012 bluefish commercial landings represented 17% of the coast-wide quota 1,037,894 pounds.
- * The current status of size-limit compliance in Florida's commercial fishery for bluefish is uncertain, because port sampling of bluefish for size did not adequately represent the landings by gear. Of the 603 fish measured in 2012 essentially from hook-and-line landings, 98% were greater than 12" fork length long.
- * In 2012, an estimated number of 275,105 fish weighing approximately 337,780 pounds were kept by anglers on Florida's east coast. The number of release mortalities in 2012 was estimated at 61% of the total number of fish kept by anglers.
- * In 2012, evaluation of compliances with the 12" minimum size limit and a ten-fish per person per day recreational bag-limit was not possible because the 2012 intercept data were not yet available. However, for 2011, the most recent year of records, about 83% of bluefish kept by anglers were greater than 12-inches and 99.6% of anglers sampled during 1994-2011 were complying with the bag limit.
- * Head boat catches of bluefish on Florida's Atlantic coast were available over 1981-2011. They have declined considerably during that period, representing less than 0.3% of total landings during the most recent years. Head boat anglers have often been targeting bluefish larger than 12", but it is unclear whether the fishery was adequately sampled. Compliance with the 10-fish-per-day bag limit could not be assessed because bluefish catches are reported by boat and not by angler.
- * IOAs for early YOY bluefish peaked in 2003 and 2007 and declined steadily since 2008. IOAs for late YOY bluefish generally trended like IOAs for early YOY bluefish but rebounded since 2011. IOAs for age-1 bluefish showed a discrete increasing trend during 2001-2007 then declined steadily thereafter.
- * No changes to the current management program are planned for the current year.

I. INTRODUCTION

The Florida Fish and Wildlife Conservation Commission, FWC, regulates bluefish harvesting under Chapter 68B-43 (F.A.C). Effective July 1, 1993, the FWC increased the minimum size limit from 10" to 12" fork length (FL), implemented a 10-fish per day recreational bag limit and established a 7,500-pounds daily commercial trip limit on Florida's Atlantic coast bluefish fisheries. Effective October 4, 1995, the FWC established an annual commercial quota of 877,000 pounds for bluefish harvested on the state's Atlantic coast; and effective August 31, 1998 sale of undersize bluefish was prohibited. Since 2000, the Atlantic States Marine Fisheries Commission (ASMFC) reviewed annual commercial quotas for bluefish harvested on Florida's Atlantic coast as part of the ASMFC's Bluefish Management Plan. Florida's percentage share is about 10.06% of the total coastwide commercial quotas. The Florida commercial quota for 2012 was 1,037,894 pounds of bluefish. The objective of this report is to update the ASMFC on the response of the recreational and commercial fisheries in 2012 to these regulations.

The 2012 total landings of bluefish for the commercial and recreational sectors amounted to 551,953 pounds. They represented about 36% and 58% of the 2011 and 2010 total landings, respectively. They were 5.5% lower than the average landings for the last five years. From 1997 onwards, the total landings averaged 918,418 pounds per year (Table 1). Head boat fishery landings were available until 2011 and their contribution was very low.

The proportion of bluefish caught by the recreational fishery showed multiple peak years with a general increasing trend until 2003; since then, it declined slightly, but significantly from 93 % to 68% (Fig. 1). That proportion varied between 48% and 93% during 1996-2012. In 2012, the recreational landings represented 68% of total landings by weight. The increased contribution of the recreational fishery to total bluefish landings can be attributed to a declining commercial fishery.

II. REQUEST FOR *De Minimis* STATUS

N/A

III. PREVIOUS CALENDAR YEAR'S FISHERY AND MANAGEMENT PROGRAM

A. Activity and Results of Fishery Dependent Monitoring

Commercial Fishery

Description of 2012 Fishery

Updating the commercial data relied upon edited (batches 1-1179) trip tickets received by FWC through March, 2013. Landings for 2012 were preliminary. The commercial fishery for bluefish was seasonal in 2012 because the harvest primarily took place in fall-spring months (Fig. 2).

Preliminary bluefish landings for 2012 amounted to 178,173 pounds from 5,337 trips (Table 2; Fig. 3). Compared with 2011, the 2012 landings decreased by 27.1% while the number of trips increased by 4.1%. Commercial landings and trips for bluefish declined

abruptly during 1993-1996 and varied since then at lower levels; they increased slightly until 2010 and declined again thereafter.

The number of primary fishers (i.e., those that landed more than 100 pounds a year) has decreased from 235 in 1995 to 80 in 2000 and to a preliminary estimate of 185 in 2012. Very few fishers landed more than 10,000 pounds per year between 2000 and 2012. Between 1993 and 1999, primary fishers averaged 39% of all fishers, 77% of trips and 98% of landings. In 2012, these figures were 30%, 71%, and 94%, respectively.

Based on the 2012 dealer records, about 63.4 % of bluefish landed were caught in Federal waters and accounted for 22.5 % of trips made. 13.4% of landings (42% of trips) came from inland waters while the remaining (23.2%) were taken from the state territorial sea. Bluefish landed by gear-type in 2012 (Table 3; Fig. 4) were predominantly caught using gillnets (59.2%), hook-and-line (32.3%), and cast nets (7.7%). Compared with 2011, the 2012 commercial landings made with gillnet, hook-and-lines, and cast nets decreased by 4%, 42% and 55.6%, respectively. Gillnetting, hook-and-lining, and cast-netting accounted for 15.4%, 65.6%, and 17.8% of trips made in 2012 (Table 3; Fig. 5).

Trip Limit and Quota Compliance

Of the 5,337 trips made in 2012, none exceeded the 7,500-pound daily limit (Table 4). All fishers were in compliance with the daily trip limit regulations of Chapter 68B-43. In 2012, the 178,173 pounds of bluefish commercial landings on Florida's Atlantic coast represented 20% and 17% of the Florida commercial quotas of 877,000 and 1,037,894 pounds set by FWC and ASMFC, respectively. The 2012 data were preliminary but it is unlikely that the updated commercial landings would exceed the established annual quotas.

Size Limits

Port sampling of bluefish for size do not adequately represent the commercial landings by gear on the east coast of Florida. However, a general evaluation of compliance with the 12-inch minimum size limit was investigated by calculating the percentage of all bluefish measured that were less than 12-inches fork length. Of the 603 fish measured in 2012 from landings by hook-and-line, 98% were greater than 12-inches (Table 5). Figure 6 shows the distribution of fish length measured during 1992-2012. Those observations cannot of course be regarded as representative of the fishery.

Recreational fishery

Description of 2012 Fishery

Estimates of recreational fishery data were queried from the National Marine Fisheries Service (NMFS)'s Marine Recreational Fisheries Statistics Survey (MRFSS - currently Marine Recreational Information Program, MRIP) website. There were no intercept data in 2012. It was therefore not possible to estimate the standardized catch rates and the numbers of standardized trips and evaluate compliance with the bag and size limits for 2012.

The bluefish recreational harvests, standardized trips (estimated by dividing the total number of bluefish caught - Type A+B1+B2 - by the annual standardized total catch rates, derived themselves from a GLM for catch rates), and directed angler trips on Florida's Atlantic coast broadly varied similarly (Fig. 7; Table 6).

Estimates of bluefish recreational harvests (Type A+B1) in 2012 amounted to 275,105 fish weighing approximately 373,780 pounds. During the last decade, the recreational harvests of bluefish were highest in 2002-2004 and 2009-2010. They have been well below the historic highs reported in the early 1980's (Table 6; Fig. 7). Since 1993 onwards, the ratio of released fish to those kept by anglers varied between about 0.6 and 2.8 fish released for 1 fish kept. In 2012, the preliminary estimate of the ratio "fish released/fish kept" was 4. Based on 15% mortality estimates for released fish (Gibson and Lazar, 1998), release mortality estimates for 2012 represented 61% of the total number of fish kept by anglers.

Size Limit

In 2012, evaluation of compliance with the 12" minimum size limit was not possible, because the 2012 intercept data were not yet released. Such data were only available during 1982-2011. Over the period of record, the length frequencies were weighted by the harvests in periods of two-month waves and used to calculate the percentage of bluefish harvested that were less than 12-inches fork length. If no fish had been measured during a wave, lengths from the previous and following waves were substituted for that period. Table 5 summarizes information on size limit compliance during 1992-2011. In 2011, 17% of bluefish kept by anglers were less than 12-inches.

Compliance with the 12" minimum size since 1992 was at least 68% (Table 5), but the size distributions of bluefish measured indicates that the introduction of the 12" minimum size in 1995 had no effect on the (median) size of fish being landed (Fig. 8).

Bag limit

FWC implemented the 12-inch minimum size limit and a ten bluefish per person-per-day recreational bag limit since 1993. Lack of intercept data in 2012 did not permit the evaluation of the efficacy of the bag limit in 2012. This evaluation was performed until 2011, which is the most recent year with intercept data. The MRFSS recreational intercepts were grouped into two time periods representing pre- and post-regulations, i.e. 1982-1992 and 1994-2011. The standard bootstrap simulation was then run on intercepts from each of the periods. The simulation consisted of randomly selecting 200 intercepts from the creel data, calculating the reductions associated with bag limits from one to ten bluefish, and then repeating the selection and calculations 1000 times.

Tables 7a and 7b summarize the results of the analysis on bag limits. The top-tables show the data categorized by the integer number of bluefish kept per angler for each trip. For each category, the following were given: the number of years that that category appeared in the data, the total number of fishing trips, the total number of anglers participating in all of that category's trips, the average number of anglers per trip, the cumulative percentage of all anglers that were on fishing trips that had that

category's number of bluefish kept or less, the number of bluefish caught and the number of bluefish retained on all the trips within that category, and the cumulative percentage of bluefish caught and bluefish retained on all trips that had that category's number of bluefish kept per angler or less. The bottom tables show the mean expected reduction in the number of bluefish harvested given different bag limits ranging from 1 to 10 bluefish, as well as the standard deviation, the minimum and maximum of the estimated harvest reduction.

The bag limit analysis for the period prior to the implementation of the ten fish bag limit (i.e., 1982-1992) indicated that the bag limit would be expected to reduce the landings by about 14% (Table 7a). The analysis run on the data from 1994-2011 indicated that a saving of 1% would be gained if everyone complied with the bag limit (Table 7b). Thus, judging by the difference, the bag limit may have reduced the harvest by an average of about 13% during 1994-2011, i.e., 93% of the expected average reduction. During 1994-2011, about 99.6% of anglers sampled were complying with the bag limit.

Head boat Fishery

Description of 2011 Fishery

The most recent data from the head boat fishery was 2011. These data could not be updated for 2012 because they were not available. In 2011, head boat landings on Florida's Atlantic coast were 1,448 bluefish weighing 3,622 pounds (Fig. 9; Table 8).

Historically, head boat landings of bluefish on the Atlantic coast of Florida have been small (< 3% of the MRFSS recreational landings since 1993) and have declined considerably since 1988 (Fig. 9; Table 8).

Size limits

Based on bluefish measured by head boat samplers, only 55 fish out of a total of 805 fish were less than 12" during 1981-1992. Since 1994 onwards, 60 of the 695 bluefish measured were less than 12" (Table 5). In some years, however, less than 15 fish were sampled during 1994-2011 and it is unclear whether the fishery was adequately sampled.

Bag limit

Compliance with the 10-fish-per-day bag limit could not be assessed because the bluefish catches are reported by boat and not by angler.

B. Activity and Results of Fishery Independent Monitoring (FIM) Program

The FWC-Fish and Wildlife Research Institute (FWRI)'s FIM program initiated sampling activities on estuarine, bay, and coastal systems of Florida Atlantic at northern Indian River Lagoon in 1990, southern Indian River Lagoon in 1997 and northeast Florida (Jacksonville study area) in 2001. The sampling gears commonly used were a 21.3-m center

bag seine, a 6.1-m otter trawl and a 183-m haul seine. These gears were designed to collect, respectively, juvenile and sub-adult fishes (especially young-of-the-year, YOY) in shallow areas (< 1.8 m), juvenile, sub-adult and adult fish in deep waters (1 - 7.6 m), and sub-adult and adult fish in shallow waters (< 2.5 m) along shorelines. Additional sampling methods and strata are provided in various FWC/FWRI FIM annual data summary reports.

For this compliance report, updates of indices of relative abundance (IOAs) were developed by breaking the analysis into three categories of size classes:

- **Early YOY (0-100mm SL)**, looking at a recruitment window of April-July. This analysis utilized only 21.3-m seine catches from 2001-2012, which come from presumed spring-spawned cohorts.
- **Late YOY (150-220mm SL)**, analysis performed in order to follow the previous cohorts later in the year, from November of each year to the following March. This analysis utilized only 183-m seine catches from 2001 through the 2010/2012 season, which would be November and December 2011 combined with January-March 2012. The late 2012 (November/December) data were not included because of an incomplete time frame/season (data from January-March of 2013 are not yet available). Of course, this size class range will ultimately include some members of the summer-spawned fish as well, but could aid in looking at abundances of the entire year-class.
- **Age 1 (240-340mm SL)** for the months of March through December. This analysis utilized only 183-m seine catches from 2001-2012.

The key criterion of choosing the previous categories of size classes was to be able to track the presumed spring-spawned cohorts (which appear to be predominant, since there have only been a few fish < 100 mm SL collected outside the recruitment window from 2001-2012) throughout the year in Northeast Florida. All analyses were performed on northeast Florida (Jacksonville) data only. There were not enough fish captured from 2001-2012 in Indian River and Tequesta to warrant including them.

The IOAs were computed using an Analysis of Covariance (ANCOVA) to reduce spatial and temporal variability between sets. Location, time, and environmental variables were treated as either classification variables (zone, year, month, gear, deployment technique, sediment type, and presence / absence of bottom vegetation) or covariates (water temperature, salinity, and percent cover of bottom vegetation) in the ANCOVA analyses. The GLM procedure was used to complete all ANCOVA analyses. In order to normalize the data, water temperature, salinity, percent bottom vegetation, and number of animals per set were natural log transformed [$\ln(X+1)$] prior to analysis. With the exception of year, all variables that were not significant ($P>0.05$) were dropped and the analysis was repeated. With the ANCOVA analyses, least squared means and standard errors were calculated for each year.

The relative indices of abundance were calculated as the median annual number of fish per set. Median values were determined from the least-squared means by multiplying the standard error by a random normal deviate and adding it to the least-squared mean. These data were then back-transformed. The process was repeated 500 times for each year to create a sampling distribution of back-transformed means. Summary statistics (10, 25, 75, and 90 percentiles) were then calculated.

IOAs for early YOY bluefish peaked in 2003 and 2007 and declined steadily since 2008 (Fig. 10). IOAs for late YOY bluefish generally trended like IOAs for early YOY

bluefish but rebounded during the last two years (Fig. 11). IOAs for age-1 bluefish showed a discrete increasing trend during 2001-2007 then declined steadily thereafter (Fig. 12).

C. Copy of regulations that were in effect, including a reference to the specific compliance criteria as mandated in the FMP.

CHAPTER 68B-43 BLUEFISH

(See also: <http://www.myfwc.com/fishing/saltwater/regulations/>).

68B-43.001 Purpose and Intent; Repeal of Statutory Provisions; Designation as Restricted Species

68B-43.002 Definitions

68B-43.003 Size Limit; Bluefish to be landed in Whole Condition

68B-43.004 Bag Limits

68B-43.005 East Coast Commercial Harvest: Daily Vessel Harvest and Possession Limit; Season Harvest Limit; Gear Specifications

68B-43.001 Purpose and Intent; Repeal of Statutory Provisions; Designation as Restricted Species.

(1) The purpose and intent of this chapter are to protect and conserve Florida's bluefish resources and assure the continuing health and abundance of the species. It is also the intent of the Commission to manage bluefish in such a manner as to permit an equitable statewide commercial harvest of the species.

(2) It is the intent of this chapter to expressly effect the repeal of and replace Section 370.11(2)(a)1, F.S. (1993); and the remainder of Section 370.11(2)(a), F.S. (1993); as it pertains to bluefish.

(3) Bluefish are hereby designated as a restricted species pursuant to Section 379.101(32), F.S.

(4) This rule chapter shall take effect on July 1, 1993.

Specific Authority Art. IV, Sec. 9, Fla. Const., Chapter 83-134, Laws of Fla., as amended by Chapter 84-121, and Chapter 85-163, Laws of Fla. Law Implemented Art. IV, Sec. 9, Fla. Const., Chapter 83-134, Laws of Fla., as amended by Chapter 84-121, and Chapter 85-163, Laws of Fla. History-New 7-1-93, Formerly 46-43.001.

68B-43.002 Definitions.

As used in this rule chapter:

(1) "Atlantic Ocean" means all state and federal waters of the Atlantic Ocean along the east coast of Florida, including all state and federal waters south and east of the line beginning at the intersection of the outer boundary of the federal Exclusive Economic Zone (EEZ) and 83 deg. W. longitude, thence along that meridian northward to its intersection with 24 deg. 35 min. N. latitude (near the Dry Tortugas), thence eastward along that parallel through Rebecca Shoal and the Quicksand Shoal to 82 deg. 13 min. W. longitude, then following the Territorial Sea Boundary south and east to the point it intersects 24 deg. 33 min. N. latitude, thence eastward along that parallel to the point

where it intersects Key West, then continuing along a line eastward to the terminus of U.S. Highway 1 to the point where it intersects the mainland at the east end of Florida Bay.

(2) "Bluefish" means any fish of the species *Pomatomus saltatrix*, or any part thereof.

(3) "East Central Coast Region" means all state waters of Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach Counties between Ponce De Leon Inlet on the north and Jupiter Inlet on the south and all adjacent federal Exclusive Economic Zone (EEZ) waters.

(4) "East Coast Region" means all state and adjacent federal waters north of the Dade-Monroe County Line extended due east to the outer boundary of the federal Exclusive Economic Zone (EEZ).

(5) "Fork length" means the length of a fish as measured from the tip of the snout to the rear center edge of the tail.

(6) "Harvest" means the catching or taking of a fish by any means whatsoever, followed by a reduction of such fish to possession. Fish that are caught but immediately returned to the water free, alive, and unharmed are not harvested. In addition, temporary possession of a fish for the purpose of measuring it to determine compliance with the minimum or maximum size requirements of this chapter shall not constitute harvesting such fish, provided that it is measured immediately after taking, and immediately returned to the water free, alive, and unharmed if undersize or oversize.

(7) "Harvest for commercial purposes" means the taking or harvesting of fish for purposes of sale or with intent to sell or in excess of established bag limits.

(8) "Land", when used in connection with the harvest of a fish, means the physical act of bringing the harvested fish ashore.

Specific Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History-New 6-17-93, Formerly 46-43.002.

68B-43.003 Size Limit; Bluefish to be Landed in Whole Condition.

(1) No person shall harvest, land, or sell or offer for sale any bluefish with a fork length less than 12 inches.

(2) All bluefish shall be landed in a whole condition. The possession, while in or on state waters, of such fish that have been deheaded, sliced, divided, filleted, ground, skinned, scaled, or deboned is prohibited. Mere evisceration or "gutting" of such fish, or mere removal of gills before landing is not prohibited.

Specific Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History-New 6-17-93, Amended 8-31-98, Formerly 46-43.003.

68B-43.004 Bag Limits.

Except for those persons possessing a valid saltwater products license with a restricted species endorsement, no person shall harvest or land more than 10 bluefish per day. No such person shall possess more than 10 bluefish while in, on, or above the waters of the state or on any dock, pier, bridge, beach, or any fishing site adjacent to such waters.

Specific Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History-New 6-17-93, Formerly 46-43.004.

68B-43.005 East Coast Commercial Harvest: Daily Vessel Harvest and Possession Limit; Season Harvest Limit; Gear Specifications.

(1) Commercial Vessel Limit for East Coast Region - A person possessing a valid saltwater products license with a restricted species endorsement may harvest from state or federal Exclusive Economic Zone (EEZ) waters of the East Coast Region, and land within the region, no more than 7,500 pounds of bluefish per vessel per day. The possession of more than 7,500 pounds of bluefish aboard a single vessel in or on state waters within the region at any time is prohibited.

(2) Persons harvesting bluefish for commercial purposes from state or federal Exclusive Economic Zone (EEZ) waters of the East Coast Region shall have a season that begins on January 1 and continues through December 31 each year, unless closed earlier pursuant to the following provisions of this subsection.

(a) If the total commercial harvest of bluefish from state and federal Exclusive Economic Zone (EEZ) waters of the East Coast Region is projected to reach 877,000 pounds before December 31 of any season, the season for commercial harvest of bluefish in such waters shall be closed by the Executive Director of the Fish and Wildlife Conservation Commission upon notice and in the manner provided in Section 120.81(5), Florida Statutes. If the season is closed pursuant to this paragraph, it shall not reopen until the following January 1.

(b) During any season closure pursuant to paragraph (a), no person shall harvest bluefish in a quantity in excess of the bag limit established by Rule 68B-43.004, possess such quantity of bluefish in or on state or federal Exclusive Economic Zone (EEZ) waters of the East Coast Region, or purchase, sell, or exchange any bluefish harvested in or from the waters of the region during the closure.

(c) For purposes of this subsection, the total commercial harvest of bluefish from state and federal Exclusive Economic Zone (EEZ) waters of the East Coast Region shall consist of those bluefish harvested for commercial purposes by all forms of gear from such waters based on projections from official statistics collected and maintained by the Fish and Wildlife Conservation Commission pursuant to Florida's Marine Fisheries Information System, Chapter 68D-5, F.A.C., and the National Marine Fisheries Service (NMFS). The count shall be conducted by the Fishery Statistics Section of the Florida Marine Research Institute and shall commence with bluefish commercially harvested on and after January 1 and continue until December 31 of each year.

(3) Gear Specifications - Each person harvesting or attempting to harvest bluefish for commercial purposes in or from state waters or federal Exclusive Economic Zone (EEZ) waters of the Atlantic Ocean adjacent to state waters shall comply with the following gear requirements:

(a) Each net fish with, set, or placed in the water shall be tended. The term "tend" means that the person fishing with, setting, or placing the net in the water is either:

1. Within 300 yards of the net and using vessel movement and noise to force fish into the meshes of the net where they become entangled or trapped; or
2. Within 50 yards of the net if the vessel used is not in constant motion.

(b) Each net fished with, set, or placed in the water shall be marked in the following manner:

1. During the period beginning one hour before official sunrise and ending one hour

after official sunset, an international orange float with a diameter of at least 12 inches or an end buoy equipped with a high flier (a vertical rod rising at least 24 inches above the surface of the water) displaying a net signal flag shall be affixed at each end of the cork line of the net. The net signal flag shall be triangular, have dimensions no smaller than 12" x 18" x 18", and have a white circle at least 6 inches in diameter on a field of bright orange. During the period beginning one hour after official sunset and ending one hour before official sunrise, a white light visible 3600 from a distance of not less than one mile shall be affixed at each end of the cork line of the net. If one end of a net is retained aboard the vessel during a fishing operation, such end need not be marked with float, high flier with net signal flag, or light. At all times, corks or floats of contrasting color shall be affixed at no greater than 100-yard intervals along the cork line of the net.

2. Each such float, high flier with net signal flag, light, and cork or float of contrasting color shall be legibly marked with a saltwater products license number which matches either:

a. The saltwater products license number issued for the vessel on which the net is possessed or from which the net is deployed, or

b. The saltwater products license number of the operator of the vessel on which the net is possessed or from which the net is deployed.

(c) No person shall fish with, set, or place in the water or possess aboard a vessel while on the water any net with a total length greater than 600 yards. No person shall tie or otherwise fasten together two or more nets in any manner so as to fish with, set, or place in the water a net exceeding the 600-yard limit.

(d) No more than one net shall be fished with, set, or placed in the water from a single vessel at any one time.

(e) No more than two nets shall be possessed aboard a vessel at any one time, including any net being fished; provided, however, that the two nets shall have stretched mesh sizes that differ by at least 1/4 inch or depths that differ by at least 25 meshes.

(f) No person shall soak a net for more than one hour, beginning when the first mesh is placed in the water and ending either when the first mesh is retrieved back aboard the vessel or the gathering or pursing of the net is begun to facilitate retrieval back aboard the vessel, whichever occurs sooner. Once either the first mesh is retrieved back aboard the vessel or the gathering or pursing is begun, the netting operation shall be continuous until the net is completely removed from the water.

(g) No person shall fish with, set, or place in the water any gill or trammel net with a mesh size smaller than 3 inches stretched mesh.

(h) The term "net" shall be construed broadly to include all manner of gill and trammel nets and seines, except purse seines.

Specific Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History-New 6-17-93, Amended 10-4-95, Formerly 46-43.005.

D. Harvest broken down by commercial and recreational and non-harvest losses.

See Table 1 and Figure 1 for the cumulative harvest of bluefish by fishery sector on the Atlantic coast of Florida.

See Table 2 for the commercial landings and effort and Table 3 for commercial landings and effort by gear type.

See Table 7 for recreational landings in number and weight.

E. Review of Progress in implementing habitat recommendations.

N/A

IV. PLANNED MANAGEMENT PROGRAMS FOR THE CURRENT YEAR

No changes to the current management program are planned for the current year.

ACKNOWLEDGEMENT; Russ Brodie and Tony DiGirolamo developed the fishery-independent indices of relative abundance for bluefish on the Atlantic coast of Florida.

5.0 LITERATURE CITED

Gibson, M. P. and N. Lazar. 1998. Assessment and projection of the Atlantic coast bluefish using a biomass dynamic model. Report to the Atlantic States Marine Fisheries Commission's Bluefish Technical Committee. 29 p.

Florida Fish and Wildlife Conservation Commission/Fish and Wildlife Research Institute Fisheries-Independent Monitoring Program Annual (1997-2012) Data Summary Reports.

Table 1 - Summary of bluefish landed (pounds) by fishery on the Atlantic coast of Florida. Recreational landings are for fish kept by anglers (Type A+B1). Head Boat data were available until 2011. The 2012 recreational and commercial landings were preliminary.

	Commercial landings (lbs)	Recreational landings (Type A + B1; lbs)	Head boat landings (lbs)	Total lbs
1985	732842	1271259	59697	2063798
1986	1165057	949544	78337	2192938
1987	1547584	1563669	124759	3236012
1988	1315663	1615335	25446	2956444
1989	998653	1310506	32016	2341175
1990	1076566	630734	11960	1719260
1991	1433309	1370445	2523	2806277
1992	1092497	1242111	53192	2387800
1993	1216575	1257824	6818	2481217
1994	932676	569002	14779	1516457
1995	503984	600772	7256	1112012
1996	134254	286349	3815	424418
1997	283987	564687	646	849320
1998	341063	602792	4294	948149
1999	346396	332257	9581	688234
2000	141015	595928	1232	738175
2001	138168	707401	3696	849265
2002	81384	1012780	142	1094306
2003	97657	1002905	1409	1101971
2004	120818	914574	1689	1037081
2005	155375	653924	2013	811312
2006	99393	654008	393	753794
2007	167909	628481	841	797231
2008	148432	647958	3877	800267
2009	213965	976195	2273	1190160
2010	316048	1208610	2012	1524658
2011	244447	714365	3622	958812
2012	178173	373780	-	551953

Table 2 - Commercial landings (pounds) and number of trips for bluefish on Florida's Atlantic coast, 1985-2012. Estimates for 2011 are preliminary and subject to change.

Year	Landings (lbs)	Trips
1985	732,842	8,042
1986	1,165,057	8,129
1987	1,547,584	8,081
1988	1,315,663	7,742
1989	998,653	7,455
1990	1,076,566	8,962
1991	1,433,309	8,716
1992	1,092,497	9,648
1993	1,216,575	8,716
1994	932,676	7,201
1995	503,984	4,784
1996	134,254	1,846
1997	283,987	3,205
1998	341,063	3,217
1999	346,396	2,638
2000	141,015	1,778
2001	138,168	2,047
2002	81,384	2,168
2003	97,657	2,365
2004	120,818	2,168
2005	155,375	2,758
2006	99,393	2,364
2007	167,909	2,611
2008	148,432	2,699
2009	213,965	3,913
2010	316,048	5,425
2011	244,447	5,563
2012	178,173	5,337

Table 3 - Florida's Atlantic coast commercial bluefish landings (pounds) and trips made by gear-type, 1984 - 2012. The 2012 estimates are preliminary and subject to change.

Landings

	CAST NET	GIG/SPEAR	GILL NET	HOOK AND L	OTHER	TRAMMEL	TRAWL	UNKNOWN	Grand Total
1984								77685	77685
1985								732842	732842
1986								1165057	1165057
1987								1547584	1547584
1988								1315663	1315663
1989								998653	998653
1990								1076566	1076566
1991	2501	3	117008	10961	7762	1858	92	1293124	1433309
1992	1985	74	720723	36987	80689	56913	1692	193434	1092497
1993	2330	15	1091296	38015	38060	16657	441	29761	1216575
1994	780	223	818482	18577	75492	9697	819	8606	932676
1995	1166	10	440060	8912	32937	15701	522	4676	503984
1996	8788	27	104969	18999	546		93	832	134254
1997	13706	32	248755	19978	532		373	611	283987
1998	10529	64	305141	24796	124		223	186	341063
1999	6086	322	320222	18391	646	7	68	654	346396
2000	4049	95	126251	10478	82		32	27	141015
2001	9429	293	111479	16162	704		40	61	138168
2002	8678	4	50589	21829	226		59		81384
2003	16092	51	46740	33515	1167		92		97657
2004	18292	23	74901	27310	289		2		120818
2005	12860	1	109001	33058	264		191		155375
2006	7970	110	72565	18406	195		146		99393
2007	9180	16	134317	22781	664		950		167909
2008	8947	22	120151	18727	585		1		148432
2009	19572	77	149815	43756	719		25		213965
2010	53967	4556	116019	138949	2535		23		316048
2011	30751	953	109864	99456	3424				244447
2012	13668	406	105521	57618	554	228	179		178173

Trips

	CAST NET	GIG/SPEAR	GILL NET	HOOK AND L	OTHER	TRAMMEL	TRAWL	UNKNOWN	Grand Total
1984								941	941
1985								8042	8042
1986								8129	8129
1987								8081	8081
1988								7742	7742
1989								7455	7455
1990								8962	8962
1991	29	1	1634	167	29	129	26	6701	8716
1992	37	3	7250	516	175	797	41	829	9648
1993	77	2	7143	517	150	582	30	215	8716
1994	66	4	6298	286	163	289	53	42	7201
1995	133	2	3884	454	110	130	48	23	4784
1996	539	3	612	649	16		15	12	1846
1997	583	7	1725	823	12		34	21	3205
1998	498	9	1789	887	8		17	9	3217
1999	421	13	1409	762	7	1	10	15	2638
2000	390	8	891	469	7		5	8	1778
2001	530	7	785	698	15		4	8	2047
2002	654	2	544	940	25		3		2168
2003	1159	3	341	824	32		6		2365
2004	922	2	390	830	23		1		2168
2005	889	1	744	1107	14		3		2758
2006	666	6	786	885	19		2		2364
2007	737	8	930	904	23		9		2611
2008	723	10	725	1195	45		1		2699
2009	1035	12	867	1917	81		1		3913
2010	1726	44	625	2930	97		3		5425
2011	1626	21	680	3153	83				5563
2012	948	13	820	3500	49	3	4		5337

Table 4 - Bluefish commercial trip limit compliance. Source: Marine Resource Information System, edited and unedited batches. The 2011 values are preliminary and subject to change. * Numbers not indicated for confidentiality purpose.

	< 7,500 lbs		> 7,500 lbs		Total	
	Landings	Trips	Landings	Trips	Landings	Trips
1985	632329	8035	100513	7	732842	8042
1986	967344	8116	197713	13	1165057	8129
1987	1097757	8041	449827	40	1547584	8081
1988	1017440	7720	298223	22	1315663	7742
1989	813660	7440	184993	15	998653	7455
1990	928722	8949	147844	13	1076566	8962
1991	1188845	8693	244464	23	1433309	8716
1992	1042882	9643	49615	5	1092497	9648
1993	1190193	8713	26382	3	1216575	8716
1994	932676	7201			932676	7201
1995	503984	4784			503984	4784
1996	134254	1846			134254	1846
1997	283987	3205			283987	3205
1998	332571	3216	8492	1	341063	3217
1999	346396	2638			346396	2638
2000	141015	1778			141015	1778
2001	138168	2047			138168	2047
2002	81384	2168			81384	2168
2003	97657	2365			97657	2365
2004	120818	2168			120818	2168
2005	155375	2758			155375	2758
2006	99393	2364			99393	2364
2007	167909	2611			167909	2611
2008	148432	2699			148432	2699
2009	213965	3913			213965	3913
2010	316048	5425			316048	5425
2011	244447	5563			244447	5563
2012	178173	5337			178173	5337

Table 5 - Percentage of illegal (less than 12-inches) and legal (12-inches or larger) bluefish in the commercial, recreational and head boat landings on Florida's Atlantic coast, during 1992-2012. For the recreational and head boat fisheries, percentages were weighted by landings-by-wave, but the estimates of percentages for 2012 were not possible because of lack of the 2012 intercept data. For the commercial fishery, percentages were based on fish measured and not weighted by landings-by-gear. From 1999 onwards, sample sizes by gear for commercial catches were not representative of commercial landings by gear. N is the total number of fish measured.

Years	Commercial			Recreational			Head boat		
	>= 12"	< 12"	N	>= 12"	< 12"	N	>= 12"	< 12"	N
1992	77	23	1618	96	4	243	100	0	4
1993	95	5	1445	88	13	296	100	0	1
1994	94	6	463	68	32	231	100	0	4
1995	63	37	258	81	19	190	91	9	11
1996	86	14	966	94	6	101	43	57	7
1997	86	14	278	91	9	178	100	0	6
1998	79	21	341	90	10	142	99	1	81
1999	98	2	48	77	23	192	100	0	10
2000	93	7	76	69	31	159	100	0	14
2001	94	6	139	72	28	202	100	0	8
2002	95	5	95	82	18	386	60	40	5
2003	100	0	25	94	6	355	98	2	42
2004	100	0	48	87	13	70	100	0	67
2005	91	9	92	88	12	138	100	0	82
2006	100	0	437	76	24	174	96	4	104
2007	59	41	128	83	17	195	96	4	50
2008	100	0	21	82	18	137	100	0	63
2009	97	3	659	85	15	260	100	0	23
2010	95	5	706	86	14	341	90	10	62
2011	95	5	261	83	17	243	92	8	65
2012	98	2	603	-	-	-	-	-	-

Table 6 - Estimated MRFSS/MRIP numbers and pounds of bluefish landed, released, and caught (1982-2012) and estimated standardized total catch rates, standardized and directed numbers of angler trips made by recreational anglers on the Atlantic coast of Florida, 1982-2012. Intercept data for 2012 were not available to estimate the 2012 standardized total catch rate and numbers of standardized trips.

Years	Numbers landed (A+B1)	Numbers released (B2)	Landings in weight (lbs) (A+B1)	Numbers caught (A+B1+B2)	Standardized Catch rates (Number caught/trip)	Standardized Numbers of Trips	Estimated Directed (angler) trips
1982	1743831	204228	2817886	1948061	0.85	2281731	989,732
1983	1459072	214244	2218176	1673316	0.84	2000559	1,020,833
1984	2165750	670671	2285585	2836419	1.41	2008453	1,092,941
1985	1095752	155181	1271259	1250932	0.92	1355944	871,965
1986	940238	192330	949544	1132568	1.13	1000811	716,093
1987	966997	206404	1563669	1173400	1.37	855031	590,226
1988	968222	229434	1615335	1197655	1.03	1164903	756,646
1989	710857	127249	1310506	838105	1.12	746585	587,690
1990	439313	164938	630734	604250	1.22	495146	346,889
1991	642523	245758	1370445	888279	1.23	724654	498,703
1992	714802	387567	1242111	1102370	1.29	851516	474,234
1993	817689	494532	1257824	1312220	1.42	921124	669,231
1994	496547	798748	569002	1295297	1.39	932787	602,124
1995	487240	808417	600772	1295659	1.45	893327	602,910
1996	255751	547497	286349	803248	1.44	558853	357,231
1997	493812	956476	564687	1450287	2.08	697150	433,468
1998	417916	615101	602792	1033018	1.54	672835	439,782
1999	235185	660842	332257	896027	1.51	594599	357,503
2000	438974	1200888	595928	1639860	1.77	925223	591,839
2001	580746	1376403	707401	1957148	1.74	1126795	659,405
2002	758610	1391965	1012780	2150574	1.73	1243296	722,302
2003	644037	621876	1002905	1265913	1.48	852621	685,133
2004	513990	498806	914574	1012797	1.59	638802	443,171
2005	444731	368767	653924	813497	1.78	457444	400,906
2006	433306	718402	654008	1151708	1.75	658074	467,012
2007	471153	932359	628481	1403510	1.65	848903	523,910
2008	376510	498918	647958	875427	1.59	551666	414,137
2009	623073	680522	976195	1303594	2.35	554932	456,173
2010	786982	1620958	1208610	2407939	2.08	1158645	809,723
2011	556172	912206	714365	1468379	1.82	806313	563,695
2012	275105	1114540	373780	1389644	-	-	504,023

Table 7a - Bag limits analysis for anglers that landed and kept bluefish while fishing on Florida's Atlantic coast, 1982-1992 (source: NMFS Marine Recreational Fisheries Statistical Survey or Intercepts).

Number of fish kept per angler	Number of Years	Number of Trips	Number of Anglers	Average # of anglers/ trip	Cumulative % of Anglers	Number of fish caught	Number of fish retained	Cumulative % of fish caught	Cumulative % of fish retained
0	11	2072	2199	1.06	51.63	1264	26	15.25	0.39
1	11	779	921	1.18	73.26	953	878	26.75	13.61
2	11	343	416	1.21	83.02	906	813	37.68	25.84
3	11	155	207	1.34	87.88	665	607	45.7	34.98
4	11	114	145	1.27	91.29	598	567	52.92	43.51
5	11	64	87	1.36	93.33	484	431	58.76	50
6	11	56	72	1.29	95.02	450	425	64.19	56.4
7	10	27	38	1.41	95.91	268	264	67.42	60.37
8	9	25	32	1.28	96.67	254	254	70.49	64.19
9	6	15	17	1.13	97.07	157	152	72.38	66.48
10	8	27	37	1.37	97.93	376	371	76.92	72.07
11	4	4	6	1.5	98.07	64	64	77.69	73.03
12	6	10	11	1.1	98.33	132	132	79.28	75.02
13	3	5	8	1.6	98.52	107	105	80.57	76.6
14	2	4	4	1	98.61	63	56	81.33	77.44
15	3	3	3	1	98.69	50	45	81.94	78.12
16	4	4	7	1.75	98.85	110	110	83.26	79.77
17	3	4	9	2.25	99.06	155	150	85.14	82.03
18	2	3	3	1	99.13	54	54	85.79	82.84
20	4	6	7	1.17	99.3	140	140	87.48	84.95
21	1	1	1	1	99.32	21	21	87.73	85.26
22	2	2	4	2	99.41	87	87	88.78	86.57
25	3	4	6	1.5	99.55	151	151	90.6	88.85
26	1	1	1	1	99.58	26	26	90.91	89.24
30	4	5	5	1	99.69	160	150	92.85	91.5
33	1	1	2	2	99.74	65	65	93.63	92.47
34	1	1	1	1	99.77	34	34	94.04	92.99
35	3	3	3	1	99.84	109	105	95.35	94.57
36	1	1	1	1	99.86	36	36	95.79	95.11
45	1	1	1	1	99.88	45	45	96.33	95.79
50	2	2	2	1	99.93	100	100	97.54	97.29
55	1	1	1	1	99.95	55	55	98.2	98.12
60	1	1	1	1	99.98	60	60	98.93	99.02
65	1	1	1	1	100	89	65	100	100
Totals		3745	4259			8288	6644		

Expected Harvest Reduction Associated with Particular Bag Limits

Number of Intercepts per Iteration: 200

Number of Iterations: 1000

	BAG LIMITS									
	1	2	3	4	5	6	7	8	9	10
Mean	69	52	41	33	28	23	20	18	16	14
Std Dev	65.8	66	8.4	9.1	8.7	8.4	8.2	7.8	7.3	7
Min	57	36	23	14	9	5	2	2	2	0
Max	77	63	54	48	41	36	31	28	25	22

Table 7b - Bag limits analysis for anglers that landed and kept bluefish while fishing on Florida's Atlantic coast, 1994-2011 (source: NMFS Marine Recreational Fisheries Statistical Survey or Intercepts).

Number of fish kept per angler	Number of Years	Number of Trips	Number of Anglers	Cumulative		Number of fish caught	Number of fish retained	Cumulative %	Cumulative %
				Average # of anglers/ trip	% of Anglers			of fish caught	of fish retained
0	18	7497	8272	1.1	64.22	15957	137	52.59	1.2
1	18	1663	2216	1.33	81.42	2619	2011	61.22	18.75
2	18	735	968	1.32	88.94	2659	1854	69.98	34.94
3	18	349	467	1.34	92.56	1666	1359	75.47	46.81
4	18	213	288	1.35	94.8	1440	1125	80.22	56.63
5	18	166	214	1.29	96.46	1319	1055	84.56	65.84
6	17	120	139	1.16	97.54	963	829	87.74	73.08
7	17	50	65	1.3	98.04	524	457	89.46	77.07
8	17	51	62	1.22	98.52	558	489	91.3	81.34
9	10	23	32	1.39	98.77	375	284	92.54	83.82
10	18	89	100	1.12	99.55	1241	996	96.63	92.52
11	8	14	15	1.07	99.67	199	164	97.28	93.95
12	8	12	15	1.25	99.78	226	179	98.03	95.51
13	6	6	6	1	99.83	80	78	98.29	96.19
14	2	2	2	1	99.84	28	28	98.39	96.44
15	5	8	9	1.13	99.91	160	135	98.91	97.62
19	2	2	2	1	99.93	58	38	99.1	97.95
20	3	4	4	1	99.96	91	80	99.4	98.65
22	1	1	1	1	99.97	42	22	99.54	98.84
23	1	1	1	1	99.98	23	23	99.62	99.04
24	1	1	1	1	99.98	24	24	99.7	99.25
25	1	1	1	1	99.99	25	25	99.78	99.47
61	1	1	1	1	100	67	61	100	100
Totals		11009	12881			30344	11453		

Expected Harvest Reduction Associated with Particular Bag Limits

Number of Intercepts per Iteration: 200

Number of Iterations: 1000

	BAG LIMITS									
	1	2	3	4	5	6	7	8	9	10
Mean	59	37	25	18	13	9	6	4	2	1
Std Dev	65.7	4.8	4.6	4.2	3.7	3.6	2.9	2.6	2	1.6
Min	49	28	16	9	5	2	1	0	0	0
Max	65	45	34	26	19	16	12	9	7	6

Table 8 - Head boat catch of bluefish in number and weight (lbs) and the number of head boat angler-days for various species on the east coast of Florida, 1981-2011.

	Number	Weight (lbs)	Angler-days
1981	30,249	303,885	227,174
1982	11,036	122,764	221,519
1983	10,127	66,390	213,142
1984	11,775	128,192	217,680
1985	6,218	59,697	213,618
1986	8,242	78,337	241,614
1987	15,824	124,759	250,867
1988	4,474	25,446	225,134
1989	3,899	32,016	235,864
1990	2,666	11,960	245,240
1991	373	2,523	212,876
1992	4,711	53,192	197,853
1993	1,491	6,818	165,514
1994	1,945	14,779	178,586
1995	2,173	7,256	150,185
1996	1,938	3,815	138,352
1997	688	646	114,308
1998	2,797	4,294	103,734
1999	1,183	9,581	120,414
2000	761	1,232	133,869
2001	2,967	3,696	115,731
2002	101	142	101,370
2003	1,003	1,409	101,041
2004	794	1,689	125,382
2005	902	2,013	120,293
2006	240	393	120,926
2007	620	841	121,777
2008	1,369	3,877	91,896
2009	569	2,273	103,237
2010	1,216	2,012	94,181
2011	1,448	3,622	89,499

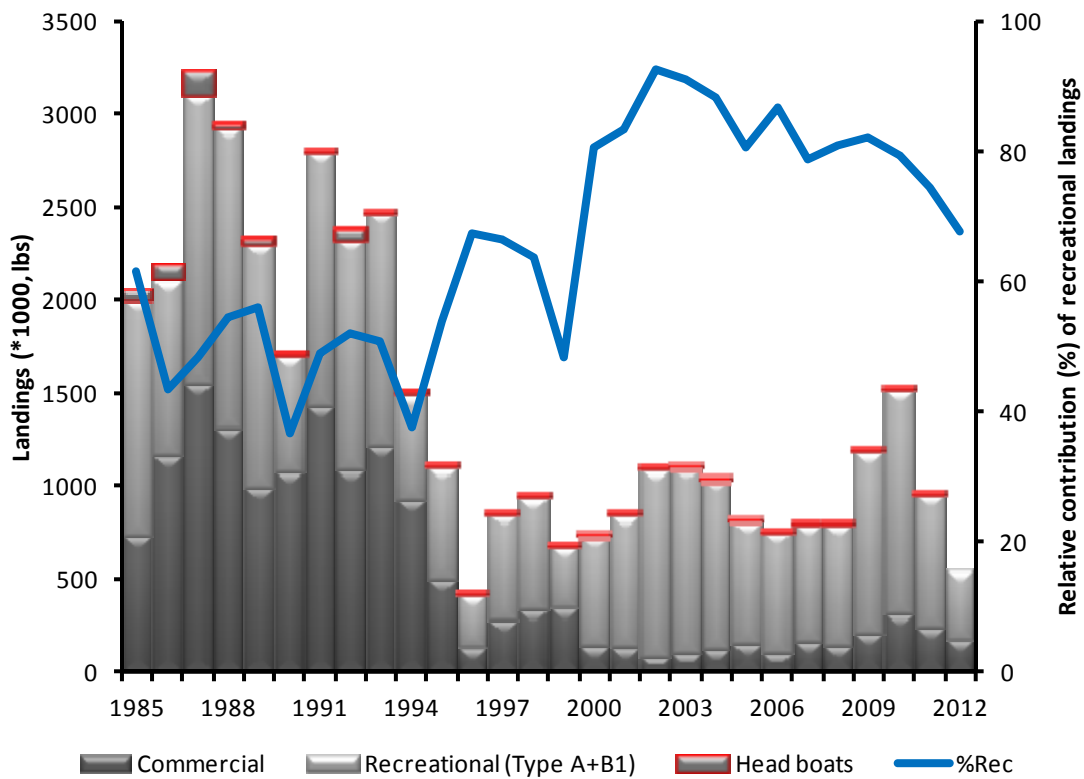


Figure 1 - Total landings (pounds) by fishery sector and proportions of recreational landings of bluefish caught on Florida's Atlantic coast, 1985-2012. Recreational landings are fish kept by anglers (Type A+B1). Recreational and commercial landings for 2012 were preliminary. Head Boat landings were available until 2011.

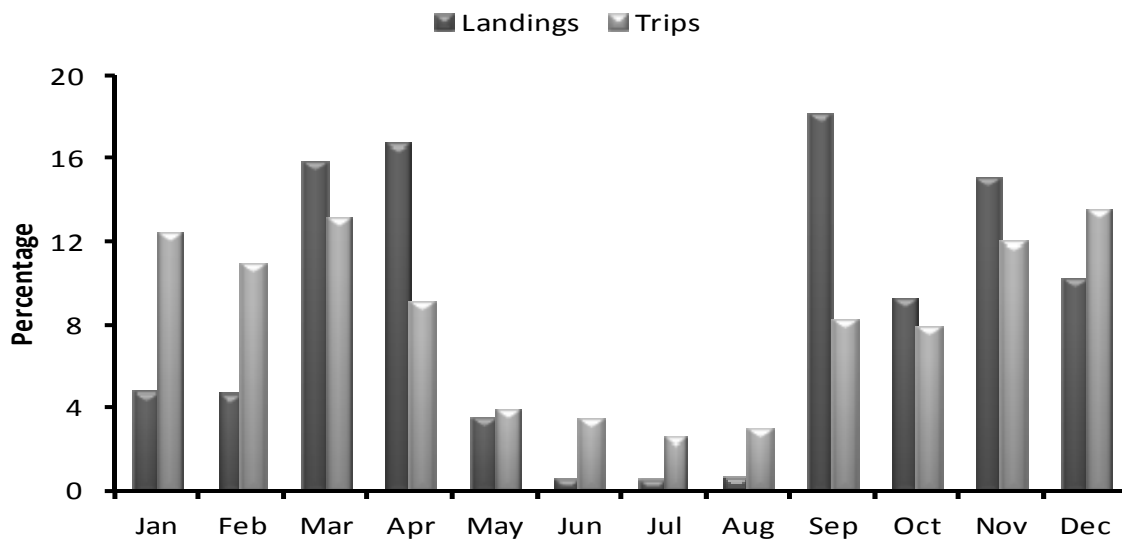


Figure 2 - Monthly variations of relative bluefish commercial landings and bluefish commercial trips on the Atlantic coast of Florida in 2012.

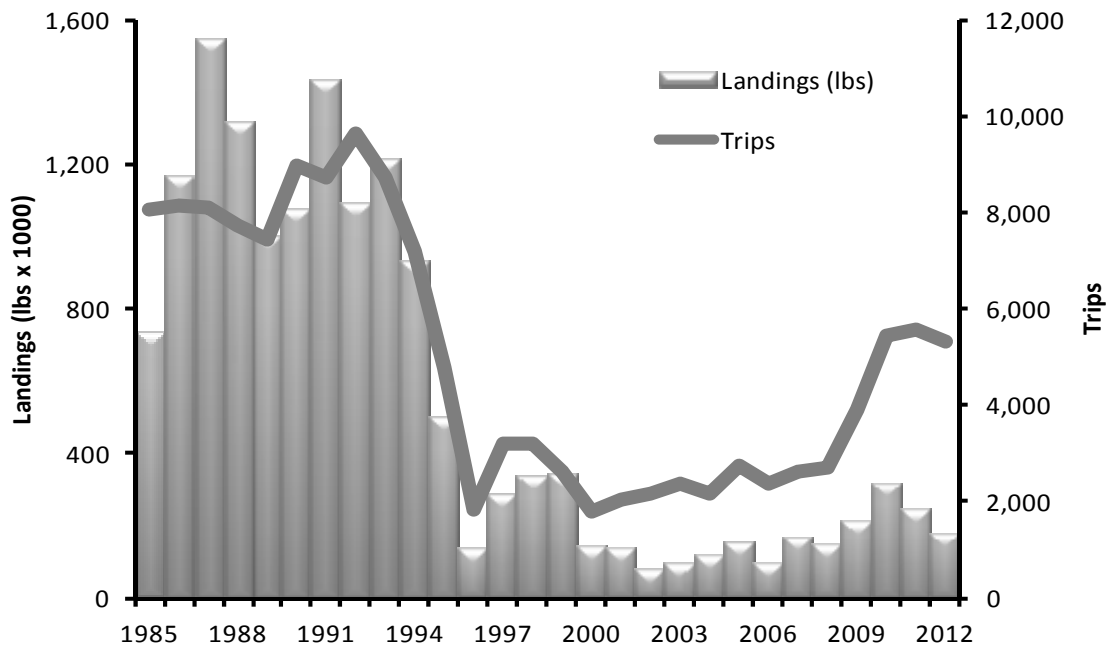


Figure 3 - Commercial landings (pounds) of bluefish and number of trips reporting bluefish landings on Florida's Atlantic coast, 1985-2012. The 2012 estimates are preliminary.

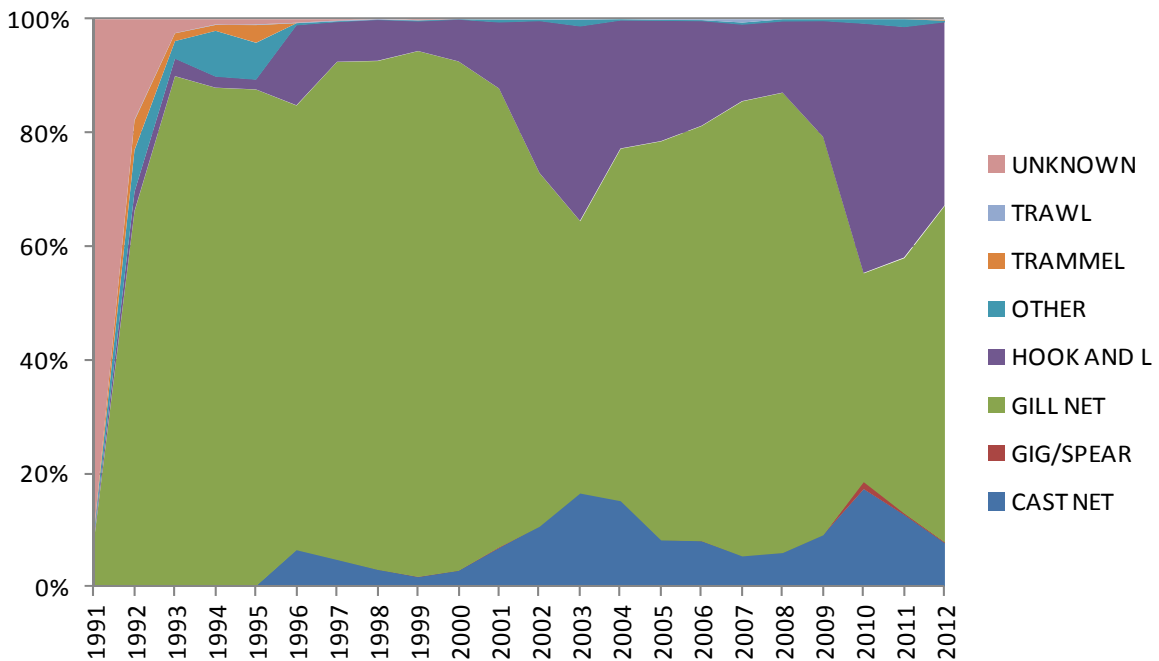


Figure 4 -Relative commercial landings (%) of bluefish by gear type on Florida's Atlantic coast, 1986-2012. The 2012 landings are preliminary.

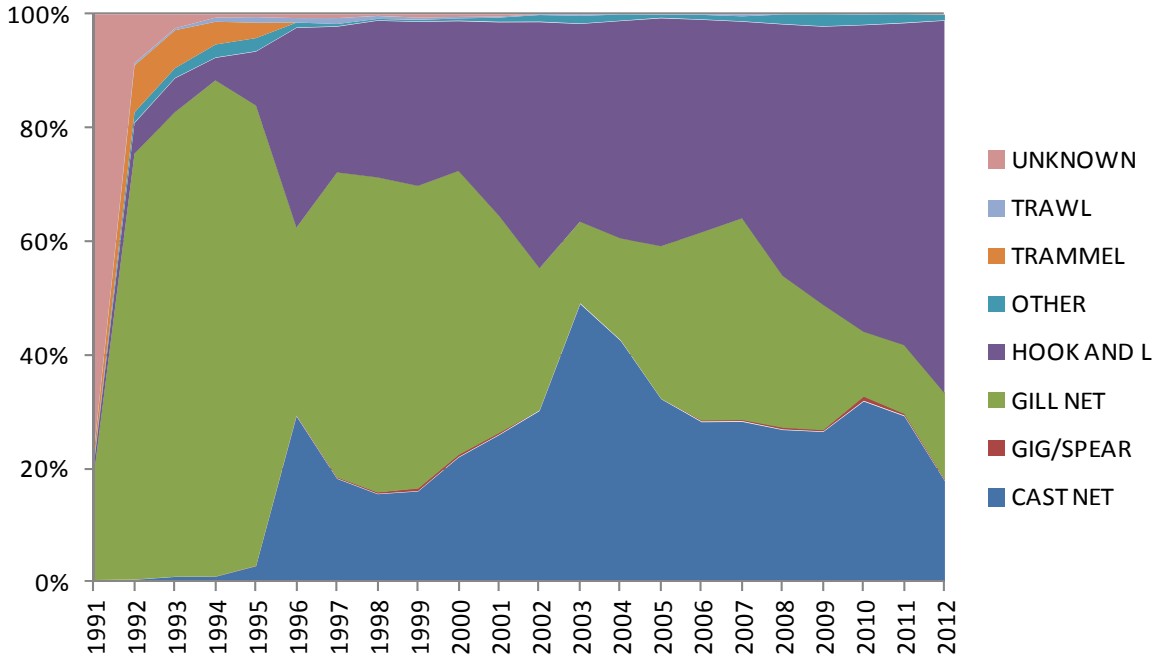


Figure 5 - Relative numbers of commercial trips (%) by gear-type targeting bluefish on Florida's Atlantic coast, 1986-2012. The 2012 trip estimates are preliminary.

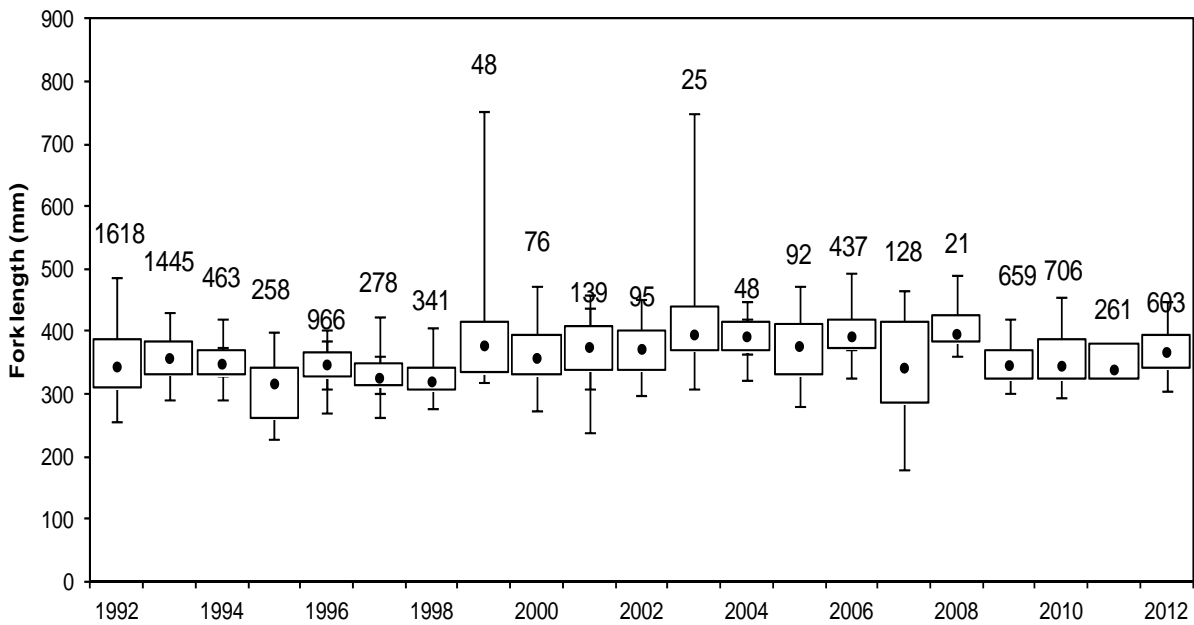


Figure 6 - Length frequency distributions of bluefish measured from commercial landings by hook and line on the Atlantic coast of Florida, 1992-2012. The dark circle represents the median, the box represents the 25th-75th percentiles and the vertical whiskers extend from 2.5th-97.5th percentiles. Numbers of fish measured are shown above the upper whiskers.

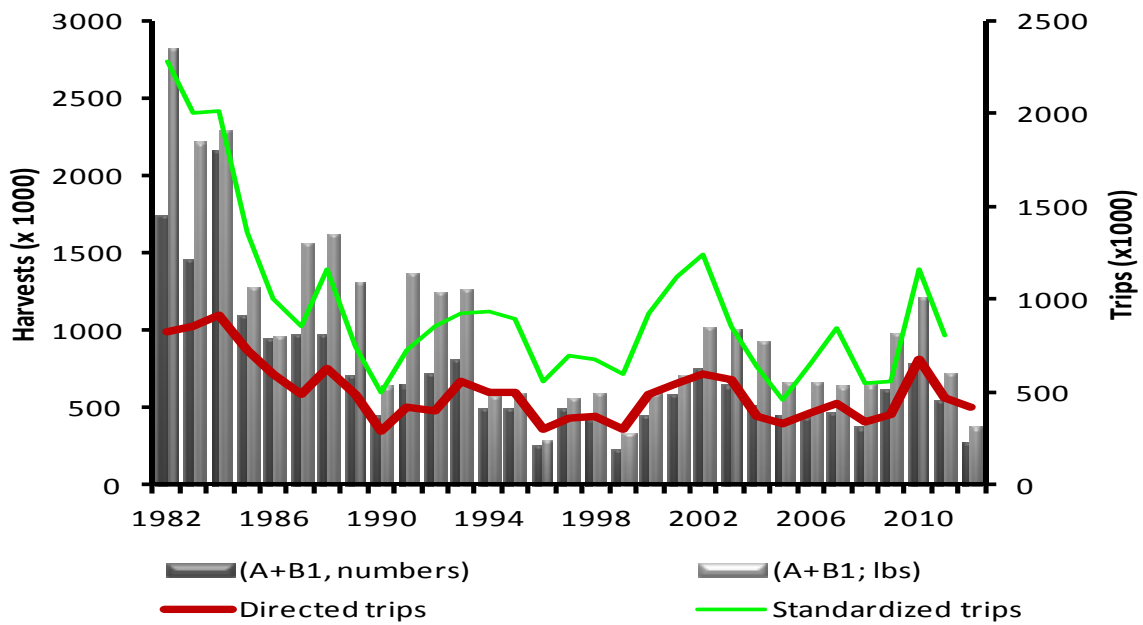


Figure 7 - Recreational harvests in weight and number and numbers of standardized and directed angler trips made for bluefish caught on Florida's Atlantic coast, 1982-2012. The 2012 harvest estimates were preliminary. Intercept data for 2011 were not available to estimate the 2011 standardized total catch rate and numbers of standardized trips.

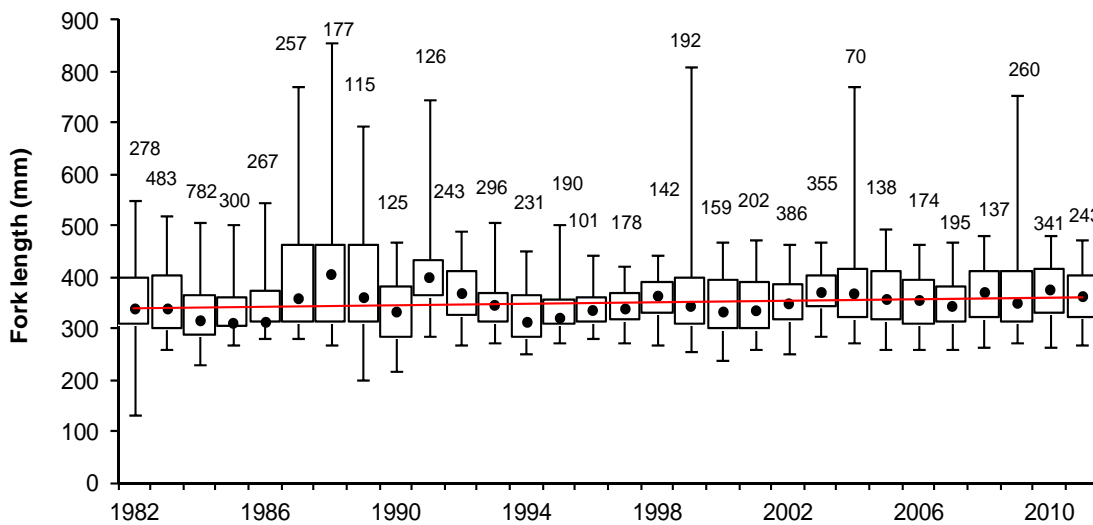


Figure 8 - Size distributions of bluefish measured in the recreational fishery on Florida's Atlantic coast, 1982-2011. The dark circle represents the median, the box represents the 25th-75th percentiles and the vertical whiskers extend from 2.5th-97.5th percentiles. Numbers of fish measured are shown above the upper whiskers. The red line indicates the long-term trend of median fork length.

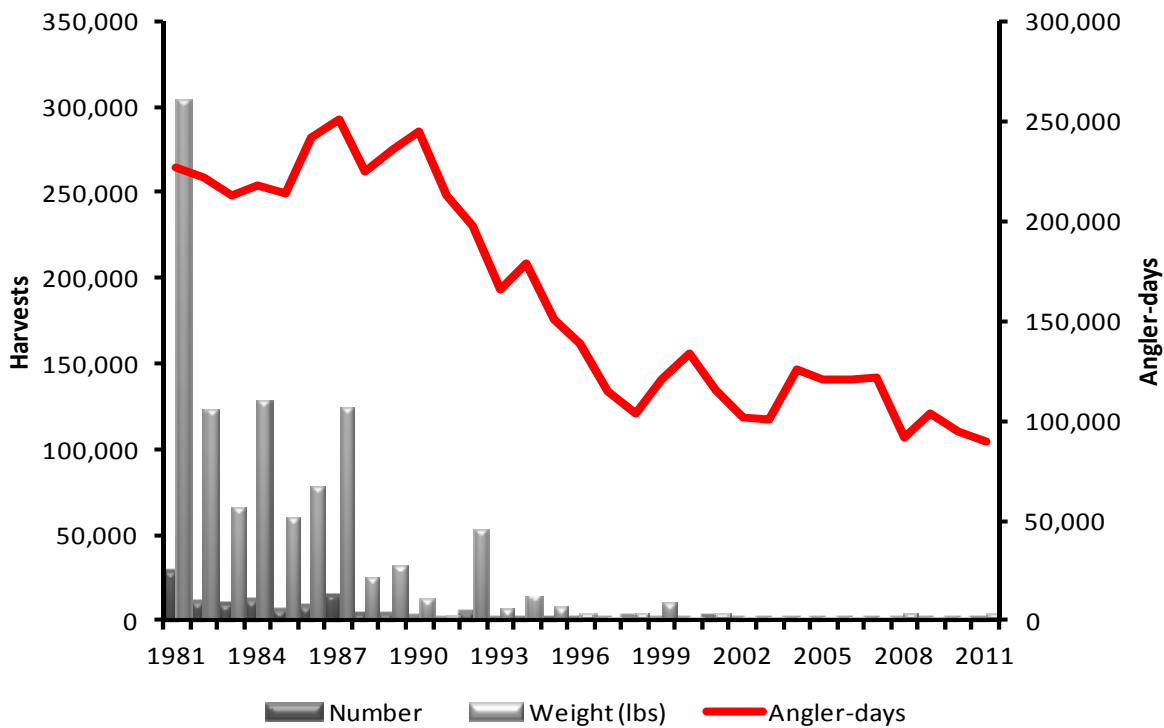


Figure 9 - Head boat harvests (Numbers and Pounds) of bluefish and the total number of head boat angler-days fished on Florida's Atlantic coast, 1981-2011

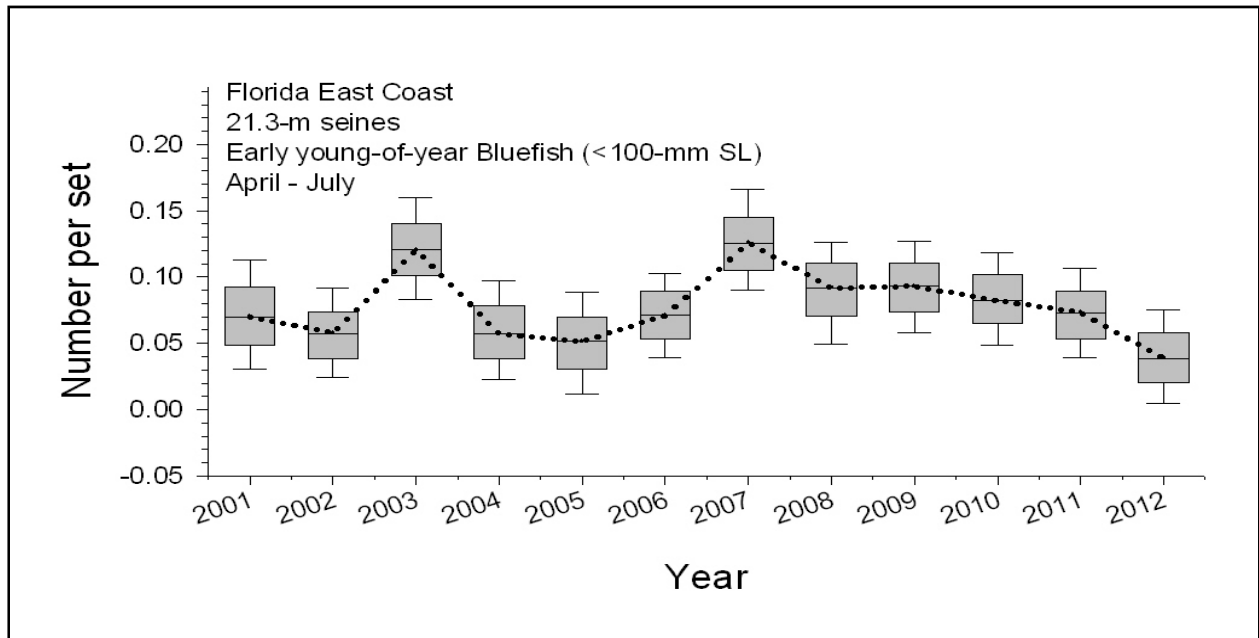


Figure 10 - Index of relative abundance for early young-of-the year bluefish (< 100-mm SL) collected using 21.3-m seines during monthly stratified-random sampling surveys on the northeast coast of Florida, 2001-2012. The box represents the 25th and 75th percentiles, the vertical line represents the 10th to 90th percentiles, and the horizontal line represents the median estimate.

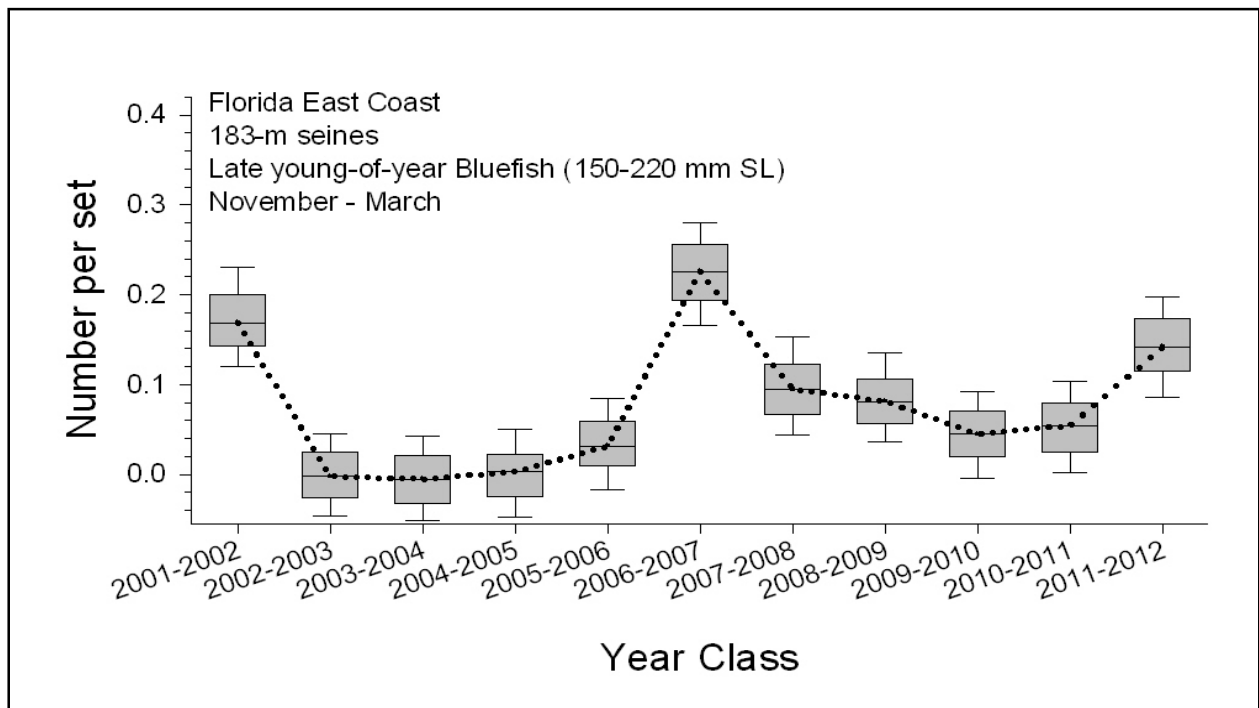


Figure 11 - Index of relative abundance for late young-of-the year bluefish (150-220-mm SL) collected using 183-m seines during monthly stratified-random sampling surveys on the northeast coast of Florida, 2001-2012. The box represents the 25th and 75th percentiles, the vertical line represents the 10th to 90th percentiles, and the horizontal line represents the median estimate

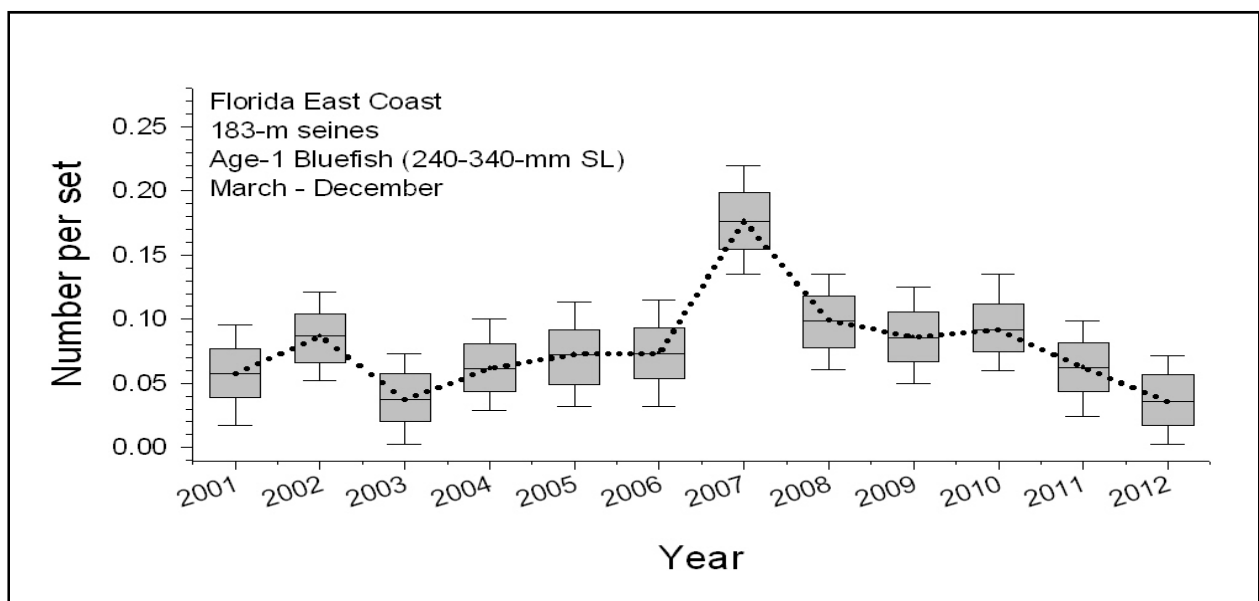
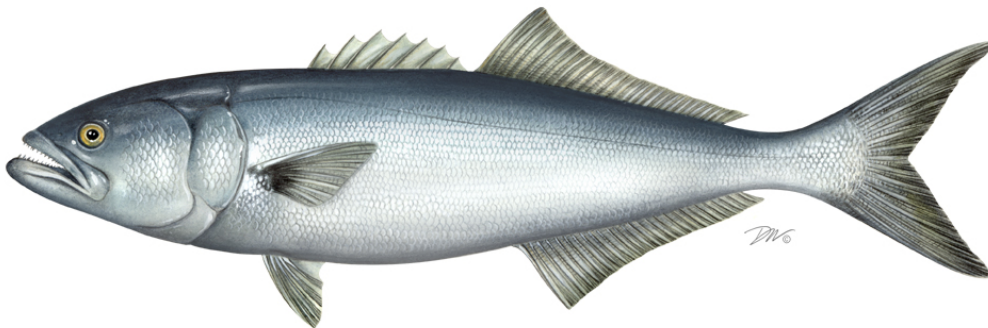


Figure 12 - Index of relative abundance for age-1 bluefish (240-340-mm SL) collected using 183-m seines during monthly stratified-random sampling surveys on the northeast coast of Florida, 2001-2012. The box represents the 25th and 75th percentiles, the vertical line represents the 10th to 90th percentiles, and the horizontal line represents the median estimate.

2013 REVIEW OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
FISHERY MANAGEMENT PLAN FOR THE 2012 BLUEFISH FISHERY

BLUEFISH
(Pomatomus saltatrix)



Prepared by:

Kirby Rootes-Murdy (ASMFC)

Bluefish Plan Review Team

Kirby Rootes-Murdy, Chair
Wilson Laney

2013 REVIEW OF THE ASMFC FISHERY MANAGEMENT PLAN FOR BLUEFISH (*Pomatomus saltatrix*)

I. Status of the Fishery Management Plan

<u>Date of FMP Approval:</u>	March 1990
<u>Amendments:</u>	Amendment 1 (October 1998)
<u>Management Unit:</u>	Migratory stocks of bluefish in the U.S. waters of the western Atlantic Ocean and state waters (Maine through Florida)
<u>States with Declared Interest:</u>	Maine through Florida, excluding Pennsylvania and the District of Columbia
<u>Active Committees:</u>	ASMFC Bluefish Management Board, MAFMC Coastal Migratory Species Committee, Technical Committee, Plan Review Team, and Stock Assessment Subcommittee

The bluefish fishery management plan (FMP) was adopted by the Atlantic States Marine Fisheries Commission (ASMFC) and the Mid-Atlantic Fishery Management Council (MAFMC) in October 1989. It is a joint management plan and is the first FMP developed jointly by an interstate commission and a federal fishery management council.

Bluefish is currently managed under Amendment 1 to the FMP approved in October 1998 and implemented in 2001. The goal of the Amendment is to conserve the bluefish resource along the Atlantic coast, specifically:

1. Increase understanding of the stock and fishery
2. Provide highest availability of bluefish to U.S. fishermen while maintaining, within limits, traditional uses of bluefish
3. Provide for cooperation among the coastal states, the various regional marine fishery management councils, and federal agencies involved along the coast to enhance the management of bluefish throughout its range
4. Prevent recruitment overfishing
5. Reduce the waste in both the commercial and recreational fisheries.

States with a declared interest in the bluefish FMP include all member states, with the exception of Pennsylvania and the District of Columbia. Management issues are addressed through the ASMFC Bluefish Management Board and the MAFMC Coastal Migratory Species Committee. The ASMFC Bluefish Technical Committee provides technical advice. A joint ASMFC-MAFMC Technical Monitoring Committee conducts annual plan monitoring, which is reviewed by a joint Advisory Panel, and recommendations are provided to the Board. The ASMFC Stock Assessment Subcommittee addresses stock assessment matters.

In February 2012, the ASMFC Bluefish Management Board approved Addendum I to Amendment 1 to the Bluefish FMP. The Addendum establishes a coastwide sampling program to improve the quantity and quality of information available for use in future bluefish stock assessments. A

summary of these findings from the most recent year are found in Section V. (Status of Research and Monitoring).

II. Status of the Stock

The most recent ASMFC bluefish stock assessment was completed in 2005. The assessment passed peer review and was approved by the ASMFC Bluefish Management Board and the MAFMC Coastal Migratory Species Committee. The assessment developed biological reference points for both bluefish biomass and fishing mortality ($\frac{1}{2}B_{MSY} = 73,526$ mt; $F_{MSY} = 0.19$). The ASAP model used to calculate population abundance in this assessment has been updated annually since 2005. The output from this model is used to set the annual Total Allowable Catch (TAC).

The most recent stock status information indicates that bluefish are not overfished and overfishing is not occurring. The biomass estimates in 2008 exceeded the B_{MSY} and therefore bluefish were considered rebuilt two years ahead of the 2010 rebuilding deadline. The 2013 stock assessment update suggests that total biomass in 2012 was 85% of its target. For 2012, fishing mortality rates estimated in ASAP using state and federal indices show a low fishing mortality and a stable trend in population biomass ($B_{2012} = 125.8$ MT; $F_{2012} = 0.097$). Abundance estimates peaked in 1982 at 166 million fish, but declined to 58 million in the mid-1990s. Since 1997 abundance has generally increased to a high of 99.88 million fish in 2008, although since then, abundance estimates declined to 64.2 million fish in 2012.

III. Status of the Fishery

Recreational catch of bluefish has averaged 10.3 million pounds since 1981. In 2012, recreational anglers along the Atlantic Coast caught 5.5 million bluefish, a 9% increase from 2011. Recreational harvest has been increasing since a low of 3.7 million fish in 1999. Since then, recreational harvest averaged over 7.8 million fish annually. In 2012, 8.6 million bluefish were harvested in the recreational fishery. The majority of recreational activity occurred from May to October, with the peak activity in September and October.

Landings from the commercial bluefish fishery have been consistently lower than the recreational catch. Commercial landings decreased from 16.5 million pounds in 1981 to 7.3 million pounds in 1999. Commercial landings have been regulated by quota since implementation of Amendment 1 in 2000 and since then have averaged 6.9 million pounds annually. The landings estimates for 2012 is 4.5 million pounds, which is a 17% decrease from 2011. The majority of the harvest (~76%) came from New York, New Jersey and North Carolina.

V. Status of Research and Monitoring

Many states, NMFS, and SEAMAP conduct fishery-independent surveys. New Hampshire, Massachusetts, Connecticut, New York, New Jersey, Delaware, Maryland, and Florida monitor juvenile abundance. Rhode Island, Connecticut, New Jersey, Delaware, North Carolina, South Carolina, Georgia, and Florida monitor adult abundance. Year class strength is monitored through the NMFS autumn trawl survey.

Commercial landings information is collected by most states from dealer or fisherman reporting programs. Fishermen in the EEZ are required to report their landings to the NMFS. North Carolina and Virginia are the only states that significantly sample bluefish commercial fisheries for size and age composition of the catch. Recreational harvest is monitored by the Marine Recreational Information Program (MRIP).

Addendum I to Amendment 1 (2012), implemented a biological monitoring program to enhance age and length data used in bluefish stock assessments. As part of Addendum I, states that account for more than 5% of total coastwide bluefish harvest (recreational and commercial combined) for the 1998 – 2008 period are required to collect a minimum of 100 bluefish ages (50 from January through June, 50 from July through December) For the 2012 fishing year, the following states were required to collect age data: Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Virginia, and North Carolina. All but one state (Rhode Island) were able to collect the minimum of 100 age samples. In reviewing the results of the inaugural biological sampling program, the Bluefish Technical Committee determined that the geographic range, distribution of sampling times, and program design are effectively capturing age data that will be used in the 2014 benchmark assessment.

VI. Status of Management Measures and Issues

The ASMFC and MAFMC adjust the quota and harvest limit annually using the specification setting process detailed in Amendment 1. The recreational fishery is allocated 83% of the entire quota. Coastwide, the commercial fishery is limited to 17% of the total allowable landings each year. The commercial quota can be increased (but not to exceed 10.5 million pounds) if it is anticipated that the recreational fishery will not land their entire allocation for the upcoming year. The coastwide commercial quota is divided into individual state-by-state quotas based on landings from 1981-1989.

The Technical Monitoring Committee is responsible for reviewing the best available data and recommending an annual commercial quota and recreational possession limit. Based on the 2011 stock assessment update the Commission and the Council approved the Monitoring Committee recommendation of a total allowable landings (TAL) of 28.266 million pounds for 2012. Additionally, the Commission and the Council recommended a transfer of 5.052 million lbs from the recreational sector to the commercial sector to achieve a commercial quota of 10,317,362 pounds and a recreational harvest limit of 17,457,538 pounds.

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

These states or jurisdictions are required to comply with the provisions of the Bluefish FMP: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Potomac River Fisheries Commission, Virginia, North Carolina, South Carolina, Georgia, and Florida. The following are specific FMP compliance requirements:

- Each state must restrict the possession of bluefish by anglers to not more than fifteen fish per day, or have an ASMFC-approved equivalent conservation program.

- Each state must restrict its commercial fishery to the quota adopted under procedures specified in the FMP.

The final compliance criteria include:

- Monitoring requirements for the commercial fishery
- Commercial and party/charter vessel permitting requirements
- Dealer permitting requirements
- Annual compliance reporting

The Chair of the Plan Review Team has reviewed the compliance reports of all states and recommends that each state be found in compliance with respect to implementing the recreational bag limit and limiting their commercial fishery to their state quota.

South Carolina and Georgia have requested *de minimis* status for 2013. The Chair of the Plan Review Team finds that the State of South Carolina and the State of Georgia qualify for *de minimis* status because their commercial landings from the most recent year were less than 0.1% of the coastwide commercial landings.

VIII. Prioritized Research Needs

1. Collect size, otoliths and age composition of the fisheries by gear type and statistical area. Focus age sampling on as wide a range of sizes as possible.**
2. Target commercial and recreational landings for biological data collection when possible
3. Initiate fisheries-dependent and independent sampling of offshore populations of bluefish during the winter months
4. Age any archived age data for bluefish and use the data to supplement age keys**
5. Test the sensitivity of the bluefish assessment to assumptions concerning age-varying M, level of age-0 discard, and selection patterns
6. Evaluate amount and length frequency of discards from the commercial and recreational fisheries
7. Continue work on catch and release mortality
8. Increase intensity of biological sampling of the NER commercial and coastwide recreational fisheries
9. Conduct research to determine the timing of sexual maturity and fecundity of bluefish
10. Study tag mortality and retention rates for ALS dorsal loop and other tags used for bluefish
11. Initiate research on species interactions and predator-prey relationships
12. Initiate a coastal surf-zone seine study to provide more complete indices of juvenile abundance
13. Investigate the long term, synergistic effects of combinations of environmental variables on various biological and sociological parameters such as reproductive capability, genetic changes, and suitability for human consumption
14. Conduct studies on the interactive effects of pH, contaminants, and other environmental variables on survival of bluefish.

**Initiated through 2012 Biological Sampling Program, but data collection remains a high research priority

Table 1. Estimated number of bluefish caught (A + B1 + B2, by count) and the estimated number of bluefish harvested (A + B1, by count) by marine recreational fishermen each year, 1981 to 2012. Source: MRIP

Year	Catch (‘000)	Harvest (‘000)
1981	23,888,204	7,372,811
1982	23,723,669	3,496,819
1983	24,883,543	5,253,847
1984	20,797,922	5,710,329
1985	19,245,722	3,228,141
1986	24,440,850	5,969,660
1987	21,076,292	6,527,080
1988	9,905,011	3,459,975
1989	13,599,939	5,037,318
1990	11,365,358	5,080,821
1991	11,942,608	6,349,215
1992	7,157,754	4,242,306
1993	5,725,355	4,199,899
1994	5,767,953	6,152,274
1995	5,167,979	5,325,903
1996	4,205,103	5,315,805
1997	5,413,036	7,160,512
1998	4,202,111	5,002,156
1999	3,681,841	7,805,845
2000	4,897,008	11,363,378
2001	6,663,237	13,748,769
2002	5,300,189	9,917,006
2003	6,045,062	9,004,241
2004	7,250,407	12,093,902
2005	7,949,179	12,403,901
2006	7,035,179	12,536,445
2007	8,373,899	15,006,420
2008	6,664,150	13,290,567
2009	5,194,242	8,450,232
2010	6,090,830	10,051,309
2011	5,061,391	9,630,257
2012	5,523,282	8,587,312
total	328,238,305	248,774,455
average	10,257,447	7,774,202

Table 2. Bluefish Commercial Landings and Recreational Catch (thousands of pounds), 1981-2012.

Year	Commercial	Recreational	Total	% Commercial
1981	16,457	95,288	111,742	15
1982	15,426	83,006	98,436	16
1983	15,798	89,122	104,921	15
1984	11,861	67,453	79,316	15
1985	13,497	52,515	66,016	20
1986	14,663	92,887	107,564	14
1987	14,502	76,653	91,157	16
1988	15,787	48,222	64,012	25
1989	10,450	39,260	49,601	21
1990	13,779	30,557	44,336	31
1991	13,580	32,997	46,578	29
1992	11,475	24,275	35,753	32
1993	10,600	20,292	30,414	33
1994	9,489	15,541	25,036	38
1995	7,998	14,307	22,310	36
1996	9,068	11,746	21,041	44
1997	8,960	14,302	23,366	39
1998	8,246	12,334	20,588	40
1999	7,351	8,253	15,346	46
2000	8,066	10,606	18,588	43
2001	8,698	13,230	21,916	40
2002	6,876	11,372	18,221	38
2003	7,406	13,136	21,200	34
2004	7,200	17,222	26,188	28
2005	5,919	19,852	22,080	27
2006	7,210	16,446	23,656	30
2007	7,507	21,690	29,197	26
2008	5,976	19,672	25,648	23
2009	6,990	14,513	22,081	32
2010	7,069	16,194	23,263	30
2011	5,467	11,499	16,901	32
2012	4,533	11,843	16,649	29
Total	317,904	1,026,285	1,342,913	
Average	9,935	32,071	41,966	

Source: NMFS General Canvass and MRIP data.

Table 3. 2012 State Commercial bluefish quotas (Federal and ASMFC) based on a coastwide quota of 10.5 million pounds and 1981-1989 NMFS General Canvass Data.

State	% of Federal Quota	2012 Federal Quota (lbs)*	2012 Transfers	Final Quota	2011 Landings**	2012 Landings**	% Quota Used	% Change from '11	% Coastwide Total
ME^^	0.6685	68,972		68,972	C	C	C	C	C
NH^^	0.4145	42,765	100,000	142,765	C	C	C	C	C
MA	6.7167	692,986		692,986	579,504	686,121	99.0%	18.40	9.65
RI	6.8081	702,416		702,416	409,000	628,298	89.4%	53.62	8.84
CT	1.2663	130,649		130,649	46,263	50,808	38.9%	9.82	0.71
NY	10.3851	1,071,466	50,000	1,121,466	1,171,701	1,102,316	98.3%	-5.92	15.51
NJ	14.8162	1,528,639		1,528,639	705,324	689,471	45.1%	-2.25	9.70
DE	1.8782	193,781		193,781	11,559	16,150	8.3%	39.72	0.23
MD	3.0018	309,707		309,707	94,551	87,587	28.3%	-7.37	1.23
PRFC					36,205	54,085			0.76
VA	11.8795	1,225,649		1,225,649	266,759	235,287	19.2%	-11.80	3.31
NC	32.0608	3,307,827	-100,000	3,207,827	1,897,408	758,839	23.7%	-60.01	10.68
SC	0.0352	3,632		3,632	389	92	2.5%	-76.35	0.00
GA^^	0.0095	5402		980	C	C	C	C	C
FL	10.0597	1,037,894	-50,000	987,894	244,232	178,173	18.0%	-27.05	2.51
TOTAL^^^	100			10,317,363	5,467,279	4,533,860	44%	-17.07	64

**Landings as reported in state compliance reports.

^^landings values are confidential data.

'C' denotes confidential data

^^^Totals in table may not match listed quotas due to rounding.

Table 4. Status of Bluefish Fishery Management Plan Implementation by States in 2012.

State	Recreational Bag Limit	Recreational Season	Recreational Size Limit	Commercial Trip Limit	Commercial Open Season
ME	3 fish	All year	None		
NH	10 fish	All year	None		JUL 1 – SEP 30
MA	10 fish	All year	None	5,000 lbs/day	
RI	15 fish	All year	None		
CT	10 fish	All year	None	750 lbs/day until 30% of CT is met, then 100lbs/day	
NY	15 fish	All year	No more than 10 under 12” TL	Varies based on available quota	
NJ	15 fish	All year	None		Gear-specific
DE	10 fish	All year	None		
MD	10 fish	All year	8” minimum		
PRFC	10 fish	All year	None	Daily limits when 80% of VA and MD quotas are met	
VA	10 fish	All year	None		
NC	15 fish	All year	Only 5 greater than 24” TL		
SC	15 fish	All year	None		
GA	15 fish	MAR 16 – NOV 30	12” minimum FL	15 fish	MAR 16 – NOV 30
FL	10 fish	All year	12” minimum FL	7,500 lbs/day	

Figure 1. Estimate number of bluefish caught and the estimated number of bluefish landed by marine recreational fishermen each year, 1981-2012.

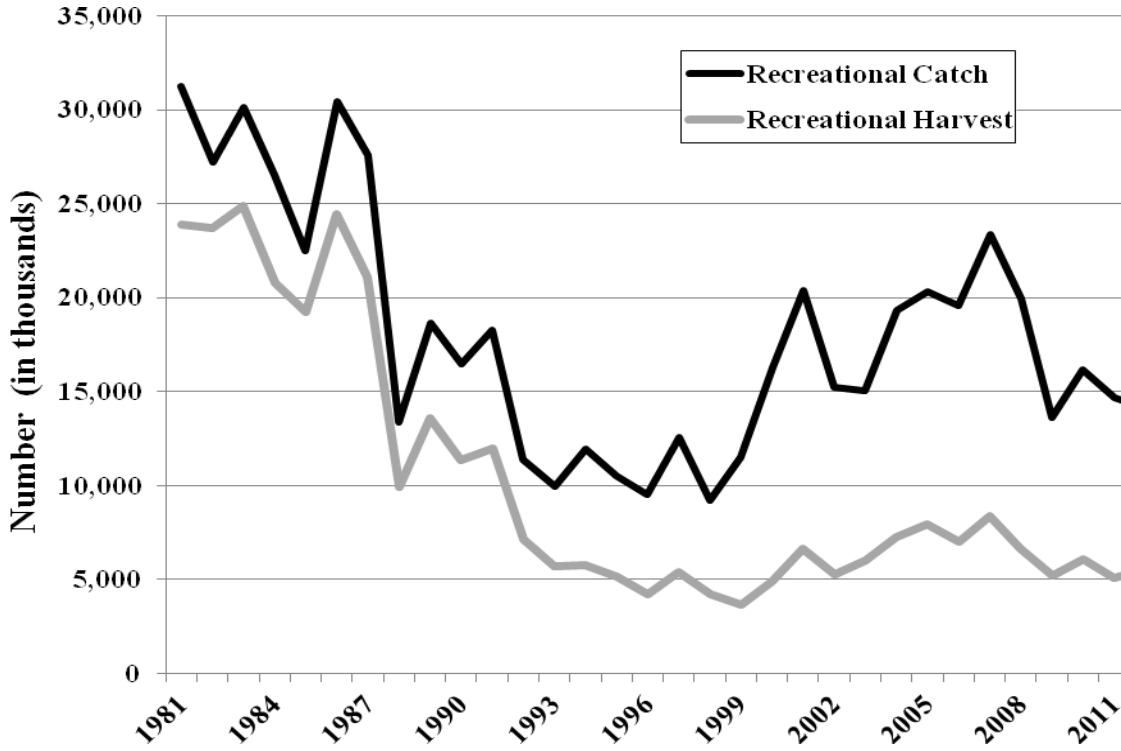


Figure 2. Bluefish commercial landings and recreational harvest (thousands of pounds), 1981-2012.

