ATLANTIC STATES MARINE FISHERIES COMMISSION

REVIEW OF THE INTERSTATE FISHERY MANAGEMENT PLAN

FOR WEAKFISH
(Cynoscion regalis)

2014 FISHING YEAR

Prepared by the Plan Review Team

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I. Status of the Fishery Management Plan

The Atlantic States Marine Fisheries Commission (Commission) adopted its first Fishery Management Plan (FMP) for Weakfish in 1985. Amendment 1 to the FMP (1992) unsuccessfully aimed to improve the status of Weakfish. Amendment 2 (1995) resulted in some improvement to the stock, but several signs indicated that further improvement was necessary. Thus, Amendment 3 (1996) was implemented to increase the sustainability of the fishery. Addendum I to Amendment 3 was approved in 2000 in order to extend the management program until the next amendment was implemented.

Amendment 4, approved in 2002, strives to establish two goals. One is the utilization of interstate management so that Atlantic coastal weakfish recover to healthy levels that will maintain commercial and recreational harvest consistent with a self-sustaining spawning stock. The second goal is to provide for restoration and maintenance of essential habitat (ASMFC 2002). The management objectives are to:

1) establish and maintain an overfishing definition which includes target and threshold fishing mortality rates and a threshold spawning stock biomass in order to prevent overfishing and to maintain a sustainable weakfish population;
2) restore the weakfish age and size structure to that necessary for the restoration of the fishery;
3) return weakfish to their previous geographic range;
4) achieve compatible and equitable management measures among jurisdictions throughout the fishery management unit, including states' waters and the federal EEZ;
5) promote cooperative interstate research, monitoring, and law enforcement necessary to support management of weakfish;
6) promote identification and conservation of habitat essential for the long term stability in the weakfish population; and
7) establish standards and procedures for both the implementation of Amendment 4 and for determination of states' compliance with provisions of the management plan.

Amendment 4 established target and threshold fishing mortality rates and a threshold spawning stock biomass level to determine overfishing and overfished stock status. The amendment requires states to implement recreational and commercial management measures to achieve annual fishing mortality targets. Some management measures are specified (e.g., minimum size limit, minimum mesh size, bycatch limit), while the Amendment provides the states flexibility in implementing other regulations (e.g., trip limits, area or season closures). States may request implementation of alternative management plans with conservationally equivalent measures. States deemed to have insignificant landings were exempt from the recreational and commercial requirements, with the exception of the bycatch reduction device requirements.

The Commission adopted Addendum I to Amendment 4 (2005) to replace the biological sampling program in Section 3.0 of Amendment 4. In response to a significant decline in stock abundance and increasing total mortality since 1999, the Commission approved Addendum II to Amendment 4 (2007) to reduce the recreational creel limit and commercial bycatch limit, and set landings levels that when met will trigger a re-evaluation of management measures. Addendum III to Amendment 4 (2007) altered the bycatch reduction device certification requirements in Section 4.2.8 of Amendment 4 for consistency with the South Atlantic Fishery Management Council's Shrimp FMP. The Commission approved Addendum IV to Amendment 4 in 2009 to respond to the results

of the 2009 benchmark stock assessment (additional information is provided in Section VI. Status of Management Measures and Issues).

Weakfish are managed under this plan as a single stock throughout their coastal range. All Atlantic coast states from Massachusetts through Florida and the Potomac River Fisheries Commission have a declared interest in weakfish, as do FWS and NMFS; Maine, New Hampshire, Pennsylvania, and the District of Columbia do not. See Table 1 for a summary of state-by-state regulations in 2014.

II. Status of the Stock

According to the last stock assessment, completed in 2009, the weakfish stock is depleted and overfishing is not occurring (NEFSC 2009a, NEFSC 2009b). While overfishing has not occurred in recent years, harvest was reduced by an estimated 60% in Addendum IV to reduce additional mortality from fishing and poise the stock for a quicker recovery should natural mortality decline.

Between 1982 and 1990, age 1+ weakfish biomass[1] declined drastically from 113.1 million pounds to 17.6 million pounds (Figure 1). Overfishing was the main cause of this decline, with fishing mortality (F) accounting for about 60-90% of total mortality (fishing plus natural mortality) during the period. Fishing mortality[2] peaked at 1.01 in 1989 but, with the implementation of management measures in the early to mid-1990s, F declined to 0.24 in 1995 and biomass responded favorably by increasing to a peak of 62.1 million pounds in 1996 (Figure 1). While F remained relatively stable (between 0.26 and 0.58) after that time, the stock began another drastic decline in 2001 to the time-series low of 10.8 million pounds in 2008. However, the contribution of fishing mortality to total mortality was substantially reduced during this period; from 2004-2007 only 10-20% of total mortality is attributed to fishing mortality.

Conversely, natural mortality has risen substantially since 1995 (Figure 1), and factors such as predation, competition, and changes in the environment are thus believed to be having a stronger influence on recent weakfish stock dynamics than fishing mortality. Bycatch and under-reported catches would have to be much greater than those estimated, growing from about 3-4 times the estimates in 1996 to 15-20 times in the most recent years, to account for the biomass decline. Thus far, there is no evidence available of an Atlantic coast fishery capable of generating additional unreported weakfish discards of this magnitude.

The 2009 stock assessment determined that the stock's spawning potential is at only 4% of an unfished stock, well below the 20% spawning potential threshold and 30% spawning potential target adopted in Addendum IV. Trends in F indicate a stable and modest fishing mortality. Thus, while the stock biomass is depleted, overfishing is not occurring. The results of the 2016 benchmark stock assessment will be peer reviewed in the beginning of the year and will be presented to the Board at the following meeting.

III. Status of the Fishery

At 273,660 pounds, the total coastwide landings of weakfish in 2014 show a noticeable decrease from total landings in 2013 and 2012, which were 519,031 pounds and 529,318 pounds,

[1] Biomass estimates are for January 1 stock size. All mortality rates are also based on January 1 stock size.
[2] F estimates are based on age 1+ biomass and are therefore affected by partial recruitment and can not be comparable to the F target and threshold in Amendment 4 which are for fully recruited ages only.

respectively. Total landings are below the most recent ten-year (2005-2014) average of 997,518 pounds. The commercial fishery (196,489 lbs) accounted for 72% of the total 2014 landings, and the recreational fishery (77,171 lbs) for 28% (Table 2).

Commercial Fishery

Commercial data are cooperatively collected and compiled by the National Marine Fisheries Service (NMFS) and state fishery agencies from state mandated trip-tickets, landing weigh-out reports from seafood dealers, federal logbooks, shipboard and portside interviews, and biological sampling of catches. Landings from the NMFS Fisheries Statistics Division are used within this report unless a state reports alternative values in its compliance report to the Commission, in which case those values are used preferentially (see notes for Table 3).

Between 1982 and 2014, coastwide commercial weakfish landings have ranged from the high of 21.1 million pounds in 1986 to the low of 133,085 pounds in 2011 (Table 3). Since 1988, the overall trend is declining except between 1990-1998 when landings hovered between 6.1 and 9.1 million pounds (Figure 2). Landings in 2014 were 196,489 pounds.

North Carolina (53%) and New York (17%) landed the largest shares of the 2014 coastwide commercial weakfish landings (Figure 3). All states' commercial landings in 2014 were below those reported in 2013 (Table 3).

The dominant commercial gears were gill nets (about 55% of the total commercial landings, respectively). There has been a shift in the dominant source of landings from trawls in the 1950s-1980s to gill nets in the 1990s-present. The majority of commercial landings tend to occur in the fall and winter months, presumably as the fish congregate to migrate to over-wintering grounds in the South Atlantic (Hogarth et al. 1995).

Recreational Fishery

Recreational catch statistics are collected by the NMFS. Effort data are collected through telephone interviews. Catch expansions are based on angler interviews and biological sampling conducted by trained interviewers stationed at fishing access sites. All recreational data in this report are from the NMFS Fisheries Statistics Division queried from the Marine Recreational Information Program (MRIP; 2014), except as noted in Section VI of this report for Florida's estimates.

Since 1982, coastwide recreational landings have ranged from the high of 11.4 million pounds in 1983 to the low of 27,081 pounds in 2011 (Table 4). Landings averaged 7.8 million pounds from 1982-1988, before falling to between one and four million pounds from 1990-2002. In 2003, recreational landings dropped below one million pounds (Figure 2). Landings have averaged 140 thousand pounds from 2009-2013 (Table 5), and are estimated at 77,171 pounds (62,260 fish) in 2014. The number of fish released alive by anglers remained above 1 million fish from 1992 to 2008, peaked at over 5 million in 1996, and decreased to 351,993 fish in 2013 (Table 6, Figure 4). In 2014, the number of fished released alive is estimated at 553,766. In 2010, all states implemented a one fish bag limit, which impacted landings and discards from that point on.

New Jersey anglers consistently harvested the most weakfish by pounds along the coast until 2009. In the 1980s and 1990s, anglers in Delaware, Maryland, and Virginia often took the next largest shares of the recreational total amount. In the 2000s, New Jersey anglers led in the harvest, whereas anglers in Virginia and North Carolina tended to take the second and third largest amounts (Tables

4 and 5). However, from 2009-2011, North Carolina anglers landed the largest share while South Carolina and Virginia had the next largest shares of the recreational harvest. Between 2012 and 2013, New Jersey again recreationally harvest the most weakfish, in pounds; however, in 2014 North Carolina was the largest harvester with almost 26,000 pounds (33.6%). New Jersey accounted for 22.4% of the catch.

The size class of the fish sampled to provide the MRIP weight estimates was considerably different between New York and New Jersey compared to North Carolina, and all states from Virginia south, where the annual mean weight of fish sampled were 1 pound or less. In 2012 the mean weight for fish sampled in New Jersey and New York were 1.4 and 3 pounds respectively. In 2013 although the mean weights sampled for states from Virginia south remained at 1 pound or lower for New Jersey the annual mean weights was 2.6 pounds and for New York it was 4.1 pounds. In 2014, the mean weight sampled in New Jersey was 2.7 pounds.

The recreational fishery catches weakfish using live or cut bait, jigging, trolling, and chumming. The majority of recreationally harvested weakfish are caught in state waters (99.2% in 2013 by pounds). In 2014, nearly all recreationally harvested fish were caught from private or rental boats (69%) or from shore (14%).

IV. Status of Assessment Advice

The 2009 assessment was completed by the Weakfish Stock Assessment Subcommittee (NEFSC 2009a, NEFSC 2009b) and peer reviewed by the 48th Stock Assessment Review Committee (Sullivan et al. 2009) at the 48th Northeast Regional Stock Assessment Workshop (SAW). The assessment includes fishery data and survey indices through 2007. A benchmark stock assessment is currently underway and is expected to be completed in 2016.

V. Status of Research and Monitoring

Fishery-Independent Data

Young-of-year indices of relative abundance are provided by Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, and Florida. Connecticut, New Jersey, Delaware, North Carolina, Georgia, and Florida provide age- 0+ or 1+ indices of relative abundance. The Northeast Fisheries Science Center Groundfish Trawl Survey also produces an age-structured index for the Mid-Atlantic coast, while the Southeast Area Monitoring and Assessment Program (SEAMAP) survey produces another index for the South Atlantic Coast. The Northeast Area Monitoring and Assessment Program (NEAMAP) began spring and fall surveys between Martha's Vineyard and Cape Hatteras in the fall of 2007, and will provide an index in the future. The Chesapeake Bay Multispecies Monitoring and Assessment Program (ChesMMAP), which began in 2002, collects data on relative abundance, length, weight, age, sex, and trophic interactions in the Bay. See Table 9 for the indices provided in the 2014 compliance reports.

Fishery-Dependent Data

The coastal states and the NMFS collect data on commercial and recreational landings. Addendum I to Amendment 4 requires the collection of otoliths and lengths to characterize the catch; the number of samples required is based on the magnitude of each state's fisheries. Each spring, the states are required to submit biological sampling plans, and each fall, through the compliance

reports, the states are required to provide the actual sampling levels completed. See Section VII for more information.

VI. Status of Management Measures and Issues

Fishery Management Plan
Addendum IV to Amendment 4 was approved in November 2009, and was implemented in May 2010. In response to the 2009 stock assessment results, the addendum implements more appropriate biological reference points in response to recent stock dynamics and reduces harvest while attempting to minimize unnecessary bycatch waste. Addendum IV requires all states in the management unit (including those that are *de minimis*) to implement a recreational creel limit no greater than 1 fish, commercial trip and bycatch limits no greater than 100 pounds, and a finfish trawl fishery allowance for up to 100 undersized fish. The addendum adopted percentage based biological reference points with an overfished/depleted threshold of 20% SSB and a target of 30% SSB. The biological sampling requirements under Addendum I are unchanged, and all regulations previously enacted to protect weakfish and reduce bycatch are to remain effective.

No additional amendments or addenda are under development.

Florida Management Area and Landings Data
In November 2009, the Management Board approved a proposal from Florida to reduce the state's weakfish management area to a small area in northeast Florida where pure weakfish are known to occur based on genetics data. The revision is intended to address the misidentification of weakfish, sand seatrout, silver seatrout, and their hybrids, and the consequential law enforcement issue. Inside the newly established weakfish management area (St. Mary's River only), any fish that resembles weakfish will be considered weakfish for enforcement purposes, both for commercial and recreational limits. Outside the weakfish management area, all fish that resemble weakfish will be considered sand seatrout.

As a result of the approved proposal, the commercial and recreational landings data provided in Florida's 2014 compliance report represent the best estimate of pure weakfish landings in the state. Commercial landings data from Florida's trip ticket program and recreational landings from the NMFS's Marine Recreational Fisheries Statistics Survey include only weakfish landed in Nassau and Duval counties, as revised on the basis of the genome proportions within the *Cynoscion*-complex found in the counties (48% weakfish in Nassau County and 17% in Duval County). The landings, tables, and figures in this report use the landings as reported by Florida.

De Minimis Status
Amendment 4 permits states to request *de minimis* status if, for the last two years, their combined average commercial and recreational landings (by weight) constitute less than 1% of the coastwide commercial and recreational landings for the same two year period. The *de minimis* threshold for 2014, calculated with 2013 and 2014 harvest data, is 3,963 pounds.

Four states requested *de minimis* status in their 2014 compliance reports: Florida, Georgia, Connecticut, and Massachusetts. Three of these states qualify for *de minimis* status (Florida 0.42%, Georgia 0.58%, and Massachusetts 0.54%). Connecticut was just above the *de minimis* qualification with 1.17% of total landings. If a *de minimis* state loses its designation, the state is

required to implement the regulatory and monitoring requirements from which it was previously exempt.

Addendum II Management Triggers
In 2010, the recreational and commercial management measures in Addendum IV replaced those in Addendum II. However, the Plan Review Team will continue to include an evaluation of the two management triggers as they provide perspective on the magnitude of fishery landings (but hitting a trigger will not require Board reconsideration of the management measures).

Addendum II established two management triggers that would require the Board to consider modifying management measures if reached. First, commercial management measures are to be re-evaluated if coastwide commercial landings exceed 80% of the mean commercial landings from 2000-2004, or 2.99 million pounds. Second, commercial and recreational management measures are to be re-evaluated if any single state's landings exceed its five-year mean by more than 25% in any single year.

The 2014 coastwide commercial landings are 196,489 pounds, thus the first trigger has not been exceeded. The second trigger was met in two states because their landings increased by more than 25% in any single year (SC, GA), however, this increase is due to extremely low landings in previous years and is not cause for concern (Table 7).

VII. Implementation of FMP Compliance Requirements for 2014

Mandatory compliance elements for 2014 were provided by Amendment 4 and its four addenda.

Regulatory Requirements
The management program includes regulatory requirements for non *de minimis* states as follows:

- Recreational management measures including minimum size limits and a maximum creel limit of one fish(see Addenda II and IV to Amendment 4)
- Commercial management measures including minimum size limits, minimum mesh size limits, landings limits, trip limits, bycatch limits, closed seasons and areas, and bycatch reduction device requirements (see Section 4.2 of Amendment 4, and Addendum IV)

The PRT finds all states to have implemented the plan's compliance requirements.

See Table 1 for a summary of state commercial and recreational regulations in 2014.

Monitoring Requirements
Addendum I implemented monitoring requirements for non *de minimis* states as follows:

- Maintenance of at least the 2005 level of recreational sampling of individual lengths through the Marine Recreational Fisheries Statistics Survey;
- Collection of six individual fish lengths for each metric ton of weakfish landed commercially;
- Collection of three individual fish ages for each metric ton of total weakfish landed, with a maximum of 1000 ages annually per state.

Table 8 provides the otolith and length collection requirements for 2014. These are based on the best available 2014 landings data provided to the Commission by the NMFS and the states. Table 8 also provides the number of otoliths and lengths collected by the states in 2014. All states met the biological sampling requirements in 2014.

VIII. Recommendations of the Plan Review Team

Management Recommendations

- That the Board consider the *de minimis* requests from Massachusetts, Georgia, and Florida.

Research Recommendations

Fishery-Dependent Priorities

High

- Increase observer coverage to identify the magnitude of discards for all commercial gear types from both directed and non-directed fisheries.[3]

Moderate

- Continue studies on temperature, size, and depth specific recreational hook and release mortality rates, particularly catches from warm, deep waters. Investigate methods to increase survival of released fish.
- Continue studies on mesh size selectivity, particularly trawl fisheries.[4]

Low

- Determine the onshore versus offshore components of the weakfish fishery.
- Collect catch and effort data including size and age composition of the catch, determine stock mortality throughout the range, and define gear characteristics. In particular, increase length frequency sampling in fisheries from Maryland and further north.
- Develop latitudinal, seasonal, and gear specific age length keys coast wide. Increase sample sizes for gear specific keys.

Modeling / Quantitative Priorities

High

- Evaluate predation of weakfish with a more advanced multispecies model (e.g., the ASMFC MSVPA or Ecopath with Ecosim) to validate estimates calculated by production models with predation-competition extensions.
- Develop a bioenergetics model that encompasses a broader range of ages than Hartman and Brandt (1995) and use it to evaluate diet and growth data.
- Analyze the spawner-recruit relationship and examine the effects of the relationship between adult stock size and environmental factors on year class strength.
- Quantify trawl bycatch. Refine estimates of discard mortality based on factors such as distance from shore and other geographical differences for all sizes including below minimum size.

Life History, Biological, and Habitat Priorities

High

[3] Some Mid-Atlantic trawl fleet observer coverage has been implemented under ACCSP funding.

[4] Gillnet selectivity has been investigated by Swihart et al (2000). Some gear selectivity information in Amendment 3 to the ASMFC Weakfish FMP. Information can also be obtained from the North Carolina Pamlico Sound Independent Gill Net Survey.

- Develop a coastwide tagging program to identify stocks and determine migration, stock mixing, and characteristics of stocks in over wintering grounds. Determine the relationship between migratory aspects and the observed trend in weight at age.[5]
- Monitor weakfish diets over a broad regional and spatial scale.

Moderate

- Identify and delineate weakfish spawning habitat locations and environmental preferences to quantify spawning habitat.
- Compile data on larval and juvenile distribution from existing databases to obtain preliminary indications of spawning and nursery habitat location and extant.
- Examine geographical and temporal differences in growth rate (length and weight at age).

Low

- Determine the impact of power plants and other water intakes on larval, post larval, and juvenile weakfish mortality in spawning and nursery areas. Calculate the resulting impact on adult stock size.[6]

Management, Law Enforcement, and Socioeconomic Priorities

Moderate

- Assemble socioeconomic data as it becomes available from ACCSP.

Low

- Define restrictions necessary for implementation of projects in spawning and over wintering areas and develop policies on limiting development projects seasonally or spatially.

[5] Tagging work to evaluate mortality, movement, stock mixing, and weakfish predator information is scheduled to begin in North Carolina in 2013. Otolith samples have been obtained by Old Dominion University, but funding has not been available for processing.

[6] Data are available for power plants in the Delaware Bay area and North Carolina. Also see Heimbuch et al. 2007. Assessing coastwide effects of power plant entrainment and impingement on fish populations: Atlantic menhaden example. *North American Journal of Fisheries Management*. 27: 569-577.

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X. Tables

Table 1. Summary of state regulations for weakfish in 2014.

State	Commercial	Recreational	Implementation Date
MA	16", open 1/1-12/31, 100 lb possession limit.	16", 1 fish	June 2010
RI	16"; open 6/1-6/30 & 8/7-11/8, 100 lb possession limit. Other times of year: 100 pound bycatch limit with at least an equal poundage of other species as weakfish. Trawl codend mesh size >=4.5" diamond or 4.0" square.	16", 1 fish	April 28, 2010
CT	16"; open 1/1-12/31, 100 lb possession limit.	16", 1 fish	April 25, 2010
NY	16" (12" dressed & 10" filleted); Hook and line open 4/1-6/24 & 8/28-11/15; 0 lb bycatch limit. All other gears open 4/1-6/24 and 8/28-11/15; 100 lb bycatch limit.	16" (12" dressed, 10" fillet), 1 fish	By May 1, 2010
NJ	Gill net: 13"; open 1/1-5/20 & 9/3-10/19 & 10/27-12/31, 100 lb possession limit; mesh ≥ 3.25" stretched except 2.75 - 3.25" allowed within 2nm for permitted fishermen doing monthly reporting. Otter trawl: 13"; open 1/1-7/31 & 10/13-12/31, 100 lb possession limit; mesh ≥ 3.75" diamond or 3.375 square. Pound net: 13"; open 1/1/-6/6 & 7/1-12/31, 100 lb possession limit. 100 lb bycatch limit & 50% rule. Hook & line: 13", 1 fish, open 1/1-12/31.	13", 1 fish	March 25, 2010
DE	Gill net: 12"; only nets with stretch mesh ≥ 3.125" allowed in water 4/1-6/30, none permitted weekends and legal holidays 5/10-9/30, 100 lb possession limit. Drift gill net: open 1/1-12/31 except 34 specified days of gear out of water in May and June. Anchor gill net: open 1/1-5/9 and 10/1-12/31, otherwise gear out of water. Hook & line: 13"; 100 lb possession limit 4 days/week during 5/1-10/31, 1 fish creel limit all other times.	13", 1 fish	April 11, 2010
MD	12". Ocean all gears: 100 lb bycatch limit & 50% rule. Chesapeake Bay hook & line: open 8/1-9/30, 50 lb possession limit, 0 lb bycatch. Chesapeake Bay all other gears: 50 lb bycatch limit & 50% rule. Gillnet: mesh ≥ 3.0" stretched. Trawl: mesh ≥ 3.375" square or 3.75" diamond.	13", 1 fish	June 28, 2010
PRFC	12"; open 7/28-12/31, 50 lb possession limit; 50 lb bycatch limit & 50% rule for certified pound nets with approved cull panels, and 0 lb bycatch for all other gears. Pound net: limited entry.	12", 1 fish	January 1, 2010
VA	Gill net: 12"; open 3/16-5/13 & 10/21-12/30, 100 lb possession limit. Pound net: no minimum size; limited entry; open 4/1-4/30 & 5/23-9/12 unless exempted by license forfeit, 100 lb possession limit. Haul seine: no minimum size; open 4/16-6/10 & 8/21-9/24, 100 lb possession limit. Out of state trawl: 12" except 100 undersized fish allowed; open 4/1-9/25, 100 lb possession limit; codend mesh ≥ 3.0". Hook & line: 12"; open 1/1-12/31, 100 lb possession limit. 100 lb bycatch limit (per vessel), 50% rule for all gears during closed seasons.	12", 1 fish	May 1, 2010

NC	12", except 10" for long haul seines & pound nets in internal waters 4/1-11/15; open 1/1-12/31, 100 lbs trip limit. Gill net: mesh ≥ 2.875" stretch. Gill nets and flynets that do not meet mesh requirements can only take weakfish as bycatch provided the weight of weakfish doesn't exceed 50% of catch up to 100lbs, 100lb limit in shrimp or crab trawl.	12", 1 fish	August 20, 2010
SC	12", 1 fish. BRDs in shrimp trawls.	12", 1 fish	July 1, 2010
GA	13", 1 fish. BRDs in shrimp trawls.	13", 1 fish	June 3, 2010
FL	12", 100 lb possession limit. BRDs in shrimp trawls.	12", 1 fish	July 27, 2010

Table 2. Comparison of commercial and recreational Atlantic coast weakfish landings from 1982 to 2014 (see Tables 3 and 4 for source information and state-specific landings).

Year	Recreational Landings (lbs)	Commercial Landings (lbs)	Total Landings (lbs)	% Comm
1982	8,285,323	19,493,321	27,778,644	70%
1983	11,391,635	17,485,501	28,877,136	61%
1984	6,655,261	19,652,279	26,307,540	75%
1985	5,467,698	16,833,896	22,301,594	75%
1986	10,043,641	21,097,068	31,140,709	68%
1987	6,705,462	16,947,925	23,653,387	72%
1988	6,244,994	20,431,283	26,676,277	77%
1989	2,069,062	14,018,067	16,087,129	87%
1990	1,293,187	9,087,481	10,380,668	88%
1991	2,051,533	8,381,774	10,433,307	80%
1992	1,349,200	7,332,282	8,681,482	84%
1993	995,410	6,689,118	7,684,528	87%
1994	1,650,411	6,120,441	7,770,852	79%
1995	1,813,279	7,060,567	8,873,846	80%
1996	2,908,627	7,216,860	10,125,487	71%
1997	3,628,760	7,237,666	10,866,426	67%
1998	4,026,244	8,400,173	12,426,417	68%
1999	3,047,216	6,863,765	9,910,981	69%
2000	4,046,525	5,345,618	9,392,143	57%
2001	2,684,146	5,007,329	7,691,475	65%
2002	2,135,034	4,770,229	6,905,263	69%
2003	843,357	1,983,239	2,826,596	70%
2004	891,399	1,540,456	2,431,855	63%
2005	1,490,205	1,250,239	2,740,444	46%
2006	848,282	1,104,031	1,952,313	57%
2007	562,613	897,531	1,460,144	61%
2008	665,943	470,630	1,136,573	41%
2009	171,675	364,553	536,228	68%
2010	71,991	199,780	271,771	74%
2011	27,436	133,085	160,521	83%
2012	265,712	273,606	539,318	51%
2013	164,240	353,665	518,386	68%
2014	77,171	196,489	273,660	72%

Table 3. Commercial landings (pounds) of weakfish by state, 1982-2014 (Source: NMFS, except as noted below table). Starred values are confidential.

Year	FL	GA	SC	NC	VA	PRFC	MD	DE	NJ	NY	CT	RI	MA	Total
1982	176,203	596	443	12,052,232	1,856,920	307,230	249,297	1,294,500	2,073,500	1,257,100	25,600	176,800	22,900	19,493,321
1983	117,720	2,749		10,233,734	2,483,777	119,394	390,227	901,800	2,172,700	850,000	42,800	163,700	6,900	17,485,501
1984	923	862		12,990,726	2,022,123	90,166	325,279	782,400	2,751,600	484,500	31,300	167,600	4,800	19,652,279
1985	7,747	82		9,821,188	2,014,376	72,666	316,320	990,817	3,030,100	386,200	28,200	163,100	3,100	16,833,896
1986	9,162	75		14,309,372	1,886,254	116,197	337,064	723,444	3,208,600	359,900	13,700	127,600	5,700	21,097,068
1987	11,719	189		11,508,389	1,722,441	265,942	328,510	577,735	2,094,100	329,100	29,500	78,600	1,700	16,947,925
1988	13,283			15,091,878	1,383,218	96,765	832,636	530,603	2,332,800	124,500	2,400	19,400	3,800	20,431,283
1989	21,376		113	10,115,747	1,001,324	28,653	731,313	543,741	1,458,500	103,500	2,300	9,600	1,900	14,018,067
1990	17,433	33		5,802,159	1,192,321	18,510	416,130	625,006	968,318	19,924	1,281	24,646	1,720	9,087,481
1991	21,344			5,308,574	1,047,106	13,798	153,632	503,289	1,174,181	111,629	21,300	25,009	1,912	8,381,774
1992	24,655			4,862,551	532,482	19,961	384,999	362,042	940,695	168,087	3,500	30,277	3,033	7,332,282
1993	19,580			4,309,249	1,049,946	37,828	141,926	195,216	834,446	88,379	1,477	9,991	1,080	6,689,118
1994	27,835			3,489,929	1,264,263	28,958	223,288	262,263	695,280	99,470	11,000	18,155		6,120,441
1995	5,609			4,113,260	1,448,372	38,138	64,829	291,010	867,262	172,431	6,431	52,690	535	7,060,567
1996	387			3,977,633	1,487,069	99,493	97,068	317,317	822,041	365,307	6,937	43,522	86	7,216,860
1997	875			3,561,060	1,521,517	35,239	144,659	558,910	1,036,470	336,752	10,958	31,171	55	7,237,666
1998	952			3,354,008	1,796,487	81,744	221,048	552,947	1,804,618	496,403	14,482	77,074	410	8,400,173
1999	779			2,617,580	1,610,484	68,749	192,750	441,176	1,291,319	489,935	22,172	126,271	2,550	6,863,765
2000	448			1,869,042	1,311,298	68,574	145,918	328,269	1,071,428	352,832	7,920	189,362	527	5,345,618
2001	1,201			1,960,324	1,124,707	44,219	153,865	190,093	837,550	578,797	6,774	109,568	231	5,007,329
2002	394			1,828,150	1,129,158	57,818	79,734	164,064	863,088	513,977	10,223	122,781	842	4,770,229
2003	288			848,822	454,841	5,273	31,215	91,195	340,269	144,416	3,059	63,337	524	1,983,239
2004	192			685,463	325,832	1,986	50,519	48,905	197,108	178,414	6,206	38,284	68	1,532,977
2005	553			421,779	361,874	1,004	30,983	70,788	196,710	109,861	6,118	41,587		1,241,257
2006	337			363,078	261,619	689	32,417	34,429	206,659	152,867	7,012	45,133		1,104,240
2007	888			175,579	406,392	20	18,060	24,750	164,506	86,656	1,910	20,800		899,561
2008	996			170,469	171,153	74	5,815	11,185	56,884	44,275	1,012	9,702		471,565
2009	453			156,145	61,089	17	4,888	2,976	30,047	102,861	495	6,286		365,257

2010	73			106,319	57,326	80	2,148	2,339	12,053	13,105	899	5,380	58	199,780
2011	608	*	*	65,897	26,014	*	223	1,100	13,324	17,143	2,105	5,766	636	132,906
2012	1,999	*	*	91,382	45,790	*	1,356	29,367	19,291	61,206	4,723	17,908	616	273,736
2013	1,065	*	*	120,198	55,524	*	3,159	9,357	14,913	108,693	5,960	31,826	3,400	354,157
2014	557	*	*	105,115	23,242	10	2,127	4,310	*	32,717	3,343	15,493	918	196,489

N**otes:** FL: state-reported landings 1984-present (NMFS-reported landings limited to Nassau and Duval Counties and adjusted on the basis of the genome proportions of weakfish within the Cynoscion-complex in those counties' waters). NC: state-reported landings 1994-present. VA: NMFS-reported landings minus the PRFC-reported harvest landed in VA 1982-1992; state reported landings 1993-present (exclude Potomac River harvest). PRFC: agency-reported landings 1982-present (fish caught in Potomac River and landed in MD and VA). MD: state-reported landings 1982-present (exclude Potomac River harvest). DE: state-reported landings 1985-present. NJ: state-reported landings 2005-present. CT: state-reported landings 1995-present. RI: SAFIS landings 2005-present.

Table 4. Recreational landings (pounds) of weakfish by state, 1982-2014 (NMFS 2015, except as noted below table).

Year	FL	GA	SC	NC	VA	PRFC	MD	DE	NJ	NY	CT	RI	MA	Total
1982	48,137		14,786	276,047	2,994,879		2,127,679	1,330,769	613,223	725,194	0	154,609		8,285,323
1983	9,190	12,165	4,515	338,100	738,671		1,215,376	2,205,140	6,080,018	164,227	12,976	588,805	22,452	11,391,635
1984	9,719		5,150	189,031	850,169		254,962	1,279,594	3,987,542	51,464	11,358		16,272	6,655,261
1985	822	3,422	105,151	184,485	508,980		898,313	1,102,095	1,876,608	638,913	17,269	131,884		5,467,942
1986	3,785	12,621	44,185	417,470	2,032,394		2,406,643	1,598,932	3,184,095	242,217	61,281	41,142		10,044,765
1987	1,713	9,491	23,781	710,002	647,692		831,615	1,072,198	3,353,362	51,830	4,286			6,705,970
1988	2,241		1,841	359,606	1,677,694		1,679,702	1,664,477	833,197	26,127				6,244,885
1989	4,171	8,175	5,963	139,979	424,463		344,658	521,648	575,109	46,133				2,070,299
1990	2,085	961	11,186	63,420	256,690		388,662	207,131	358,456	4,317		897		1,293,805
1991	3,536	5,597	25,210	99,824	280,075		278,176	427,778	896,801	35,931	0			2,052,928
1992	2,738	1,014	40,459	27,363	206,710		121,403	232,204	677,811	19,824	909	20,154		1,350,589
1993	6,594	12,791	6,929	78,982	89,992		173,952	291,627	312,840	18,889	6,509			999,105
1994	7,276	783	25,163	149,159	142,265		300,831	319,491	706,207	2,579				1,653,754
1995	1,697	21,283	22,875	72,412	211,494		141,511	419,527	898,565	24,467		0		1,813,831
1996	759	5,060	4,980	79,317	194,485		185,074	690,121	1,730,057	19,081				2,908,934
1997	3,866	34,356	1,728	165,032	463,652		188,339	734,800	1,817,033	220,718	1,367			3,630,891
1998	698	690	11,288	192,210	839,245		377,820	616,422	1,910,868	63,298	9,808		4,087	4,026,434
1999	2,245	1,614	4,383	161,291	399,588		544,474	484,157	1,374,170	63,058	6,371	5,866		3,047,217
2000	2,943	3,503	6,312	87,926	496,205		696,662	635,339	1,916,092	164,525	35,095	1,922		4,046,524
2001	1,322	2,983		158,423	373,206		567,625	172,969	1,251,151	151,584	4,883	0		2,684,146
2002	1,577	683	50,141	82,747	295,397		174,064	243,156	1,213,558	58,627	11,285	3,801		2,135,036
2003	580	1,327	4,306	161,474	215,522		24,698	57,866	333,690	37,106	3,537	2,379	873	843,358
2004	937	11,153	118,352	273,683	218,745		43,576	6,726	284,420	19,231	0	0		976,823
2005	1,565	7,659	94,205	157,977	28,432		8,814	39,438	1,093,492	606		12,340		1,444,528
2006	1,520	3,305	8,014	139,392	36,653		575	19,292	789,330	13,766		69,501		1,081,348
2007	8,446	3,847	46,103	125,459	99,346		19,434	4,204	433,567	8,142		0		748,548
2008	1,197	5,853	21,296	139,368	29,474		2,194	4,054	365,125	114,011				682,572
2009	1,952	4,797	10,375	103,230	16,658		1,506	9,868	24,069	0				172,455
2010	455	2,829	10,379	49,903	1,579		1,810	46	3,541	1,294				71,836
2011	530	430	3,089	17,621	2,635		134	21	2,449	172		0	0	27,081
2012	668	3,625	12,244	46,081	20,952		6,192	4,442	156,495	15,125			0	265,824
2013	937	952	5,572	34,731	1,781		3,518	9,659	77,848	28,051		1,825		164,874
2014	762	3,638	12,905	25,961	5,903		2,144	3,531	17,311	5,016	0	0	0	77,171

Notes: FL: state-reported landings 1983-present (NMFS-reported estimates limited to Nassau and Duval Counties and adjusted on the basis of the genome proportions of weakfish within the Cynoscion-complex found in those counties' waters)

Table 5. Recreational landings (numbers) of weakfish by state, from 1982 to 2014 (NMFS 2015, except as noted below table).

Year	FL	GA	SC	NC	VA	MD	DE	NJ	NY	CT	RI	MA	Total
1982			17,342	200,045	715,892	440,146	213,937	104,066	88,234	11,769	18,614		1,810,045
1983	11,012	17,209	6,807	387,871	354,846	595,286	996,589	2,857,093	36,934	6,363	74,608	2,732	5,347,350
1984	18,529		7,836	489,468	782,848	104,057	541,392	1,026,043	20,133	1,561	0	2,237	2,994,104
1985	1,364	4,811	61,788	217,671	505,223	305,799	330,854	812,839	89,538	2,874	17,092		2,349,853
1986	4,853	18,130	78,315	611,363	2,418,046	1,947,394	732,537	2,500,622	34,582	7,315	4,595		8,357,752
1987	2,412	10,802	18,841	624,160	1,015,413	824,883	534,597	1,666,619	7,447	777			4,705,951
1988	3,586	0	1,834	438,148	2,297,053	1,163,766	771,996	642,032	13,215	0			5,331,630
1989	5,327	8,245	6,810	190,193	357,864	226,505	215,454	303,289	6,436				1,320,123
1990	2,778	2,273	8,027	91,300	286,458	370,528	144,132	216,385	3,057		407		1,125,345
1991	5,018	4,954	19,616	140,826	351,947	221,242	314,620	545,665	28,072	18,695			1,650,655
1992	3,693	1,751	23,501	35,490	265,645	137,260	97,314	311,659	5,282	434	9,624		891,653
1993	8,944	14,752	7,360	106,737	108,392	238,768	216,213	203,915	12,610	2,460			920,151
1994	9,994	718	46,858	177,965	169,740	332,846	258,478	591,571	1,872	0			1,590,042
1995	2,167	22,437	29,897	62,475	226,682	88,695	375,548	671,850	22,310		1,568		1,503,629
1996	1,576	5,413	5,695	90,704	193,861	183,408	573,706	1,104,251	16,320		0		2,174,934
1997	4,295	44,202	2,039	184,954	557,809	162,900	603,618	1,028,334	112,986	517	1,415		2,703,069
1998	896	718	15,838	191,181	463,525	290,051	429,678	920,558	21,392	2,183	0	618	2,336,638
1999	2,714	1,679	3,941	127,163	229,209	340,096	211,161	583,883	18,347	1,606	2,296		1,522,095
2000	3,276	4,181	5,585	71,247	286,752	475,348	253,073	760,279	42,406	7,342	712		1,910,201
2001	1,542	3,316		158,605	175,872	302,719	64,086	736,069	28,126	715	2,301		1,473,351
2002	1,842	852	90,245	90,170	178,110	100,467	102,405	492,876	24,962	1,796	1,420		1,085,145
2003	774	1,573	4,162	153,753	86,112	41,048	13,998	151,101	9,234	443	109	109	462,416
2004	1,114	9,815	153,589	237,395	158,111	15,832	2,524	228,536	7,596	0	0		814,512
2005	1,539	5,764	129,575	163,265	44,088	32,243	14,488	1,008,393	359		1,473		1,401,187
2006	1,578	3,501	7,123	153,696	43,081	754	5,642	489,440	9,123		5,948		719,886
2007	961	4,712	71,230	114,332	87,470	6,980	3,072	229,755	7,120		0		525,632
2008	1,470	5,909	25,794	137,564	27,939	2,000	3,607	298,076	30,543				532,902
2009	2,028	8,664	10,952	81,643	15,523	4,169	5,995	11,928					140,902
2010	589	3,113	9,672	50,932	4,303	4,787	31	2,261	3,423		0		79,111
2011	471	973	4,107	13,464	4,374	237	27	3,003	111				26,767
2012	988	4,603	13,593	40,299	21,791	11,401	4,139	114,330	5,055			0	216,199
2013	2,086	1,080	13,314	142,857	2,246	1,834	5,662	30,697	7,003		331		207,110
2014	905	3,377	11,065	26,308	9,084	1,062	3,295	6,520	644	0	0	0	62,260

Notes: FL: state-reported landings 1983-present (NMFS-reported estimates limited to Nassau and Duval Counties and adjusted on the basis of the genome proportions of weakfish within the Cynoscion-complex found in those counties' waters).

Table 6. Recreational releases (numbers) of weakfish by state, from 1982 to 2014 (NMFS 2015, except as noted below table).

Year	FL	GA	SC	NC	VA	MD	DE	NJ	NY	CT	RI	MA	Total
1982			0	44,134	126,514	2,139	16,595	1,695	0	0	0		191,077
1983	806	173	0	10,560	45,565	15,642	22,221	155,116	15,870	0	0	0	265,953
1984	252		1,561	17,381	202,791	8,934	52,879	4,464	0	0	5,214	0	293,476
1985	302	152	3,279	2,138	82,071	12,114	36,924	246,284	0	0	0		383,264
1986	862	0	2,873	354,095	692,462	327,841	191,590	895,044	4,556	0	0		2,469,323
1987	547	89	0	71,659	233,441	299,172	149,810	182,019	1,266	0			938,003
1988	24	4,196	0	109,489	484,782	155,255	262,696	5,144	0	634			1,022,220
1989	0	0	1,019	34,074	52,191	53,148	42,640	22,841	1,980				207,893
1990	101	0	0	20,669	198,948	142,055	77,470	32,863	570		0		472,676
1991	1,556	0	0	11,457	361,768	40,349	90,529	238,646	33,046	2,108			779,459
1992	2,121	362	4,598	27,052	244,817	71,040	65,133	249,846	8,362	0	98		673,429
1993	3,397	840	267	52,468	245,211	225,510	274,968	281,450	20,995	0			1,105,106
1994	1,863	21,588	0	147,616	652,571	583,059	602,732	1,051,931	45,537	1,013			3,107,910
1995	2,006	572	0	154,008	939,970	178,937	1,119,535	1,613,831	81,236		98		4,090,193
1996	1,303	307	0	188,263	814,573	492,402	1,627,260	1,859,049	84,990		780		5,068,927
1997	6,596	0	2,938	209,122	1,404,092	323,653	941,536	975,280	90,549	1,213	163		3,955,142
1998	1,721	1,468	329	131,537	1,244,949	461,518	639,468	778,180	29,836	360	1,921	0	3,291,287
1999	2,818	0	13,616	149,377	818,959	753,266	385,626	551,283	35,459	0	8,436		2,718,840
2000	5,551	12,895	15,869	346,212	935,594	1,209,290	523,976	1,605,024	68,531	1,285	931		4,725,158
2001	2,541	13,537		886,943	633,443	737,240	235,580	1,064,609	69,123	0	358		3,643,374
2002	2,113	9,540	1,019	336,709	888,337	286,182	120,671	350,810	62,803	0	1,932		2,060,116
2003	2,556	21,212	1,966	153,563	504,129	180,827	45,439	631,438	7,286	1,233	0	0	1,549,649
2004	3,395	12,249	107,177	240,298	544,776	132,087	74,531	607,393	40,254	12,331	187		1,774,678
2005	2,007	29,623	56,663	241,674	355,792	55,270	110,000	1,279,930	193,556		0		2,324,515
2006	5,132	6,149	21,917	295,415	556,763	57,394	1,000,616	1,231,102	11,732		0		3,186,220
2007	949	19,890	90,224	148,938	229,453	106,308	23,823	581,435	200,574		1,784		1,403,378
2008	711	13,229	105,401	127,333	427,616	30,260	61,895	1,254,625	26,851				2,047,921
2009	285	12,438	40,292	125,649	84,700	6,700	4,430	82,282	6,038				362,814
2010	38	11,483	25,559	250,369	177,395	104,421	17,740	78,053	3,107			931	669,096
2011	520	14,576	5,165	109,483	288,304	18,500	6,568	99,964	55,172				598,252
2012	0	37,247	50,026	165,891	102,245	24,898	84,963	731,563	11,454			0	1,208,287
2013	561	8,362	7,602	109,006	81,263	10,078	24,299	90,268	5,974		14,520	0	351,933
2014	614	1,772	54,139	281,226	108,166	4,809	22,730	79,756	239	315	0	0	553,766

Notes: FL: state-reported landings 1983-present (NMFS-reported estimates limited to Nassau and Duval Counties and adjusted on the basis of the genome proportions of weakfish within the Cynoscion-complex found in those counties' waters).

Table 7. Evaluation of the Coastwide Management Trigger (Section 3.3.1 of Addendum II to Amendment 4): percent change of each state's 2014 total landings to its five-year (2009-2013) mean total landings

	FL	GA	SC	NC	VA	PRFC	MD	DE	NJ	NY	CT	RI	MA
2009-2013	1,748	2,543	8,332	158,301	57,870	53	4,987	13,835	70,806	69,530	2,836	13,798	942
2014	1,319	3,638	12,905	131,076	29,145	10	4,271	7,841	25,968	37,733	3,343	15,493	918
% change	-25%	43%	55%	-17%	-50%	-81%	-14%	-43%	-63%	-46%	18%	12%	-3%

Table 8. Biological sampling of weakfish in 2014, Massachusetts-Florida (Sampling requirements are based on Addendum I to Amendment 4 and 2014 landings data; values highlighted with red bold font do not meet sampling requirements).

	Samples Required		Samples Completed		Fisheries Sampled
	Otoliths	Lengths	Otoliths	Lengths	
MA*	1	2	0	0	NA
RI	21	42	82	82	commercial, RIDFW Trawl Survey
CT*	5	9	0	2,377	CT DEEP fall trawl survey
NY	51	89	175	175	commercial (GN, TR, PN, H&L)
NJ	35	24	108	108	NJ Ocean Trawl Survey
DE	11	12	80	80	commercial
MD	6	6	6	6	commercial (PN, GN)
PRFC	0	0	0	0	NA
VA	40	63	295	1,512	commercial (GN, PN, HS)
NC	178	286	509	2,608	commercial (HS, GN, TR, PN), otolith count includes samples from rec also
SC	18	0	21	21	recreational
GA*	5	0	0	0	NA
FL*	2	2	0	0	NA

* *de minimis* in 2014; not required to conduct sampling; sample numbers provided to show from what states were exempt
NA=not applicable, GN= gill net, TR=trawl, PN=pound net, H&L=hook and line, HS=haul seine, BS=beach seine

Table 9. Indices of relative weakfish abundance from 1980 to 2014.

Yr	RI Tr	CT Tr	CT Tr	NY Tr	NJ Tr	NJ Tr	DE Tr	DE Tr	DE Tr	MD Tr	MD Tr	VA Tr	NC Tr	NC Gn	GA Tr	FL Tr	FL Tr
	Coast	LIS	LIS	Coast	DE Bay	Ocean	DE Bay	Inland	DE Bay	ChesBay	Coast	ChesBay	Pamlico	Pamlico	Coast	Jax	IR&Jax
	YOY	YOY	1+	YOY	YOY	1+	YOY	YOY	1+	YOY	YOY	YOY	YOY	1+	0+	YOY	1+
	#/tow	GM#/tow	GM#/tow	AM#/tow	GM#/tow	GM#/tow	GM#/tow	GM#/tow	#/nm	GM#/tow	GM#/ha	GM#/tow	#/tow	#/set	#/obs hr	med/tow	med/tow
1980	17.1633	*	*	*	*	*	4.15	*	*	*	*	*	*	*	*	*	*
1981	36.4416	*	*	*	*	*	5.98	*	*	*	*	*	*	*	*	*	*
1982	19.5507	*	*	*	*	*	11.49	*	*	*	*	*	*	*	*	*	*
1983	3.13235	*	*	*	*	*	4.47	*	*	*	*	*	*	*	*	*	*
1984	5.03226	1	0.55	*	*	*	6.67	*	*	*	*	*	*	*	*	*	*
1985	19.1774	6.19	0.24	*	*	*	9.25	*	*	*	*	*	*	*	*	*	*
1986	2	13.17	0.24	*	*	*	12.79	1.14	*	*	*	*	*	*	*	*	*
1987	1.31373	0.63	0.11	1.5	*	*	5.82	1.26	*	*	*	*	12.14	*	*	*	*
1988	10.8571	2.9	0.06	0.2	*	*	4.73	0.81	*	*	*	8.13	101.5	*	*	*	*
1989	1.16667	8.69	0.02	6.9	*	2.23	11.11	2.2	*	0.44262	0.87025	11.74	14.2	*	*	*	*
1990	25.5333	5.56	0.08	2.3	*	1.01	8.73	2.95	*	0.9505	1.72023	4.46	50.2	*	*	*	*
1991	25.4103	11.95	0.31	56.5	2.2	1.01	20.07	5.87	31.43	0.78479	1.89331	3.16	36.96	*	*	*	*
1992	14.5143	3.03	0.18	23.4	1.01	1.4	14.72	2.51	23.83	3.23863	1.81496	6.78	42.71	*	*	*	*
1993	7.5	4.08	0.12	4.4	1.01	0.89	14.79	0.63	80.1	1.59272	0.91273	5.81	8.7	*	*	*	*
1994	15.1667	11.19	0.06	70.9	1.4	5.43	11.47	1.47	206.5	2.33092	1.83884	2.51	68.06	*	*	*	*
1995	0.2619	5.21	0.7	4.7	0.89	6.2	13.49	4.24	150	5.95141	4.44469	5.95	38.21	*	*	*	*
1996	124.667	15.23	0.56	220.4	5.43	3.95	12.13	1.18	233.8	6.39549	3.18307	7.26	72.07	*	*	*	*
1997	88.8333	12.38	0.89	82.4	6.2	3.48	15.4	2.07	110.4	4.28432	3.05986	6.81	32.79	*	*	*	*
1998	13.5122	5.02	0.28	4.8	3.95	0.59	11.35	1.35	102.07	5.8682	2.79961	7.6	70.44	*	*	*	*
1999	3.68293	30.93	0.39	40.5	3.48	1.05	13.51	1.99	92.56	3.25744	2.76387	6.78	99.9	*	*	*	*
2000	9.375	63.31	0.3	167.1	0.59	2.36	14.14	1.64	179.12	6.53832	2.33775	8.35	62.99	*	*	*	*
2001	19.3333	40.09	0.52	113.7	15.03	0.68	7.56	1.53	80.7	8.10129	2.55858	5.09	30.3	1.42	*	0.79	0.23
2002	8.4	41.35	0.16	145.2	19.7	1.59	5.96	1.31	144.98	3.91977	0.61066	6.93	22	1.4	*	1.45	0.52
2003	198	49.41	0.07	69.8	3.11	0.08	10.44	2.44	65.78	4.89255	5.64104	9.23	23.93	1.22	105.44	4.35	0.34
2004	1.88095	58.98	0.21	43.9	8.48	1.79	8.39	3.32	48.88	1.62152	3.39291	6.66	28.75	1.32	94.42	4.04	0.19
2005	128.925	25.86	0.12	226.5	20.6	0.46	16.82	3.84	29	3.54587	4.98447	5.69	28.76	1.24	32.08	1.83	0.73
2006	0.35714	1.05	0.29	55.1	12.24	0.19	5.35	1.6	106.31	2.41125	1.50213	6.34	39.09	0.92	79.96	1.78	0.44
2007	36.0976	63.93	0.06	92.12	25.53	0.83	13.7	2.98	43.16	1.6	2.32	5.35	56.8	0.43	159.64	1.68	0.46
2008	0.54762	9.07	0.08	51.5	7.86	0.35	6.74	1.02	45.94	0.79	0.23	5.77	50.3	0.49	75.55	1.66	0.39
2009	7.29	6.48	0.3	13.3	7.29	0.33	8.56	5.91	35.83	1.42	1.33	6.18	58.89	0.31	104.76	2.12	1.17
2010	7.95	-	-	15.3	10.51	0.69	11.98	3.49	43.57	1.68	2.16	14.11	32.45	0.48	128.48	0.74	0.70
2011	70.63	11.64	0.68	34.5	15.8	22.32	7.89	3.3	89.22	2.04	1.9	5.23	33.69	0.36	104.2	0.74	0.52
2012	122.3	21.96	0.73	9.4	1.26	0.23	7.55	3.44	106.43	0.46	0.46	3.02	40.66	0.92	91.64	1.79	0.65
2013	13.2	7.01	0.52	22.6	15.55	0.39	13.49	4.47	71.78	2.15	1.02	9.41	58.53	0.69	131.52	0.69	0.12
2014	1.27	41.53	0.08	97.7	4.87	0.98	13.67	4.71	38.01	2.95	1.28	3.77	32.83	0.5	64.16	0.62	0.19

XI. Figures

Figure 1. Estimated weakfish age 1+ biomass, fishing mortality, and natural mortality from 1982 to 2008 (NMFS 2009a, NMFS 2009b).

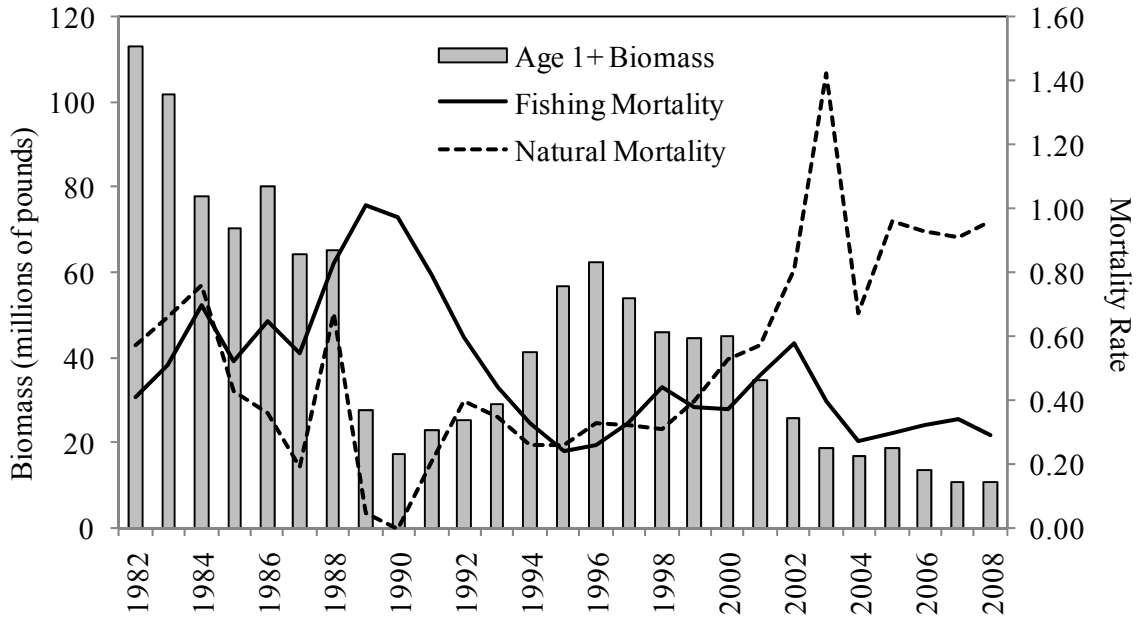

Figure 2. Commercial and recreational weakfish harvest (pounds), from 1982 to 2014 (see Tables 3 and 4 for source information and values).

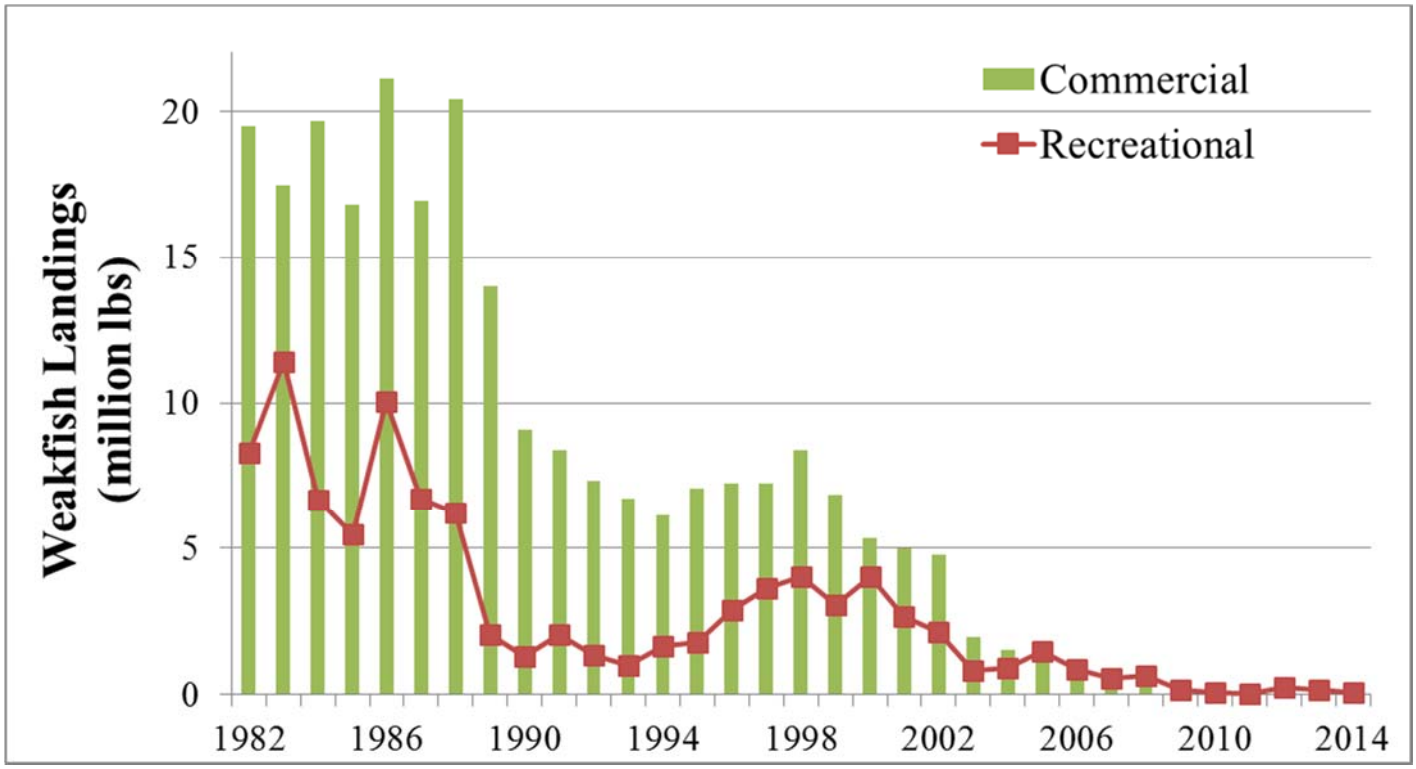

Figure 3. Percent total weakfish landings (pounds) by state, from 2010 to 2014.

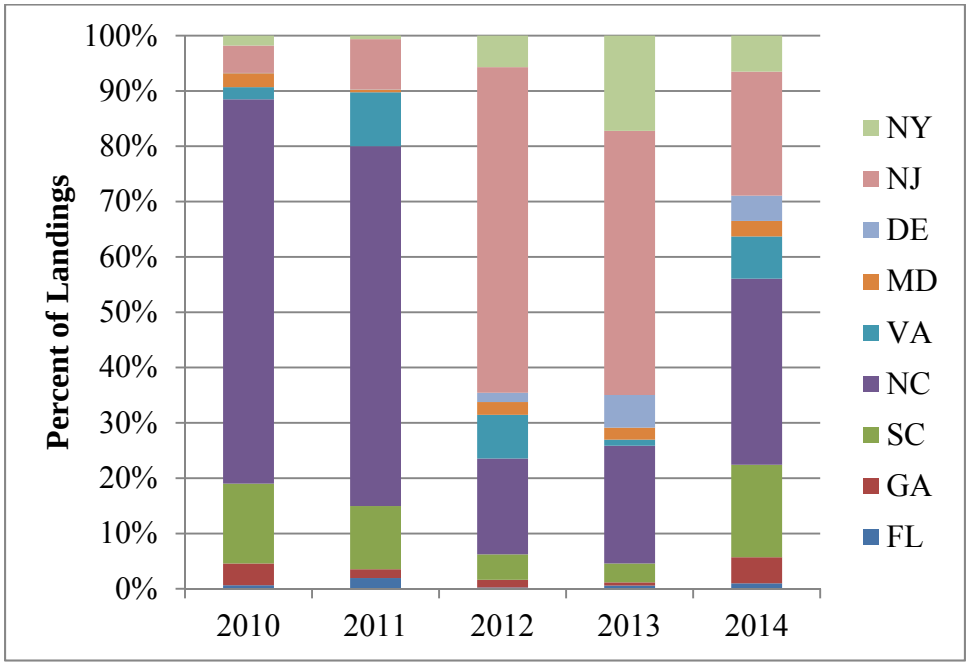

Figure 4. Recreational weakfish harvest and releases (number of fish), from 1983 to 2014 (see Tables 5 and 6 for source information and values).