

Atlantic States Marine Fisheries Commission

South Atlantic State/Federal Fisheries Management Board

February 6, 2014

3:45-5:15 p.m.

Alexandria, VA

Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1. Welcome/Call to Order (*P. Geer*) 3:45 p.m.
2. Board Consent 3:45 p.m.
 - Approval of Agenda
 - Approval of Proceedings from August 2013
3. Public Comment 3:50 p.m.
4. Review of Updated Traffic Light Analysis (*C. McDonough*) **Action** 4:00 p.m.
 - Croaker
 - Spot
 - Discuss potential management options
5. Consider FMP Review and State Compliance (*K. Rootes-Murdy*) **Action** 5:00 p.m.
 - Spot
 - Spotted Seatrout
 - Spanish Mackerel
6. Review and Consider Proposed Changes to Virginia's Red Drum Commercial Management Measures in 2014 **Action** (*K. Rootes-Murdy*) 5:10 p.m.
 - Technical Committee Report (*K. Rootes-Murdy*)
7. Other Business/Adjourn 5:15 p.m.

The meeting will be held at the Crowne Plaza Hotel, 901 North Fairfax Street, Alexandria, Virginia; 703-683-6000

Healthy, self-sustaining populations for all Atlantic coast fish species or successful restoration well in progress by the year 2015

MEETING OVERVIEW

South Atlantic State/Federal Fisheries Management Board Meeting
Thursday, February 6, 2014
3:45 p.m. – 5:15 p.m.
Alexandria, Virginia

Chair: Pat Geer (NC) Assumed Chairmanship: 10/13	Technical Committee Chairs Atlantic Croaker: Chris McDonough (SC) Red Drum: Mike Murphy (FL)	Law Enforcement Committee Rep: Stephen Adams (GA)
Vice Chair: VACANT	Advisory Panel Chair: Bill Windley (MD)	Previous Board Meeting: August 7, 2013
Voting Members: NJ, DE, MD, PRFC, VA, NC, SC, GA, FL, NMFS, USFWS, SAFMC (12 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from August 2013

3. Public Comment – At the beginning of the meeting, public comment will be taken on items not on the agenda. Individuals that wish to speak at this time must sign-in at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance the Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

4. Review of Updated Traffic Light Analysis (3:55- 5:00 p.m.) Action

Background

- Trigger exercises were established for both species for each non-assessment year to review trends in the fisheries.
- At the August 2013 meeting, staff presented an update of the triggers exercise with 2012 landings data as well as preliminary analysis of the fishery using a traffic light approach. The results of the trigger report found declines in the commercial and recreational landings for both Atlantic croaker and spot fisheries but did not trip the triggers.
- Based on the results, the Board tasked the Atlantic Croaker Technical Committee (TC) and Spot Plan Review Team (PRT) with developing traffic light approach analyses for both species with management options to consider under a variety of conditions.
- The Atlantic Croaker TC and Spot PRT members met via conference call three times during September-December to review the traffic light approach analyses and develop management options.
- The Atlantic Croaker TC and Spot PRT have created management memo with updated analyses and management considerations for the fisheries moving forward (**Supplemental material**)

Presentations

- Update of the Atlantic Croaker & Spot Traffic Light Analyses and Management Options by C. McDonough

Board actions for consideration at this meeting

- Consider management memo for 2014 fishing year

5. Consider FMP Review and State Compliance (5:00-5:10p.m.) Action

Background

- Compliance reports were due September 1 (Spotted Seatrout), October 1 (Spanish Mackerel), and November 1 (Spot) (**Briefing CD**)
- The Plan Review Teams reviewed each state report and compiled the Fishery Management Plan Reviews (**Briefing CD**).

Presentations

- Overview of the Fishery Management Plan Review Reports by K. Rootes-Murdy

Board actions for consideration at this meeting

- Accept the 2013 Fishery Management Plan Reviews and State Compliance Reports.

6. Review and Consider Proposed Changes to Virginia's Red Drum Commercial Management Measures in 2014 (5:10-5:15 p.m.) Action

Background

- In December 2013, Virginia submitted a proposal to change their regulations for the 2014 commercial Red Drum fishery (**Briefing CD**)
- The proposed changes are intended to reduce the regulatory discards and potential waste which current occur through incidental catch.
- The proposed changes include lowering the commercial maximum size limit from 26 to 25 inches and increasing the commercial possession limit from 3 to 5 fish.
- The Red Drum Technical Committee reviewed the proposal in late January 2014 (**Supplemental Materials**)

Presentations

- Overview of Proposed Management Measures for Virginia in 2014 and Technical Committee Report by K. Rootes-Murdy

Board actions for consideration at this meeting

- Approval of Virginia proposal for changes to commercial management measures for Red Drum in 2014

7. Other Business/Adjourn

**DRAFT PROCEEDINGS OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
SOUTH ATLANTIC STATE/FEDERAL FISHERIES
MANAGEMENT BOARD**

**The Crowne Plaza Hotel – Old Town
Alexandria, Virginia
August 7, 2013**

These minutes are draft and subject to approval by the South Atlantic State/Federal Fisheries Management Board. The Board will review the minutes during its next meeting.

**Draft Proceedings of the South Atlantic State/Federal Fisheries Management Board Meeting
August 2013**

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INDEX OF MOTIONS

1. **Approval of Agenda by Consent** (Page 1).
2. **Move that Pat Geer be appointed Vice-Chair of the South Atlantic Board by acclamation** (Page 1). Motion by Robert Boyles; second by Spud Woodward.
3. **Move to develop the traffic light approach for spot and Atlantic croaker and propose management options in response to various conditions of that traffic light approach** (Page 15). Motion by Spud Woodward; second by Bill Goldsborough. Motion carried (Page 15).
4. **Move to adopt Option 2 as the preferred for Draft Addendum I** (Page 17). Motion by Robert Boyles; second by Bill Cole. Motion carried (Page 17).
5. **Move to approve Addendum 1 to the Spanish mackerel FMP** (Page 17). Motion by Robert Boyles; second by Bill Cole. Motion carried (Page 17).
6. **Move to approve the FMP review for Atlantic croaker** (Page 18). Motion by Spud Woodward; second by Malcolm Rhodes. Motion carried (Page 18).
8. **Move to approve the FMP review for red drum and grant the de minimis requests from New Jersey and Delaware** (Page 19). Motion by Robert Boyles; second by Bill Cole. Motion carried (Page 19).
9. **Move to accept Draft Addendum I to Amendment 2 to the Red Drum Fishery Management Plan Habitat Needs and Concerns** (Page 19). Motion by Wilson Laney; second by Robert Boyles. Motion carried (Page 19).
10. **Move to add Harry Rickabaugh to the Spot Plan Review Team** (Page 20). Motion by Tom O'Connell; second by Joe Grist. Motion carried (Page 20).
11. **Adjourn by Consent** (Page 20).

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ATTENDANCE

Board Members

Russ Allen, NJ, proxy for D. Chanda (AA)	Ross Self, SC, Administrative proxy
David Saveikis, DE (AA)	Malcolm Rhodes, SC (GA)
John Clark, DE, Administrative proxy	Sen. Ronnie Cromer, SC (LA)
Bill Goldsborough, MD (GA)	Spud Woodward, GA (AA)
Tom O'Connell, MD (AA)	Patrick Geer, GA, proxy for Rep. Burns (LA)
Russell Dize, MD, proxy for Sen. Colburn (LA)	Jim Estes, FL, proxy for J. McCawley (AA)
Jack Travelstead, VA (AA)	Martin Gary, PRFC
Louis Daniel, NC (AA)	Wilson Laney, USFWS
Bill Cole, NC (GA)	Bill Archambault, USFWS
Robert Boyles, Jr., SC (AA)	Virginia Fay, NOAA

(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)

Ex-Officio Members

Joe Grist, Technical Committee Representative

Staff

Bob Beal	Melissa Yuen
Kirby Rootes-Murdy	Toni Kerns

Guests

Kelly Place, VA Watermen's	Dick Brame, CCA
Gordon Colvin, NOAA	Brandon Muffley, NJ DFW
Taylor Daley, DNREC	Aaron Kornblutt, Pew Trusts
Harry Rickabaugh, MD DNR	

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The South Atlantic State/Federal Fisheries Management Board of the Atlantic States Marine Fisheries Commission convened in the Presidential Ballroom of the Crowne Plaza Hotel Old Town, Alexandria, Virginia, August 6, 2013, and was called to order at 2:10 p.m. by Chairman Louis Daniel.

CALL TO ORDER

CHAIRMAN LOUIS B. DANIEL: Welcome to the South Atlantic Board. We've got 20 minutes to get through an hour and a half agenda to get Toni back on schedule. You should have your agenda. All the materials are on the back table. Staff may come around with some pertinent materials as we move forward.

**APPROVAL OF AGENDA AND
APPROVAL OF PROCEEDINGS**

You should have seen the agenda and also the proceedings from our May meeting. Are there any changes? I'm going to add a SEAMAP update as other business. That is all I have for other business; and adding a member to the Spot Plan Review Team is another piece of other business. Anything else? Is everybody comfortable with the agenda and the minutes? They will stand approved. The next item on our agenda is to elect a Vice-Chair. I would accept nominations.

ELECTION OF VICE-CHAIR

MR. ROBERT H. BOYLES, JR.: Mr. Chairman, I would like to nominate Pat Geer for the Vice-Chair of the South Atlantic Board.

CHAIRMAN DANIEL: Second from Spud.

MR. BOYLES: **I move that we close the nominations and that Pat Geer be appointed Vice-Chair by acclamation.**

CHAIRMAN DANIEL: So ordered. Congratulations, Pat. Now if I have to step down, I have somebody to call on.

**SPOT AND ATLANTIC CROAKER
TRIGGER EXERCISES UPDATE**

CHAIRMAN DANIEL: At this point I am going to move on to the technical committee and have some discussion on the spot and Atlantic croaker trigger. We've got some updated information on that. Then we'll hopefully be able to quickly move through the Spanish Mackerel Addendum. The FMP review and compliance reports; I don't think there is a lot there. I am going to try to get through those as quickly as I can.

Then the habitat stuff is really Mom and apple pie. I'm not sure; I haven't heard of any concerns or issues associated with that. I will run through the agenda really quickly with you just to let you know that I think Item 5, the one we're getting ready to talk about is the big issue, and the one that will probably have the most discussion. Let's take our time with Item 5.

MR. HARRY RICKABAUGH: The first segment we're going to go through is the Atlantic Croaker Assessment Trigger Report. If you recall, this particular trigger is for an assessment and not for management. I will just roll right through it here real quick. There are several parts to it. The only hard trigger is annual landings, both commercial and recreational.

We also look over biological data, effort and landings data from individual fisheries and also some fishery-independent surveys. As I mentioned, the hard trigger is the commercial landings. It is basically the terminal year compared to the previous two years' average. It has to be a 70 percent or more decrease.

For 2012 you would need the average of 2010 and '11 to be – well, 2012 would have to be 70 percent or less of the average of 2010 or '11. If we look at the commercial landings, the bars in red are the years in which it would have triggered. Essentially those years are at least 70 percent lower than the previous two-year average. You can see in recent years, in the red

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oval, that none of those years have triggered, but we have continually declined.

Basically it provides a moving target is what is happening. As the landings continue to slowly fall, the previous two-year average continues to fall, so the landings would have to decrease more substantially each year to ever get up to that 70 percent decline. In the interest of time, I am going to go over something I was going to talk about later on now.

If you look between 2010 and 2011, there is kind of a steep drop there. Most of our effort declined slightly through the mid to late two thousands. Recently that has kind of leveled off, effort has leveled off, and some has gone up a little or down a little. The one exception is the North Carolina fly net. There was a big drop in effort for that particular fishery.

That is a high-volume fishery. It typically does about 3.5 million pounds a year. It is now doing only about 500,000 pounds a year. Effort has dropped by 80 percent. Some of that drop is related to that. It has to do with the hurricane events I guess at the end of the 2010 year; closing in some inlets, and the boats actually can't get out.

For both 2011 and '12, you are missing about 2.5 to 3 million pounds just off of that alone. Now both of those years still would have decreased, but not by the margin you see there. Those actually would come out to be pretty close to the long-term mean. That is kind of where we're at now.

But you can see we were at a pretty high point there in the two thousands, and now we've slowly declined and we're down to the mean. Hopefully, we don't continue to decline from there. This is the recreational landings. You can see this did trigger last year. Some of you may remember this. The technical committee decided not to recommend an assessment mainly due to data limitations.

The previous stock assessment, the Peer Review Panel didn't like our estimates of shrimp trawl

bycatch. There are currently some studies going on to help us gather more information for that, so we'd rather wait for the scheduled benchmark rather than push an assessment up, so we have more information and hopefully can get a better handle on the shrimp trawl discards.

But in relation as far as the recreational landings, they are below their long-term mean. They were in 2011, and they remain so in 2012. You see about over the same time period you also have this same slow decline also within recreational landings. As you saw on the graphs, the red bars were not in 2012; neither one of them triggered. Commercial is 80 percent below the previous two-year average, recreational about 76 percent. We also look at some biological data, recreational and commercial mean lengths and commercial mean lengths by fishery; and also some age data and I'll just go through this real quick.

This slide is actually mistitled. The first three blocks you see there are actually recreational from MRIP coastwide and then broken down Mid-Atlantic and South Atlantic. You can see there was a little bit of a decline coastwide, more so in the Mid-Atlantic. The South Atlantic actually had a slight increase in mean length.

Typically, the South Atlantic has a lower mean length than the Mid-Atlantic, and now they've kind of evened out to about the same. It is pretty obvious that almost every one of the commercial fisheries has not seen a reduction in mean length. Similarly with mean weight, we have a much more variability with a mean weight.

Many states I know, our state, Maryland, we don't take as many weights as length. These may not be quite as accurate as the length data. At any rate, most of them are declining. I'm not going to go over each individual length at age, but we did calculate length of age by gear, by state. Essentially there is a slight decline across ages. It is not a single age group or a group of ages that are making up this average length decline. It is across all ages. If you look at the proportion at age, one thing you will notice which has held true throughout the years is you

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will see these strong year classes move through time. There will be a high proportion at age two. They usually recruit about age two; age three they are fully recruited to most fisheries.

As they move through, you will see them for a few years be a dominant year class move through the fishery. Now both here in New Jersey and Maryland, you can see towards the end we are starting to lose older age fish, particularly age nine plus. They are completely missing by 2012 in both states.

North Carolina and Virginia are the primary landings states. Virginia, you can still kind of see that carry through. North Carolina, it is watered down a little bit. They have some inshore and offshore fisheries. Some catch fish averaging like 9 inches, some more like 12 inches. I think they catch more of a mix of ages than some of the other states.

You can still see the reduction in 9-year-old-plus fish. It declines to near zero in North Carolina and a pretty low percentage in Virginia by 2012. If you look at effort versus landings, I kind of already touched on that back at the commercial slides, so I'll skip that one. Basically effort has been fairly steady in the last few years after it had been declining for several years.

Recreational CPUE, you may recall last year the TC did an analysis of the Stevens and MacCall method, as well as the Jaccard Index, which is also a species association index, to try to get at a better subset of directed trips. We decided to wait for a peer review to look over our latest attempts at making a recreational CPUE.

Therefore, we're not going to present it at this time, we didn't last year, and we'll wait until after the next peer reviewed assessment. The four surveys used; you will see more of them later for our traffic light presentation, I am going to be giving in a little bit. We have some graphs on these indices; so rather than show them now we'll wait and show them later.

The long story short is it is the opposite of what we see with the landings. All are above the time

series mean. SEAMAP is the only one that declined, and it declined off its time series high in 2011. Both juvenile indices – we have four indices – I'll at least give that information is the SEAMAP trawl, the NMFS trawls survey, and then two juvenile indices, the VIMS juvenile survey and the North Carolina Program 195, which is a Pamlico Sound survey.

Both juvenile indices indicate a strong year class in 2012 and above average year classes in 2010. The TC is not recommending doing a benchmark for the same reasons I mentioned before. We would rather wait for more shrimp trawl bycatch information to try to get a better handle on what was our weakest link in the last assessment. We would like the board to consider incorporating a traffic light analysis into the trigger exercise.

As you'll see later, that uses reference points based on a benchmark time period as opposed to this moving scale. By using the 70 percent of the previous two years, we keep getting this lower and lower target to hit. We would rather have a fixed time period; and when I show you the traffic light later, you will see how that works.

We also are not recommending management measures at this time, but the TC would support the board's effort if it wishes to begin the process. Everyone is a little concerned over this continued decline in landings. At the same time the indices are showing something different. It is a disconnect that we have that we also need to work through and try to figure out what is going on with that. I guess from there I will take any questions on this part of the presentation.

CHAIRMAN DANIEL: Questions? Joe.

MR. JOE GRIST: Harry, can you explain possibly some reasons behind the disconnect that is going on? Is there some type of assumption as to why there is such a disconnect between the landings, which are in a decline, and those indices which seem to show just the opposite? I mean, they should track each other

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in some way. Is there any type of TC discussion on that?

MR. RICKABAUGH: We did bring it up a little bit. It is something we need to look more into, but there was mention from especially SEAMAP that it may occasionally catch age zero fish. Apparently they move offshore in the fall; and sometimes it occurs before the survey, sometimes after the survey began.

We need to go through the data and see how many age zeros are really in both of these surveys. Another possibility is even if they are adult fish, the offshore surveys may be catching age one, two, maybe threes more predominantly than the commercial fisheries and the recreational fisheries, which are probably targeting older age three through five fish.

It may just be an aspect of the two fisheries are targeting different segments of the population and therefore giving a different signal. To some degree the fish could be, due to climate type issues or at least water temperatures, could be staying more offshore now than they were before; being less available to commercial and recreational fishermen and more available to the trawl surveys. But those are some things we've got to work through to see which one of those is more likely.

DR. WILSON LANNEY: I would just observe and ask Harry if the TC has talked about this at all, but it is of concern to me that the trend is downward in the landings and that there is that mismatch with the fishery-independent indices. My concern is if you look at it in context of the forage base or what most of us consider forage base for a lot of the east coast fisheries in terms of where river herring are, where Atlantic menhaden are, now maybe where spot are; if you look at all these little silvery soft-rayed fishes that are preferred prey for a lot of the predator species that we manage, it is just something of concern. I would encourage us all to look at it in the context of the whole community and not just isolated species by species as we tend to continue doing.

CHAIRMAN DANIEL: Other questions for the technical committee? Just to put some of this into perspective, when I started at VIMS in 1995, Luiz Barbieri was working on a life history study on croaker. I remember him getting so excited when he found a four-year-old fish. Most of everything we saw was ones and twos, and he had an extraordinarily difficult time doing his dissertation work because he just couldn't find the fish.

When you would go fishing in the bay, you might see these little croakers; that was it. You just didn't see croakers, and it was all spot. Now what we're seeing on a coast-wide basis, we had 10-year-old croaker. I talked with Luiz about that. It was amazing the size of these croakers, and we just hammered them.

Those slides of those landings, there were millions, 10, 12, 14 million pounds of these 8-, 9-, 10- year-old croakers. It is surprising to me that we would be surprised that we're seeing this significant decline in the population of croaker. But what we're going to hear and what we're going to see in this graphic is it is cycles.

It is man-induced cycles in a boom-and-bust fishery. It is a shame to continue to sit and watch the age structure of that population decline and to see those landings decline and not do anything about it. I hope that as we continue this discussion today, when we get towards the end of it – you know, the technical committee has said they wouldn't object to us moving in a direction that may be the appropriate thing for us to do. I'll leave that up to the board.

MR. BOYLES: We're talking back here offline a little bit about this. I guess where I think we're headed, where I just heard you say is; is there a way for us to smooth out the peaks and valleys associated with this fishery? It is troubling when we're here every year and we talk about these trigger exercises; and at the same time to see scientific advice that doesn't really track with the landings.

At the end of the day, when we go home, our constituents are going to tell us whether they are

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seeing more fish or they're not or they're landings more fish or they're not. Having said that; I would be comfortable with us initiating some kind of action, some kind of amendment to at least lay out the options; and if nothing else, take it to the public and ask them are you satisfied with fishing on peaks of these fisheries if you are willing to endure the valleys that we're seeing as well?

CHAIRMAN DANIEL: Good comments. Is there anything else before we move on into additional discussions?

MR. SPUD WOODWARD: Well, I think another thing that has to be integral to that conversation is what causes the peaks and valleys? It may be that we take management actions and see the same type of cyclical phenomena, and it may just be inherent in the population. I'm fine with us moving ahead to whatever we need to do to take a more introspective look at it, but I do think we need to be open that sometimes management isn't always going to be the solution to the problem.

CHAIRMAN DANIEL: Anything else? Are you going to go through the traffic light at this point, or the next? Just the spot report, okay.

MR. RICKABAUGH: Okay, now we're going to move on to spot. This trigger was developed for basically as a management trigger and not a stock assessment trigger. We have no stock assessment currently for spot. I will just go ahead and get moving here. The triggers that were included in the Omnibus Amendment were basically five indices; the commercial landings, the recreational landings the NMFS trawl survey, the SEAMAP survey and the Maryland Juvenile Seine Survey.

For this one, any indices that fall below the 10th percentile of its long-term dataset would be basically triggered. If any two indices trigger, but one has to be independent, then the board is supposed to consider management action. But the key here is one of them needs to be independent, as you are going to see in a minute.

The landing for spot, if you look at the commercial landings, it is pretty obvious they are way off. In the early part of the time series, 1950 through the late seventies, the landings were basically bouncing up and down pretty regularly, which is very expected for spot. This is a very short-lived species with very non-consistent recruitment.

But as you see as we move through time, the peaks and valleys keep moving down. The valleys get lower and the peaks get lower. Now in the past seven years we've had four of the lowest landings on record for spot. The lowest landings since 1950 occurred in 2012. Recreationally, very similar, high peaks and valleys; not as much of a trend in that one, but the past three years have all been low.

2010 was close to the 10th percentile, 2011 jumped up some, but then 2012 is now below the 10th percentile. Basically, both of the commercial and recreational landings have triggered in 2012. The same thing with spot; the independent surveys are showing the exact opposite. Here is the North Atlantic trawl survey. You have got the times series high in 2011 and still a very high index in 2012.

This is more surprising with spot, because it is a short-lived species. It is kind of taking away that maybe we're fishing older fish in the commercial and younger fish are being caught in the trawl. If these are adult fish, they are all going to be one, two, three years old. That is pretty much all there is, a handful of older fish, but almost everything being caught should be age one and two.

SEAMAP, same thing; SEAMAP is a lot more variable, and this one definitely has some means years in it. We've been told that it is the same sort of thing with croaker where they move offshore in the fall. This is more of a mixed age group survey and not really an adult survey; but, again, it is well above the 11th percentile. The Chesapeake Bay seine survey done in Maryland; you can see very variable recruitment, so very high peaks and very low valleys.

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But back in the early part of the time series, in the late sixties, early seventies, clean through the mid-seventies, we have very high – even the valleys were much higher than our current – really, our highest peaks reached basically our valleys at that point in time. It is pretty clear it has declined steadily.

We've had a couple of large year classes in the past decade, but we've been pretty much at the low end of the scale. 2012 is above the 10th percentile, but 2011 was not. It actually was below last year. One thing the Spot PRT wanted to ask the board is originally we asked to do both of these triggers, the croaker and the spot, in the summer, so that if something were to come up we would have time to potentially take management action or for the board to take management action prior to the next fishing season.

If you look at the commercial landings, the "I" stands for what we additionally presented to you, and the F is the final landings. This is where the 10th percentile would have been. For 2011 the 10th percentile actually moved by a couple hundred thousand pounds. It doesn't sound like a lot, but initially we only missed triggering that by about 14,000 pounds last year.

We had a trigger on the Maryland seine survey. Basically, we are concerned it will work one way or the other. These landings are staying so close to this 10th percentile that if we keep using this trigger, that when we have final landings versus the initial landings we're presenting now, we either could trigger if they decrease by a little bit or a year in which we say a trigger is and we start management action, the final landings may increase and we wouldn't have triggered.

There is also another aspect of this. When we first started doing the trigger for this year, we thought that perhaps last year actually did trigger after the update; but that was because when we first calculated it we used up through 2010 to calculate the 10th percentile. But then upon reading the amendment, it says to use the whole dataset; so when you do that, 2011 doesn't trigger if you use data through 2011.

Basically, if you used 2011 to calculate the 10th percentile, if you're adding it in, it doesn't trigger, but 2011 would have triggered if you only went through 2010; if that makes any sense. These things are just so close to triggering that little shifts in the landings could cause a problem. We want to know if you would rather have us wait later until the landings are final or continue as we are.

The trigger did not trip. It has been very close, was very close last year, it is again this year. The PRT is not recommending management action basically for the same reason. We have this disconnect with the surveys and we need to work through why that is. Are these fish actually more offshore and that is why the offshore trawl surveys are catching them, or are they just actually catching a lot of age zero fish so their numbers are up and the biomass is actually down?

One thing I did forget to mention that I wanted to bring up was when we looked at the SEAMAP – we don't have to go back, but the SEAMAP in the index that we use for this trigger is in numbers, so basically it is in numbers of fish per trawl. The South Carolina member who does the updates of those for us said that if it had been in weight; in other words, by biomass instead of by numbers, it would have been below the 10th percentile and would have triggered, which is another indication that was probably a lot of age zero fish.

The number index was pretty high, but the biomass index was really low, so it must have been smaller fish. We are not asking for management action at this time, but we would again, like with croaker, support it. We are also interested in something that was mentioned basically in the croaker comments by some board members of should we develop potential management action that could be taken should we happen to trigger?

Right now the amendment states that you only need to consider action, and it doesn't in any way specify what that action may be. Would you want us to try to develop something that

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could be in place so that if it triggered, you could vote on a series of actions that could be taken in a more timely manner? We also would like to consider using a traffic light analysis – that is the next part of my series of presentations – to help alleviate this moving 10th percentile, and go to more of a reference period based analysis of these different indices. With that, I would take any questions.

CHAIRMAN DANIEL: Questions on the spot triggers?

MR. PATRICK GEER: I have a question. Of the four surveys, all four of them are the calculations based on multiple age classes; the abundance estimates are on multiple age classes?

MR. RICKABAUGH: The two trawl surveys are. The Maryland survey – for spot there are only three independent indices. There is the SEAMAP trawl, the NMFS trawl; those are both mixed ages. We need to look at it a little – unfortunately, I don't think there are ages for spot, so you probably have to look at size structure, look at the length frequencies and see if there are potentially age zeros in there or not. The Maryland seine survey is strictly a juvenile survey.

MR. GEER: Right, but don't you think with multiple age classes, wouldn't it be better to just look at one age class, like come up with a juvenile index of abundance from those trawl surveys?

MR. RICKABAUGH: Again, that is something we can look at, but we have to make sure the data is available. I'm fairly sure SEAMAP did age spot for a couple of years but doesn't anymore. I'm not sure about the North Atlantic trawl, if there is actually any age data on spot. We have it for croaker, but I don't know that we do for spot. Again, we could try a length frequency distribution based on known ages in other fisheries and try to tease something out of that.

MR. GRIST: Just a comment and then a question. It does seem a little strange that the federal surveys offshore are picking up these higher numbers of spot and croaker. The fly net comment you made earlier from North Carolina aside, that we're not seeing this in any other offshore fisheries, finding these abundances of spot and croaker out there.

Other people would bring them in if they had them. That just seems a little strange, a little disconnect there just on what is going on offshore. The question is you had a peak in your Maryland seine survey for spot in recent year. Did the winterkill a year or two ago possibly have a big impact on that and maybe took that peak out? There was a large winterkill in the pay towards Maryland about two years ago, I believe.

MR. RICKABAUGH: Yes, the winterkill did follow that year class. When we had that large year class, it was the following winter in which we did have that large kill. We had a quick decrease in water temperature. The spot stayed longer than they normally do, and we had millions of dead spot. It is hard to know exactly how large that year class was and what proportion was lost to that winterkill, but it certainly moderated it to some degree.

CHAIRMAN DANIEL: All right, what I'm going to do is have Harry go ahead and run through the traffic light process for those of you not familiar with that. It is an interesting new tool that can be used to take measured management approaches depending on the lights. I am looking forward to seeing that. Then I would like to talk about direction from the board to staff on what, if anything, we want to do to address this.

MR. RICKABAUGH: Okay, last year the board had asked the TC to look at developing more or less a management trigger in absence of being able to do an updated stock assessment, something similar to what we have for spot that I just presented. The TC looked at some different options and decided that we were going to explore the traffic light method.

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The data you see here; the figures aren't croaker data, it is just some examples out of an actual paper that uses the traffic light method for managing a different species. Some of the main points for this is that it is better at illustrating trends. It also uses reference points or reference time periods to determine what is going to be basically green, yellow or red.

In this particular example that is up there, the dashed line would be kind of what you could think of as a target. Whatever is above that is green. That lower solid line is your red/yellow line; anything below it is red. That is kind of your threshold in the terms we use. There are different ways to set these.

This is what we're referring to as a strict traffic light. Every year has to be red, yellow or green, no combinations. Usually in that you either use something from a stock assessment to derive your reference points. A standard convention is to use the mean as your green/yellow line, so anything that is at or above the mean is green. Anything below moves into the yellow.

Then you use a percentage of the mean, typically something like 60 percent; so if it is 60 percent of the mean, that would be your red/yellow line. Anything below that would be red; anything in between the 60 percent below and the mean itself is yellow. That is how the strict light works. These are useful for both data-poor and data-rich stocks as long as you have some abundance index or even juvenile indices. Any sort of things that track trends within your fishery, you can use this approach.

What we had used is the same four fisheries independent indices that we used for the assessment trigger. Excuse me; these are the same indices we used in the last stock assessment. That is why we've selected those. We also used the same two datasets that we have the hard trigger on. We had looked at trying to incorporate the 70 percent, the two-year average for comparison, but we decided to drop that and just go with this strict and/or fuzzy approach.

We decided to use a reference period of 1996 to 2008. That was done for multiple reasons. In the literature, it suggests that if you pick a reference period for the traffic light approach, that you try to use something that is at least one generation time. That is approximately the maximum life span of the croaker. We had a couple that go beyond 13 years, but that incorporates pretty much the whole generation period.

It is also a time period within the last stock assessment that biomass was at an acceptable level and relative F estimates were low. It also is a time period in which we have increasing landings from '96 through early 2000, and then it begins to decrease. The literature also suggests you should have some movement within your landings and indices within the time period.

You don't want it over one static period. That time period basically incorporates all those aspects. The strict light, as I already described, each year has to have red, yellow or green. The fuzzy traffic light basically; an individual year gets a proportion of color, either yellow/green or yellow/red; you theoretically could be all red, all yellow or all green. But basically the way it works as we're using; for this analysis we used the time series mean as the center point, so the entire series mean is all yellow.

Then as you move one confidence interval – using the confidence limit if you subtract a confidence limit that is 50 percent red, 50 percent yellow; if you add one confidence, upper confidence limit to the mean, that is 50 percent green, 50 percent yellow; two confidence limits up would be all green; two confidence limits down would be all red.

Basically you are using your data and the calculated confidence limits to come up with your yellow, red and green proportions. Here is a graph to show you how this would work. This is the commercial landings truncated down to 1982 to be comparable with the recreational and to be small enough that we can see it here on the screen.

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There are two parts to this. The top part is the strict traffic light, and the bottom bar graph is the fuzzy traffic light. For the strict traffic light we did use the mean and 60 percent of the mean; and we used the process I just described for the fuzzy traffic light. As you can see, for the most part they are showing you a similar trend. It is red. Red would be, of course, where you don't want to be, in the early part of the time series through 1995 using the strict.

You get more information though with the fuzzy traffic light. You can see through 1992 through 1996 you get more and more yellow, which means you're moving more towards the direction you want to be. If you're just using the straight red, you have no idea whether you're going up or down if you are just looking at a straight red or green or yellow light.

As we move through and get into the green proportion, you can see we still don't have much green in the fuzzy; but basically as soon as you have any green, it is going to trip – you are above the mean. You're going to be green with the strict traffic light. Now we're moving towards the end of the scale here. You can see we're moving back towards those decreasing landing.

The strict traffic light has got some red in 2011 and 12 compared to our reference period. The fuzzy traffic light is getting a higher proportion of red. The next slide shows basically the same thing but for recreational harvest; a little more variability in the recreational harvest, but still pretty much a smooth move from lower landings; the landings increased

The time period for the recreational landings is slightly skewed more towards more recent time periods, where it turns green, but then it more rapidly goes to red. It gets a little more difficult to see trends, of course, in a juvenile survey. This is a species that has very highly variable recruitment, so you are going to expect to see these ups and downs. These are our two juvenile indices; the VIMS trawl survey and the North Carolina Pamlico Sound juvenile survey.

You can see some agreement; particularly in 2012 is a good year for both of them, 2010. But there is also some where they disagree. This isn't too surprising as environmental factors can be pretty strong players in juvenile croaker recruitment, so it is different than north to south. You may see some differences.

This is what I didn't show but talked about in the previous one, the two offshore trawl surveys. The top one is the SEAMAP survey, and you can see lots of yellow and green in the more recent years. It is red more towards the 1995 through 2001 time period when commercial landings actually were increasing.

Below that; this is another way you can represent the strict traffic light where you get a little more information. Basically this each year has to be red, yellow or green. But since it is on a bar graph with the two reference points, the time series mean being the upper dotted line and the 60 percent below the time series mean being that lower dotted line; you get a better idea of whether the index is moving up or down and where it is in relation to the different reference points. But again you see a high period for both of these surveys.

Recent times have been some of the highest index values, the exact opposite of what we're seeing in the trawl. For this one; this is to show you one of the advantages of using the fuzzy light over the strict is that you can combine and make a composite index basically as long as they're the same sort of surveys.

The two trawl surveys in this case are on this bottom graph combined. Now you can have red, yellow and green in the same year; because if one survey is green and one is red, and both have a little bit of yellow; you end up with all three colors. This enables you to look at multiple indices at once and see if they're agreeing, not agreeing; rather than trying to eyeball them side by side.

Just for a comparison, I have the juvenile survey above. That is just the Virginia one, it is not a

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composite, so it is still just yellow or green or red in a particular year. One thing that struck me when I was looking at this, one of the reasons why I want to go ahead and look and see what the age structure, if we have it, is for these surveys; as we look at 2012, it is a very good juvenile year.

It was for both of the juvenile surveys, and the 2012 was a very good for the trawl survey. That makes me wonder if there isn't age zero fish being caught in those surveys. Okay, the composite of both the commercial and recreational landings is much cleaner. Again, it is not too surprising; they both trended pretty much with each other. Most years are either red/yellow or yellow/green.

You only have a couple transition years where you have a little bit of yellow and a little bit of red; a pretty clear trend between what people are catching recreationally and commercially has been pretty consistent. It needs some fine tuning. Like I mentioned, we've got to go through these indices and make sure we're representing them as what they are; are they mixed age groups or are they truly adults versus juveniles?

We also need for the fuzzy light – the nice thing about the strict is you kind of were setting up your lines of what is red, what is yellow, what is green. When you go to fuzzy you have got to come up with a proportion of red that is unacceptable, essentially. When the proportion of red reaches, say 30 percent; that is when you trigger.

We would have to come up with a trigger level for the fuzzy approach; and basically we were hoping for some feedback from the board on if they would like us to continue along the lines of using this approach. It is something that the PRT and the TC both like; the TC for croaker in this case, and the PRT for spot. With that, I will take any questions on either this traffic light or how any of these things relate for all three presentations.

CHAIRMAN DANIEL: Very nice; good job. We used this method – actually sent out the traffic light method for blue crabs and sent it out for peer review and actually got a very good response, and used it in North Carolina to manage blue crabs. Not only is it simple and visual; but of all the times that I've been out trying to explain stock assessments and population dynamics to the public, this one really facilitates that nicely.

When you can use this, it does have a lot of advantages to the public. They can see that green and yellow. I am really surprised at how yellow and red these are. We didn't see anything like those. Most of our stuff was more green and yellow in the blue crab fishery. Are there any questions for Harry on the technique? Are there any concerns about continuing to use that and developing it as well for spot, I think is what they planned would be.

MR. BOYLES: I just wanted to comment just to echo what you said. We have started using something very similar in South Carolina as an outreach method. There is so much variability in the data from time to time, so finding a way to normalize the data and to be able to translate that to something that our constituents understand in terms of; are we within one standard deviation of a ten year average, or what have you, and we've developed something very, very similar and it has met with some very positive comments. I would echo your comments and think we should use this where we can.

MR. GRIST: Just curious; how long does the TC think they are going to need to get it kind of worked out, to get this thing ready for primetime? Are we talking three months, six months? What type of timeframe are we looking, because there is work that needs to still be done, but it is good progress.

MR. RICKABAUGH: So far, basically Chris McDonough has done most of the work on this. I'm more than willing to help pitch in and try to get this done quicker, but I would say it is going to be at least a few months, maybe closer to the six months. I don't want to rush it. I want to

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make sure we go through these indices, make sure exactly what is tracking what and who we should be combining with whom; look at other things that maybe we haven't looked at yet.

We used what was in the stock assessment. We could potentially look at some other indices or some of the things we looked at as the biological data, changes in age structure. I don't know if it is worth looking into some CPUE stuff with some of our commercial landings. I know we aren't real happy with it; but if we just use trip level effort for more recent years, it wouldn't give us the whole time series, but those are things we might be able to combine where before they showed us conflicting results.

Well, if we combined every state's trip level CPUEs through the fuzzy light approach, maybe it would show us something. There are a lot of different things we could look at. It just depends how much time we have as individuals to dedicate to this and how much the board wants us to explore. To just polish up what we showed so far, we could probably do it in a few months; but to do it and make sure we've got everything we can incorporate in there, it is probably going to take maybe six months or so.

CHAIRMAN DANIEL: I know at least from – I've heard North Carolina is involved with the technical committee, I think; I hope. But we do have an annual age/length key that may be helpful for assigning ages, as well as additional surveys that may be useful at this point; Program 70, which is our independent gill net survey; and our 120, which is our juvenile trawl survey.

That is one of the things – that is our primary survey that we use to identify primary nursery areas and spot are one of the indicator species for a primary nursery area. I'm sure other states probably have additional surveys that handle spot as well, and you might be able to use in the traffic light. Are there any other questions about that?

I guess the question for the board is do you want to do anything about this? There is a lot of red and yellow. I'm assuming that the spot one

would look similar to this. Are there measures that we want to be looking at or thinking about? One thing I was going to propose at least for discussion is looking again at the shrimp trawl fishery.

There is no reason why the South Atlantic Board couldn't have a shrimp plan. We did weakfish implementation in '95 to achieve a reduction in weakfish bycatch in the shrimp trawl, but really haven't done anything formally on a coast-wide basis since then. It might at least be good to see what kind of progress the various states have made since the requirement in the weakfish plan to reduce bycatch. Other states may have done more since then; but to try to get a handle on it, because right now that is an issue-du-jour is shrimp trawl bycatch, and the potential impacts of shrimp trawl bycatch on some of these coast-wide fisheries, particularly croaker and spot and weakfish.

MR. BOYLES: I want to think a little bit about a shrimp plan. I'm guessing, certainly, the states to the south of you; effort has gone way down. CPUEs have gone way up. Our fishermen are far more efficient than they used to be. I want to hold judgment on a shrimp plan. But getting back to some of the discussion about what we want to do, what we might want to do -- I am guessing where we're at is if we want to move and explore some options for addressing some of these yellows and reds is that we're at an addendum.

I would kind of like to see what some of our options may be. I don't know if that starts with a white paper or if it actually is a formal addenda process, but I've seen enough here today that gives me pause that we have probably got to pay a little bit closer attention than I have been paying to some of the things coastwide.

MR. GRIST: Just curious; does staff have available what the current various state regulations are for spot and croaker for those that do have them; is that available?

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CHAIRMAN DANIEL: It is in the last document. I think it is in the Omnibus Amendment.

MR. GRIST: Okay, so that is still up to date.

CHAIRMAN DANIEL: I'm not sure if anybody other than Georgia has a spot limit. I don't think – I don't know about croaker, if anybody has a croaker limit in any way, shape or form. We made a lot of comments back in the old days about the fly net closure south of Cape Hatteras and the bycatch reduction devices in the shrimp trawl fishery.

It was sort of a de facto croaker spot plan was the term we used, and that really we had done enough and didn't need to do more. But since that time, since around 1996, 1997 – we've seen at least in North Carolina we've seen a fairly significant decline, consistent decline in spot and croaker abundance since all those measures took place.

If we'd have said back in '95 that we were going to actually see the condition of croaker, weakfish and spot get worse with all these actions, we would all have been looked at like we were crazy, but that has been the result. The question is why? We're seeing the same thing, Robert. We're seeing a big reduction in shrimp trawl effort, a big reduction in trips, more efficiency as well.

I assume that means the bycatch has gone down with a 70 percent reduction in effort. I would just throw that out there as what are the potential causes? I mean we're not catching them. Is it another weakfish issue where it is a natural mortality shift? But I think Wilson's point is the key one I'm thinking about, and that is the ecosystem component; particularly for spot, and how important they are as a forage base and what we might be able to do.

To me they are just as important for the inshore fishery as menhaden. There are options out there; I just don't know exactly how we want to move forward, especially in the absence of updated stock assessments. Like I said, I think

the traffic light is a stock assessment. I think it could be used to make management decisions.

MR. WOODWARD: Well, timing is everything in life. I'm kind of in a peculiar situation, because at the end of this month I was planning on going to our Board of Natural Resources, asking them to repeal our existing minimum size limits on spot and croaker for the very fact that we have had them in place for years and years and years and have no real science-based reason to have them there.

But if we're about to go down a road that may lead us to that, I need to know, because I don't want to go in there at the end of this month and be back in front of them six months from now or twelve months from now undoing what I just did. We've got enough of that goes on in our world without bringing it on ourselves.

The other thing that I just hope that we'll continue to be very sensitive, because I am still a little rankled about weakfish in terms of the South Atlantic versus the rest of the coast and all, and we took out dose of medicine like we ask everybody else to. But we've got regional dynamics in these fish stocks.

We've got to consider that and make sure that stays in the forefront of our analyses and our interpretation of those analyses, and how we respond to them proportionately, whenever we see indications of problems. But the shrimp trawl issue, there is no doubt, we have seen a drastic reduction in effort, better compliance with TEDs and BRDs. Everything speaks to the impact of trawling being vastly less than what it used to be. In fact, I was offshore diving the other day and actually saw a big school of spot on one of our artificial reefs, which I don't think I had ever seen before.

CHAIRMAN DANIEL: Good comments.

DR. LANEY: I think I heard Harry pose a question to the board which was whether or not we should wait until landings were final before the TC makes the trigger calculations. I for one would favor that I think as long as it doesn't

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compromise the board's ability to make any necessary management adjustments. I certainly would favor the TC coming back to us – and that is both TCs for both spot and croaker coming back to us with traffic light proposals.

I think that is a very good way to go. I agree with you; I think that is a type of assessment, and it is very easy for the public to understand. It is much easier for us to understand, too, I think. I certainly would support a move in that direction. I would ask you with regard to a consideration of a shrimp plan, I presume you are talking about something that would cover state waters as opposed to federal waters. We do already have – correct me if I'm wrong, I don't remember for North Carolina, but we have BRD requirements in inshore trawling already? What additional measures might be considered if we decided to go in that direction?

CHAIRMAN DANIEL: I think there are several issues there. One is the evolving technology for the bycatch reduction devices is there. Back in the day when we were doing it – and I don't know how the other states are handling it, but there were several BRDs that were certified by the federal government.

I don't know why they need to be certified by the federal government if we're going to be using them in inside waters. I think that provides us an opportunity if we're working in concert with the weakfish plan to sort of make some modifications to the allowable BRD types at least in inside waters that may be more efficient. There are more designs out there now, and we're moving in that direction in North Carolina unilaterally.

We're doing it and we'll be coming out with a plan very soon on adjusting the allowable BRD types and trying to get more reduction. There was a lot of success in the T-90 skylight panels and various other approaches that are being worked on now by NMFS and others down in the Gulf. There is a lot of promise there, and we're seeing that evolution in the Gulf.

I don't know what type of evolution we're seeing south of North Carolina. I know we have not evolved significantly in our BRD requirements, and I think we're paying for that now. Again going back to the weakfish and croaker circumstances, in the weakfish assessment, when we took the bycatch to the SARC, they just threw it out.

They just said it was so highly variable that it was unusable, so just do your stock assessment on Age 1 plusses, and just eliminate consideration of the shrimp trawl bycatch. In the croaker we got a little different result. It had come back with a better analysis of the shrimp trawl bycatch. Whether that will ultimately be acceptable or not and provide us with – you know, that to me is the gold standard on shrimp trawls; what is the impact of shrimp trawling on these stocks; what percentage of the mortality?

It is kind of like the elvers. A lot of these little – what we've gotten the bycatch down to now is the same size as the shrimp. The size distribution of the fish and the shrimp are almost exactly the same. What is the impact on the populations? Those are questions we can't answer at this time.

It is going to take a coast-wide effort in order to get that answer, and it is not going to come just out of South Carolina or just out of Georgia. That is why I bring that up. But what I am hearing around the table so far is that we like the stop light approach. We would like to see that expanded upon; do it for spot.

But then just to give you an example, what we did with blue crabs was if we had a certain color pattern – we used the fuzzy, and that is not his terminology, that is whoever developed the model called it fuzzy. I don't like that, but that is what they call it. But depending upon the shades and the colors, you take more and more different actions.

That is one of the things, Wilson, that I think the technical committee also asked and brought up is if we do hit the trigger, what do we do? We don't have that plan in place at all. Perhaps one

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option to consider is to have the TC come back with the stop lights and some progressive management measures that we would take.

We may want to go ahead and take some; but then if we hit different triggers, that kick in additional measures. The difficulty there is there are some measures that once you implement them, you don't want to keep coming off of them. There needs to be stuff that you deal with that you can drop back on if your traffic light goes back to green, or more green and yellow as opposed to yellow and red. That I think is the challenge for the technical committee to come up with those options. That is one approach.

MR. BOYLES: I think that is reasonable. I recall though that we have in the last several years gone on croaker, I believe, and they're dealing with croaker as one stock. It is no question from our staff's perspective that Cape Hatteras is a huge biogeographical divide. I guess I am going to look to my colleague here from Georgia, Pat Geer.

Pat talks differently than I do, all right, but genetically we're the same species. Yet the Georgia fishery is different than the South Carolina fishery, and our fisheries on the southern end of the range are vastly different from those fisheries north of Hatteras particularly. I think we are going to need to build in some flexibility.

The SEAMAP data show it, I mean a lot of year zeros, a lot of small fish. Why is that? I mean, genetically they may be the same, but why aren't we getting these bigger fish? I think we need to have some of that flexibility built into whatever these mechanisms that we go as a response to the traffic light analysis.

CHAIRMAN DANIEL: I've got to hear you talk, Pat.

MR. PATRICK GEER: Robert, I didn't know if you wanted a response from that or not.

DR. LANEY: Relative to Cape Hatteras as a biogeographic barrier; it may be to some extent, but I'll just note for the record that for larger species like striped bass and Atlantic sturgeon and some of the shark species that are running around with acoustic tags in them now, when we put that 12 kilometer acoustic listening array out south of Hatteras, it was somewhat of a surprise to us how much traffic we're getting from north of Cape Hatteras going south of Cape Hatteras and vice versa at least for those larger species.

I know that we now have the technology to allow us to put acoustic transmitters in some of these smaller species, so it would certainly be interesting to put a bunch of them out there and see what they do. I believe Joe Hightower – Louis, help me out – at NC State, they did do one study using spot with acoustic transmitters in them to estimate natural mortality.

I think that was done in Slocum Creek off the Neuse River there. Joe had a grad student that did that and we got some rather interesting results. For example, when one of the spot picked up speed at a tremendous rate, it became apparent that the spot and its implanted transmitter had been consumed by a bottlenose dolphin that was rapidly exiting the system.

You learn some interesting things, but I would certainly think that technology might enable us to begin to sort out some of this north versus south difference that we see in some of these fisheries, and especially sometimes when we see apparent differences in age structure, north versus south.

CHAIRMAN DANIEL: Just for clarity in the record, that was red drum that was done in Slocum Creek, and then they did another study with speckled trout that showed a similar thing. We're getting ready this year to start tagging weakfish from a project that we should be getting some information on weakfish out of North Carolina as well.

DR. LANEY: Yes, but there was a spot study also, I'm pretty sure. I'll check on that.

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CHAIRMAN DANIEL: I haven't seen that one; I wasn't aware of that one. I did fail to introduce and welcome back Jenny Fay with National Marine Fishery Service. She hasn't been around the table for a long time, but she is back; so everybody say, hey, to Jenny when you get a chance.

MS. JENNY FAY: I'm happy to be back, Louis.

CHAIRMAN DANIEL: It is wonderful to have you back. So what is your pleasure?

MR. WOODWARD: **Do you need a motion to direct the PRT to proceed with development of the traffic light approach?**

CHAIRMAN DANIEL: I would like that if that is what the board would like.

MR. WOODWARD: **I will make that motion.**

CHAIRMAN DANIEL: Okay, perfect, with a second from Bill Goldsborough. I think the intent would be to ask the technical committee to look at the stop light approach for both species, and then we would get a report on that. Would you like to go ahead and have the technical committee begin looking at alternatives for management if those triggers are met as well?

MR. WOODWARD: Yes, to do the development of the traffic light approach and to also develop concurrently proposed management actions to respond to different conditions of the traffic light analysis.

CHAIRMAN DANIEL: Very well put.

MR. GRIST: Is this spot only or is this spot and croaker?

CHAIRMAN DANIEL: Spot and croaker; both species, unless there is someone who feels otherwise. If we could, Tina when we're doing the press release for this, if we do a press release or if we have something on the website, using the language verbatim that Spud used to explain

it. I don't know if he can say it exactly the same way again, but the way you said it I think was perfect.

MR. WOODWARD: Okay, let's see if I can reproduce this: **to develop the traffic light approach for spot and Atlantic croaker and propose management options in response to various conditions of that traffic light approach.** I hope that is close to what I said. Just to make it clear what I'm hoping that I'm communicating here is that if you get these colors, what do you do; because that is what it is really going to come down to is, okay, if you get yellow, if you get orange or whatever it is, what are you going to do?

CHAIRMAN DANIEL: I think that is what the technical committee was hoping to get out of this discussion. SO, move to develop the traffic light approach for spot and Atlantic croaker and propose management options in response to various conditions of that traffic light approach. Motion by Mr. Woodward and seconded by Mr. Goldsborough. Is there any further discussion on that motion? Seeing none; is there any objection to the motion? **Seeing none; the motion carries.** Timeline.

MS. TONI KERNS: I heard Harry say that they wouldn't want to have to be rushed to finish the traffic light approach. I think that we might be able to have them be done maybe sometime by the end of November. Does that sound reasonable – or December? Then we can then use January to work on the management options and then present back to the South Atlantic Board in February. Does that seem reasonable, Harry, if that is reasonable to the board?

CHAIRMAN DANIEL: Is that reasonable to Harry?

MR. RICKABAUGH: Yes.

MR. BOYLES: I was going to suggest maybe a draft report in the winter meeting; maybe to give you just a little bit more time if you run into something, you run into a wall. I would imagine the potential options that might be available to

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the board in response may require a little bit more than a month to flesh out; but if we could get a draft report, maybe in the winter meeting.

CHAIRMAN DANIEL: Yes, I think in terms of just the progress. If we don't have a South Atlantic Board meeting, we could always do that in Policy, so that we can have that update.

MR. WILLIAM J. GOLDSBOROUGH: I believe we have a Croaker TC and a Spot PRT; is that the structure we want or do we need a Spot TC?

CHAIRMAN DANIEL: I don't know that we do. If we can get by, I think the PRT and the Croaker TC can handle this traffic light method, and this may be an approach we want to start using more. Once you see it, I think you are going to like it. Once it makes sense to you, I think you are going to really appreciate it. It is an excellent tool for data-poor species, and I can think of several that we might consider.

MR. WOODWARD: Just a comment, we have been using that in our blue crab fishery for a while now, and we developed it in consultation with the commercial fishermen. But the one thing that just sort of thinking ahead is when we get ready to actually formalize what we're going to do in response to various conditions, we just need to make sure that we'll have the resolve to do it, because it is like a lot of things in life; oh, sure, I'll do that. Then all of a sudden you hit that wall and it is like; oh, oh, now – and you committed yourself. It is like standing at the altar and saying those words; you've committed yourself.

CHAIRMAN DANIEL: There is somebody that wouldn't like that analysis very well, Spud.

MR. WOODWARD: I am firmly committed to her.

MS. KERNS: Louis, the Spot PRT is largely made up of biologists. We may actually come back to the South Atlantic Board and ask for a couple of individuals as we begin to develop the management options for some folks that may be

more on the policy side of things, for additional help on that.

CHAIRMAN DANIEL: Okay, is everybody good, happy, satisfied? The next item on the agenda is the Spanish Mackerel Addendum I for final approval. Kirby, do you want to take us through that?

**SPANISH MACKEREL
DRAFT ADDENDUM I FOR
FINAL APPROVAL**

MR. KIRBY ROOTES-MURDY: Today we'll be going over the Draft Addendum I to the Omnibus Amendment to the Spanish mackerel, Spot and Spotted Seatrout FMP, which has been available for public comment. This addendum focuses on commercial management measures for the 2013 and 2014 fishing season.

As you can see in the timeline, the public comment period ended last month on July 19, and the board is meeting today to determine final action. There was one public hearing that was scheduled for North Carolina. No one attended, and there was no public comment submitted. For some quick background; in May of 2013 the South Atlantic Board approved the development of an addendum to the Spanish mackerel FMP to allow states to reduce the minimum size to 11.5 inches for the fishing year 2013 and 2014, specifically July through September for the pound net fishery to eliminate the waste of dead discards.

A portion of the Spanish mackerel population entering the estuary pound nets during the summer months are just under the legal size limit of 12 inches fork length. When the nets are bunted and the fish are bailed, the undersized Spanish mackerel are difficult to release alive and quickly die, unlike other species.

The purpose of this addendum is to consider seasonal flexibility in setting the minimum size limit for the Spanish mackerel for the pound net gear type in the commercial sector. Such changes would allow for the conversion of dead

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discards to minimize waste from the fishery. There are two options for the board to consider.

The first is status quo. This would maintain the current commercial management measures of 12 inches fork length or 14 inches total length minimum size with seasonally changing days in the vessel trip limits and a decrease in commercial quotas if total annual catch limit is exceeded and stock is overfished.

Option 2 is employing the use of an alternative size limit. States may establish a seasonal exemption from the current minimum size limit of 12 inch fork length to 11.5 inch fork length. This exemption would apply to only the pound net fishery during one or more of the summer months of July through September for 2013 and 2014 fishing years only.

If approved, the measure would be extended through board action. If Option 2 is approved, these measures would be reviewed by the technical committee and/or Plan Development Team as part of its annual fishery management plan review. These adopted measures would be implemented immediately upon the approval of the draft addendum. Now it is for the board to consider final approval.

CHAIRMAN DANIEL: Any questions?

MR. BOYLES: No questions; are you ready for a motion? I make a motion that we accept Option 2 as the preferred for Draft Addendum I.

CHAIRMAN DANIEL: Motion by Robert Boyles and second by Bill Cole; that is a motion to approve Option 2.

DR. LANEY: Just a question, Mr. Chairman. Joe and Catherine, do you catch Spanish mackerel in the Virginia pound nets and would that provision apply to Virginia also?

CHAIRMAN DANIEL: Joe can answer his question, but my understanding was, yes, if a state elected to opt in, but you have to be able to characterize the catches and the PRT would

review the outcome. I don't know about the pound net fishery.

MR. GRIST: Yes, they do catch Spanish mackerel in the pound net fishery, and it would be an option, but we have been polling our pound netters and we haven't gotten much public response on this, particularly to the point about in the subsample that smaller size.

CHAIRMAN DANIEL: Are there any further questions or comments on the motion? If not; is there any objection to the motion? **Seeing none; the motion carries.** I think now we'll need a motion to approve the addendum.

MR. BOYLES: Mr. Chairman, I would make a motion that we do approve Addendum 1 to the Spanish mackerel FMP.

CHAIRMAN DANIEL: Thank you, Robert. Motion by Robert Boyles; second by Bill Cole to approve the addendum, which has the one item. Are there any questions or comments? Any objection to the motion? **Seeing none; that motion carries.** Next is the FMP review and state compliance reports for Atlantic croaker and red drum.

**FMP REVIEW AND STATE
COMPLIANCE REPORTS FOR
ATLANTIC CROAKER AND RED DRUM**

MR. ROOTES-MURDY: This is a quick review of the Atlantic Croaker Fishery Management Plan Review for the 2012 fishing season. First is the update; the status of management. There have been no changes since early 2011. In 2011 Addendum I changed the management unit for the fishery from two management regions to one coast-wide unit, as well as revised the biological reference points to be consistent with the results of the 2010 stock assessment.

With regards to the status of the fishery, the total Atlantic croaker harvest encompassing commercial and recreational landings for the coast-wide management unit in 2012 was estimated at 14.6 million pounds. This

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represents the 64 percent decline in total harvest since the peak at 41.2 million pounds in 2001.

Respectively, that is a 61 percent commercial decline and a 73 percent recreational decline. The commercial and recreational fisheries harvested at approximately 80 and 20 percent of the total. This figure shows the recreational catch in numbers of fish. Both the recreational harvest and released fish have generally increased over the time series, but have declined overall during the last decade.

The proportion of caught fish that anglers release have generally increased or remained stable over this time series, reaching to about 66 percent in 2012. The PRT encourages the board to continue the use of circle hooks to minimize recreational discard mortalities. The PRT finds that all states have fulfilled the requirements of Amendment 1. With regard to the de minimis, the criteria is that the fishery must be less than 1 percent of the three-year average.

Requests from Delaware commercial sector, South Carolina commercial sector, Georgia commercial and recreational sectors and Florida commercial sectors; all requests qualify for de minimis status, but the status does not exempt states from any compliance requirements. With that being said, are there any questions?

CHAIRMAN DANIEL: Questions on the compliance report? **If there are no questions, we will need a motion to approve the FMP review. Motion by Mr. Woodward; second by Dr. Rhodes.** Is there any discussion on approving the FMP review for Atlantic croaker? Is there any objection? **Seeing none; that motion carries.** I'll move on to red drum.

**RED DRUM HABITAT DRAFT
ADDENDUM I FOR FINAL APPROVAL**

MR. ROOTES-MURDY: Next we'll go through quickly the Red Drum Fishery Management Plan Review for the 2012 fishing season. There are no updates to management across the states. All are still operating under the Amendment 2, with transfer authority for

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federal waters since 2008. With regards to the status of the stock, the next stock assessment is scheduled for 2015.

The total red drum landings in 2012 shown in the shaded area were 1.8 million pounds. This is a 12.5 increase from 2011, and it is 15 percent above the previous 10-year average of 2002 to 2011. For the recreational harvest, this represents 96 percent of the landings in 2012, which is up 94 percent from the landings in 2011. This is shown in the solid white lines.

They've held steadily near or above 80 percent for most of the time series, recently climbing closer to about 100 percent. In 2012, 80 percent of the total landings came from the southern region where the fishery is almost exclusively recreational. The northern region fishery in 2011 did not record any fishery landings, but in 2012 both New Jersey and Maryland had recreational landings.

Then the recreational harvest is the white bars, and in 2012 registered at 1.8 million pounds, which is an increase from 2011. Breakdown by states is about 56 percent Florida, 21 percent South Carolina, 6 percent Georgia, and about 13.6 percent from North Carolina. This graph shows the recreational catch with the harvest in the blue cross bar and releases in the solid yellow bars. While recreational harvest has been relatively stable, releases have increased over the time series, but being relatively stable over the last decade.

2012 discards were estimated at 5.7 million fish. Anglers release more fish than they keep with the release rate generally near or above 80 percent over the last decade, reaching 92 percent in 2012, shown by the solid line. The last assessment used an 8 percent release mortality rate to estimate the recreational dead discards, which would estimate at about 460,000 dead discards in 2012 compared to 155,000 in 2011.

With regards to state compliance, the PRT finds that all states have fulfilled the requirements of Amendment 2. There are not changes to state regulations. There were requests for a de

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minimis by New Jersey and Delaware. For the criteria, the PRT compares the states two-year average of total landings to the coastwide.

As you can see, New Jersey and Delaware are both below 1 percent. In requesting de minimis status, this doesn't exempt states from any compliance requirements. In terms of recommendations from the PRT to the board, the PRT asks that the board continue the moratorium in the EEZ Zone, to consider approval of the de minimis status request from New Jersey and Delaware, and to review the prioritized research monitoring recommendations which are included in the FMP review. I think that is it.

CHAIRMAN DANIEL: Questions on the red drum report?

MR. BOYLES: Not a question, Mr. Chairman, but a motion. **I make a motion that we accept the FMP review and that we grant the de minimis request from New Jersey and Delaware.**

CHAIRMAN DANIEL: Motion by Robert Boyles, second by Bill Cole. Everybody knows the motion? All right, any discussion? Any objection? **Seeing none; the motion carries.** Congratulations to de minimis states. I don't know if that is a good thing or a bad thing. Everything I'm hearing, last year was spectacular at least in the northern group. I think Virginia set the record by a long shot that had been held – I think all the top ten release records came from Florida until last year. I think Virginia went to over 3 million.

MR. GRIST: Well, according to MRIP it was over 2.5 million.

CHAIRMAN DANIEL: Which is like the world record number of releases, and we were about half of that and it was a record for us. We saw some pretty extraordinary recruitment in the northern group. The next item on the agenda is the Red Drum Habitat Draft Addendum I for final approval.

MR. ROOTES-MURDY: This is the Draft Addendum I to Amendment 2 in the Red Drum Fishery Management Plan on Habitat Needs and Concerns. In terms of the addendum's timeline, at the May 2013 South Atlantic Board Meeting, the board approved the addendum for public comment. The public comment period was open from then until June 30, 2013.

There were no public comments received. The habitat addendum focuses on the following sections; specifically habitat that is important to the stock, spawning larval, juvenile, sub-adult and adult habitats of concern, as well as present condition of habitats of concern for coastal estuarine for spawning juvenile, sub-adult, and adult habitat.

The last item was with regards to habitat bottlenecks. For example, in the case of red drum there doesn't appear to be limiting factors in terms of habitat. In South Carolina, for example, while there may be limited reef habitat, that hasn't limited the population due to the range that the species utilizes at different life stages. With that being said, request to have the board consider final approval of the red drum habitat addendum.

CHAIRMAN DANIEL: Any questions or comments?

DR.LANEY: I would be prepared to make a motion Mr. Chairman, if you're ready. I move to accept Draft Addendum I to Amendment 2 to the Red Drum Fishery Management Plan Habitat Needs and Concerns.

CHAIRMAN DANIEL: Motion by Dr. Laney; second by Mr. Boyles.

DR. LANEY: If I could just to follow up; thanks to the state of Florida and Kent Smith for all the effort that they put into getting that habitat section for red drum updated. I think Kent had a college student intern, a grad student that worked on that plan and did a great job on it.

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CHAIRMAN DANIEL: Very good. Any discussion on the motion? Is there any objection to the motion? **Seeing none; that motion carries.**

OTHER BUSINESS

CHAIRMAN DANIEL: All right, that takes us down to other business. Pat will give us the SEAMAP update.

MR. PATRICK CAMPFIELD: I am going to provide a quick funding update on the Southeast Area Monitoring and Assessment Program. A handout is going around with some of the details. The first table gives the breakdown for FY-13 funding among the three SEAMAP regions, South Atlantic, Gulf and Caribbean; as well as the Fisheries Service portion of the funding.

The second table has more detailed allocation within the South Atlantic Region among the three states and the commission portion of SEAMAP funding. The take-home message is that there have been reductions in SEAMAP funding in both FY-12 of over 6 percent and again in FY-13 of about 5 percent for more than 11 percent cut in funding over the last couple of years.

To date, the program has absorbed the funding cuts evenly across surveys and other SEAMAP projects, but we are reaching sort of a boiling point where if further cuts come through in FY-14, which we've been warned that may happen, we may have to cut back individual surveys.

To date, each of the individual projects has been able to either reduce the number of stations in a survey or reduce lab processing of samples for things like diet studies, but it is becoming a fairly critical situation. Then the back side of the handout is more details on the actual survey accomplishments in recent years, stemming from the SEAMAP annual meeting, which was held just last week. That is all.

CHAIRMAN DANIEL: Thank you very much for that update. That was just something that

didn't have time to get it on the agenda. Money is going down. All right, we have got ten seconds, so I would like one more motion. There is this fellow named Harry Rickabaugh, who we all know, who we need to get on the Spot PRT to help us out; if I could get a motion to do that.

MR. O'CONNELL: Yes, I move to add Harry Rickabaugh to the Spot PRT.

CHAIRMAN DANIEL: Thank you Tom; second by Joe Grist. Is there any objection to the motion? **Seeing none; thank you, and thank you, Harry, for being willing to take that responsibility.** Is there any other business to come before the South Atlantic Board?

DR. LANEY: Mr. Chairman, I would just mention for everybody's information that Spot paper that I talked about is hot of the press. It just came out in the transactions in 2013, and I will send it out to everybody for distribution.

ADJOURNMENT

CHAIRMAN DANIEL: Any other business to come before the South Atlantic Board? If not Mr. Executive Director; right on time.

(Whereupon, meeting was adjourned at 3:40 o'clock p.m., August 7, 2013.)

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

SPANISH MACKEREL
(Scomberomorus maculatus)

2012 FISHING YEAR



Prepared by the

Spanish Mackerel Plan Review Team

Kirby Rootes-Murdy, Atlantic States Marine Fisheries Commission, Chair

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I. Status of the Plan

The Fishery Management Plan (FMP) for the Coastal Migratory Pelagic Resources (1983 and subsequent amendments) and the Interstate Fishery Management Plan for Spanish Mackerel (1990) manage Atlantic group Spanish mackerel in federal and state Atlantic waters from New York through the east coast of Florida. All states in that range, excluding Pennsylvania, have a declared interest in the Interstate FMP for Spanish Mackerel. The South Atlantic State/Federal Fisheries Management Board serves as the Commission's Spanish Mackerel Management Board. The Interstate FMP for Spanish Mackerel is a flexible document intended to track the federal FMP; thus, the South Atlantic Fishery Management Council (SAFMC) has the lead on Atlantic group Spanish mackerel management.

The SAFMC manages Atlantic group Spanish mackerel based on guidance from its Scientific and Statistical Committee (SSC). The SAFMC determines needed adjustments to regulatory measures, including allowable catch, bag limits, size limits, and trip limits. The SAFMC deliberations are assisted by a Mackerel Committee that includes representatives from the Mid-Atlantic Fishery Management Council, and an Advisory Panel with South Atlantic and Mid-Atlantic industry representation.

The SAFMC approved Amendment 18 to the Coastal Migratory Pelagic Resources FMP in December 2011 which established a new ABC based on the SSC recommendation of using median landings of the last 10 years (2001-2011). With this change, the Allowable Biological Catch (ABC) is set equal to the Annual Catch Limit (ACL) and Optimum Yield (OY) [ABC=ACL=OY] at approximately 5.29 million lbs. With this the commercial ACL= 3.13 million lbs and the recreational ACL=2.56 million lbs.

Under the federal FMP, the 2012-2013 fishing year ran from March 1, 2012 to February 29, 2013. The federal FMP divides the commercial fishery into a quota system between the Atlantic and Gulf migratory groups. Within the Atlantic migratory group, there are two zones- the Northern (consisting of the states from New York through Georgia) and the Southern (Florida). For the Atlantic migratory group, the 2012/2013 year, the full quota was 3.13 million pounds and the adjusted quota was 2.88 million pounds. The adjusted quota is used to determine trip limit reductions. The federal commercial trip limit was a year-round 3,500 pound daily possession/landings limit for the states from New York through Georgia. Florida's commercial trip limit varies depending on the season and percent of quota remaining. The recreational bag limit was set at 15 fish. The minimum size limit for both fisheries was 12" fork length or 14" total length.

The goals of the interstate FMP are to complement federal management in state waters, to conserve the Atlantic group Spanish mackerel resource throughout its range, and to achieve compatible management among the states that harvest Spanish mackerel. In accordance with the 2011 Omnibus Amendment, the updated FMP's objectives are to: (1.) Manage the Spanish mackerel fishery by restricting fishing mortality to rates below the threshold fishing mortality rates to provide adequate spawning potential to sustain long-term abundance of the Spanish mackerel populations. (2.) Manage the Spanish mackerel stock to maintain the spawning stock biomass above the target biomass levels. (3.) Minimize endangered species bycatch in the Spanish mackerel fishery. (4.) Provide a flexible management system that coordinates management activities between state and federal waters to promote complementary regulations throughout Spanish mackerel's range which minimizes regulatory delay while retaining substantial ASMFC, Council, and public input into management decisions; and which can adapt

to changes in resource abundance, new scientific information and changes in fishing patterns among user groups or by area. (5.) Develop research priorities that will further refine the Spanish mackerel management program to maximize the biological, social, and economic benefits derived from the Spanish mackerel population. See Table 1 for state Spanish mackerel regulations in 2012.

II. Status of the Stocks

The Atlantic coast Spanish mackerel resource is not experiencing overfishing and the stock is overfished (SEDAR. 2012). As updated the SEDAR 28 Stock Assessment Report, using the Beaufort Assessment Model (BAM) the current stock biomass is estimated to be $SSB_{2011}/MSST=2.29$. The current level of fishing (exploitation rate) was $F_{2009-2011}/F_{MSY}=0.526$, with $F_{2011}/F_{MSY}=0.521$. The overfished ratio (B/B_{MSY}) shows that the biomass declined as a result of the high fishing mortality but has increased in recent years and remains above B_{MSY} (Figure 1). The overfishing ratio (F/F_{MSY}) shows that fishing mortality increased from the late 1970s through 1994 but has since declined (Figure 2). Fishery-dependent data also indicate an increasing biomass trend (except during the last four years which show a decline). The current fishing mortality rate does not seem to be inhibiting stock growth.

III. Status of the Fishery

Spanish mackerel are an important recreational and commercial fishery in South Atlantic waters, and are taken as far north as Massachusetts, although recreational landings north of Maryland are limited and sporadic (Tables 2 and 5). Trip limits implemented in state and federal waters continue to prevent premature closure of the commercial fishery. Total landings of Spanish mackerel in 2012 are estimated at 4.73 million pounds (compared to the 5.29 million pound limit). The commercial fishery harvested approximately 69.5% of the total, and the recreational fishery about 30.5%.

From 1960 to 2012, commercial landings of Atlantic coast Spanish mackerel have ranged between 1.9 and 11.1 million pounds, although that range is limited to between 1.9 and 6.0 million pounds if the unusually large harvests in 1976-77 and 1980 are excluded. Since 1981, landings have averaged 3.65 million pounds (Figure 3). Coastwide commercial landings have generally been below 4 million pounds since 1995 (exception of 2010; landings of 4.53 million pounds); this coincided with the entanglement net ban in Florida. Gill nets were the dominant commercial gear in Florida prior to the ban. After the ban was instituted, the use of cast nets has increased. Coastwide, cast nets took 28% of the commercial harvest in 2012, as compared to the 40% taken with gillnets and 30% taken with line gears (Table 3). The 2012 commercial landings were 3.54 million pounds, of which 2.58 million pounds were landed in Florida (73% of the harvest). North Carolina harvested approximately 26% of the total 2012 landings (Table 2).

Recreational anglers harvested an estimated 835,263 Spanish mackerel (1.2 million pounds) in 2012, about 41% fewer fish than in 2008 (Tables 4 and 5). The number of recreationally harvested fish appears to show a cyclical trend, with low harvests in the early to mid 80s and mid to late 90s, interspersed with higher harvests (Figure 4). Florida and North Carolina continue to account for the majority of recreational landings in both number and weight, averaging 86.5% of total landings since the time series began in 1981. In 2012, Florida harvested 30% of the total number of fish and North Carolina 59%. The number of recreational releases of Spanish mackerel has generally increased over time, reaching a peak of over one million fish in 2008 (Table 6, Figure 4).

IV. Status of Assessment Advice

The most recent stock assessment was completed in 2012 through the SouthEast Data, Assessment, and Review (SEDAR) process (SEADR 2012). The input data (through 2011) were applied to two assessment models, with the primary model a statistical catch at age model, the Beaufort Assessment Model (BAM); while the a secondary surplus-production model (ASPIC) provided a comparison of model results. The Review Panel concluded that the statistical catch at age model was the most appropriate model to characterize the stock status for management purposes.

The Council's Scientific and Statistical Committee (SSC) reviewed the assessment during its December 2012 meeting and accepted the SEDAR 28 Spanish Mackerel stock assessment as best available science. The SSC concurred with the Review Panel's conclusion that the stock is not experiencing overfishing and the stock is not overfished.

V. Status of Research and Monitoring

The National Marine Fisheries Service (NMFS) Southeast Fisheries Science Center (SEFSC) continues to monitor length and weight at age and size frequencies, fishing mortality, and migration; collect age data and catch per unit effort by area, season, fishery, and gear; monitor shrimp trawl bycatch; investigate methods to predict year class strength; calculate estimates of recruitment, and develop conservation gear to reduce bycatch. The NMFS is also collecting discard data through a bycatch logbook in the mackerel and snapper-grouper fisheries. The Gulf and South Atlantic Fisheries Development Foundation and several states (North Carolina, South Carolina, Georgia, and Florida) have evaluated finfish bycatch in the southeastern shrimp trawl fishery, including bycatch of Spanish mackerel. The South Atlantic component of the Southeast Area Monitoring and Assessment Program (SEAMAP) collects Spanish mackerel data in its coastal trawl survey from Cape Hatteras to Cape Canaveral. Additionally, the Northeast Area Monitoring and Assessment Program (NEAMAP) began regular spring and fall surveys between Martha's Vineyard and Cape Hatteras in the fall of 2007.

Abundance trends continue to be monitored primarily through fishery-dependent sources. The states and the SEFSC monitor catch data through the cooperative commercial statistics collection program and the recreational fisheries survey. Commercial trip reports are tallied more frequently in the winter and early spring by the state of Florida and the NMFS as the commercial quota is approached.

VI. Status of Management Measures

2008 Framework Adjustment (Federal)

In February 2008, NOAA Fisheries finalized a framework adjustment to change the beginning date for trip limits in the Atlantic Spanish mackerel fishery off the east coast of Florida. The 3,500 pound trip limit begins March 1 each year to correspond with the beginning of the fishing year (as changed in Amendment 15).

Omnibus Amendment (Interstate)

In August 2011, the Management Board approved an amendment to the Spanish Mackerel FMP to address three issues: compliance measures, consistency with federal management in the exclusive economic zone, and alignment with Commission standards. Through the Omnibus

2013 REVIEW OF THE ASMFC SPANISH MACKEREL FMP

Amendment, the following fisheries management measures are required for states within the management unit range;

Recreational Fishery

- 12" Fork Length (FL) or 14" Total Length (TL) minimum size limit
- 15 fish creel limit
- Must be landed with head and fins intact
- Calendar year season
- Prohibited gear: Drift gill nets prohibited south of Cape Lookout, NC
- Decrease in the recreational quota the following year via reduced bag limits if the Total Annual Catch Limit (ACL) is exceeded and stock is overfished.

Commercial Fishery

- Prohibited: purse seines; drift gill nets south of Cape Lookout, NC
- 12" FL or 14" TL minimum size limit
- March 1 – end of February season
- Trip limits (per vessel, per day)
 - NY-GA: 3500 lbs
 - FL: 3500 lbs, 3/1-11/30;
 - 3500 lbs Mon-Fri & 1500 lbs Sat-Sun, 12/1 until 75% adjusted quota taken;
 - 1500 lbs, when 75% adjusted quota taken until 100% adjusted quotas taken;
 - 500 lbs after 100% of adjusted quotas taken (the adjusted quota compensates for estimated catches of 500 lbs per vessel per day to the end of the season)
- Commercial quotas decreased the following year if Total ACL is exceeded and stock is overfished

Amendment 18 (Federal)

In August 2011, The Gulf of Mexico, South Atlantic, and Mid-Atlantic Fishery Management Councils approved Amendment 18 to the Coastal Migratory Pelagics FMP. The primary action under consideration established Annual Catch Limits (ACLs) and Accountability Measures (AMs) for the cobia, king mackerel, and Spanish mackerel. The amendment designates ACLs and ACTs for each of the two migratory groups of Spanish mackerel (Atlantic and Gulf). For the Atlantic migratory group, the commercial sector ACL is set equivalent to the commercial sector quota of 3.13 million pounds. The AM for the commercial sector is that the commercial sector will close when the commercial quota is reached or projected to be reached. In addition, current trip limit adjustments will remain in place. When the commercial sector closes, harvest and possession of Spanish mackerel would be prohibited for persons aboard a vessel for which a commercial permit for Spanish mackerel has been issued.

For the recreational sector, the ACT is set to 2.32 million pounds, while the ACL is set at 2.56 million pounds. Regarding the AM, if the stock ACL is exceeded in any year, the bag limit will be reduced the next fishing year by the amount necessary to ensure recreational landings achieve the recreational ACT, but do not exceed the recreational ACL in the following fishing year. A payback will be assessed if the Atlantic migratory group Spanish mackerel is determined to be overfished and the stock ACL is exceeded. The payback will include a reduction in the sector ACL for the following year by the amount of the overage by that sector in the prior fishing year.

VII. Implementation of FMP Compliance Requirements for 2012

All states must implement the requirements specified in section 5 (5.1 Mandatory Compliance Elements for States; 5.1.1 Mandatory Elements of State Programs; 5.1.1.1 Regulatory Requirements). The PRT finds all states in compliance.

De minimis Guidelines

A state qualifies for *de minimis* status if its past 3-years' average of the combined commercial and recreational catch is less than 1% of the past 3-years' average of the coastwide combined commercial and recreational catch. Those states that qualify for *de minimis* are not required to implement any monitoring requirements, none of which are included in the plan.

De Minimis Requests

The states of New York, New Jersey, Delaware, Georgia request *de minimis* status. The PRT notes these states meet the requirements of *de minimis*.

VIII. Recommendations of the Plan Review Team

Research and Monitoring Recommendations

High Priority

- Length, sex, age, and CPUE data are needed for improved stock assessment accuracy. Simulations on CPUE trends should be explored and impacts on VPA and assessment results determined. Data collection is needed for all states, particularly those north of North Carolina.
- Evaluation of weight and especially length at age of Spanish mackerel.
- Development of fishery-independent methods to monitor stock size of Atlantic Spanish mackerel (consider aerial surveys used in south Florida waters).
- More timely reporting of mid-Atlantic catches for quota monitoring.
- Provide better estimates of recruitment, natural mortality rates, fishing mortality rates, and standing stock. Specific information should include an estimate of total amount caught and distribution of catch by area, season, and type of gear.
- Develop methodology for predicting year class strength and determination of the relationship between larval abundance and subsequent year class strength.
- Commission and member states should support and provide the identified data & input needed to improve the SAFMC's SEDAR process.
- The full implementation of ecosystem-based management and the implementation of monitoring /research efforts needed to support ecosystem-based management needs should be conducted.

Medium Priority

- Yield per recruit analyses should be conducted relative to alternative selective fishing patterns.
- Determine the bycatch of Spanish mackerel in the directed shrimp fishery in Atlantic Coastal waters (partially met: Branstetter, 1997; Ottley et al., 1998; Gaddis et al., 2001; Page et al., 2004).
- Evaluate potential bias of the lack of appropriate stratification of the data used to generate age-length keys for Atlantic and Gulf Spanish mackerel.
- Evaluate CPUE indices related to standardization methods and management history, with emphasis on greater temporal and spatial resolution in estimates of CPUE.

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- Consideration of MRFSS add-ons or other mechanisms for collection of socioeconomic data for recreational and commercial fisheries.
- Determine normal Spanish mackerel migration routes and changes therein, as well as the climatic or other factors responsible for changes in the environmental and habitat conditions which may affect the habitat and availability of stocks.
- Determine the relationship, if any, between migration of prey species (i.e., engraulids, clupeids, carangids), and migration patterns of the Spanish mackerel stock.

Low Priority

- Final identification of Spanish mackerel stocks through multiple research techniques.
- Complete research on the application of assessment and management models relative to dynamic species such as Spanish mackerel.
- Delineation of spawning areas and areas of larval abundance through temporal and spatial sampling.

IX. References

- Branstetter, S. 1997. Final implementation of high-priority objectives of a bycatch reduction research program for the Gulf of Mexico and South Atlantic shrimp fishery. NMFS 93-SER-059.
- Gaddis, G., D. Haymans, J.L. Music, Jr., and J. Page. 2001. Interstate fisheries management planning and implementation. Final Report. Award No. NA86FG0116. USDOC/NOAA/NMFS. Atlantic Coastal Fisheries Management Act (P.L. 103-206).
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- SEDAR. 2012. SEDAR 28- South Atlantic Spanish mackerel Stock Assessment Report. SEDAR, North Charleston SC. 438 pp. available online at:
http://www.sefsc.noaa.gov/sedar/Sedar_Workshops.jsp?WorkshopNum=28

X. Figures

Figure 1. Estimated total biomass (metric tons) at start of year. Horizontal dashed line indicates B_{MSY} . (SEDAR 2012).

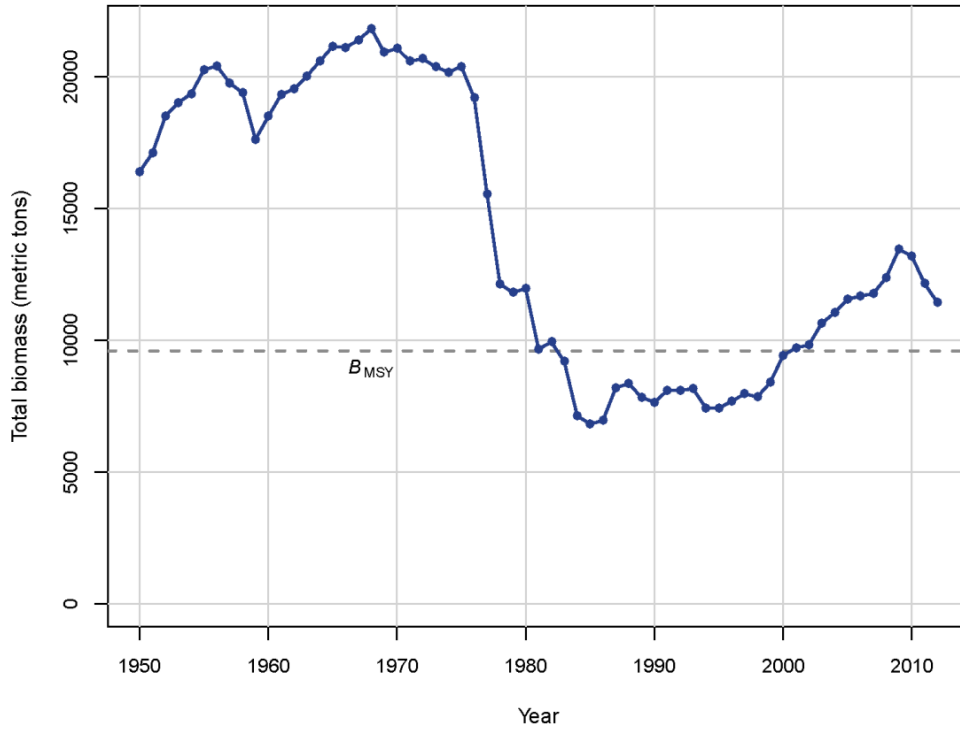


Figure 2. Estimated time series of Atlantic group Spanish mackerel fishing mortality rate (F) relative to F_{MSY} benchmark. Solid line indicates estimates from base run of the Beaufort Assessment Model; gray error bands indicate 5th and 95th percentiles of the Monte Carlo Bootstrap analysis trials (SEDAR 2012).

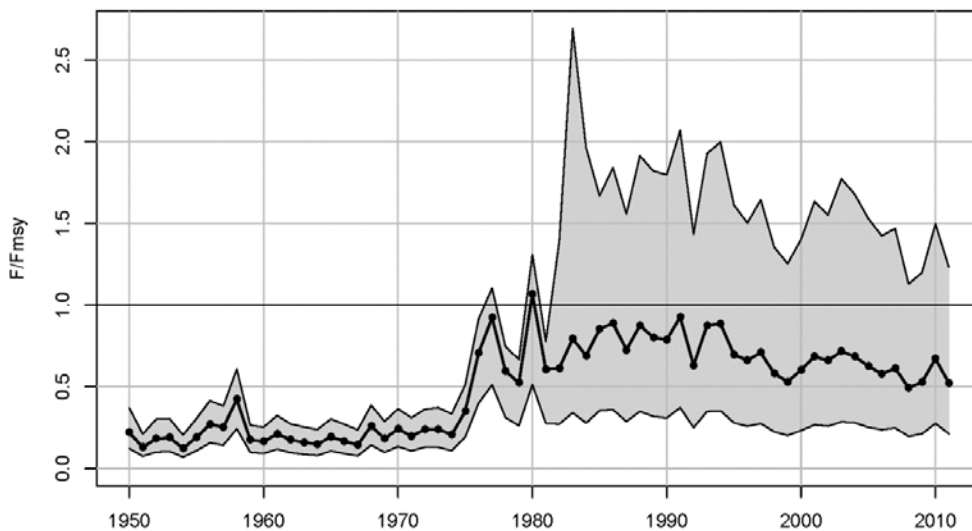


Figure 3. Commercial and recreational harvest (pounds) of Spanish mackerel, 1960-2012
 (Recreational data available from 1981-present only; see Tables 2 and 5 for values and sources)

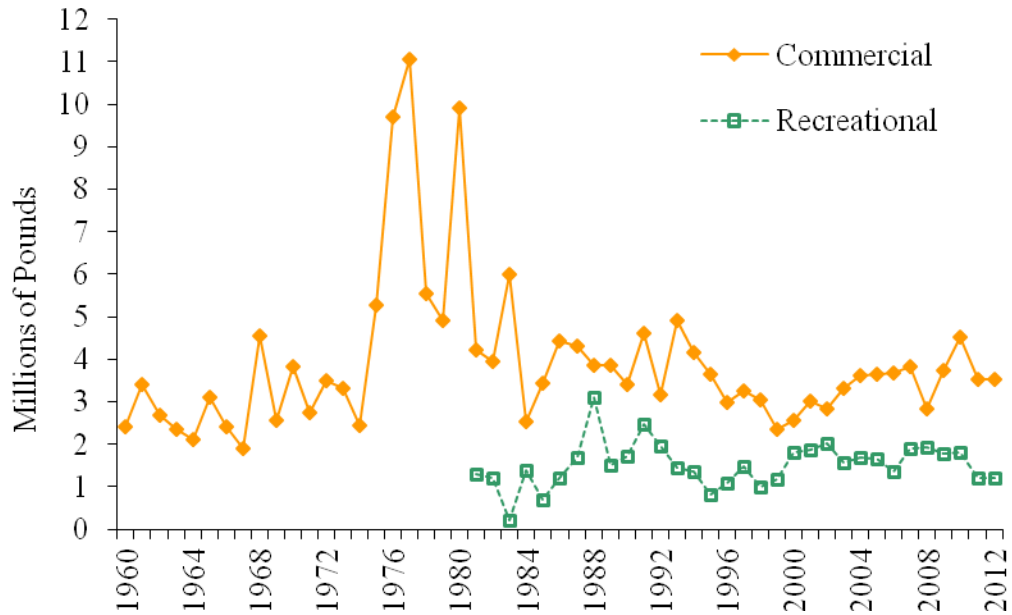
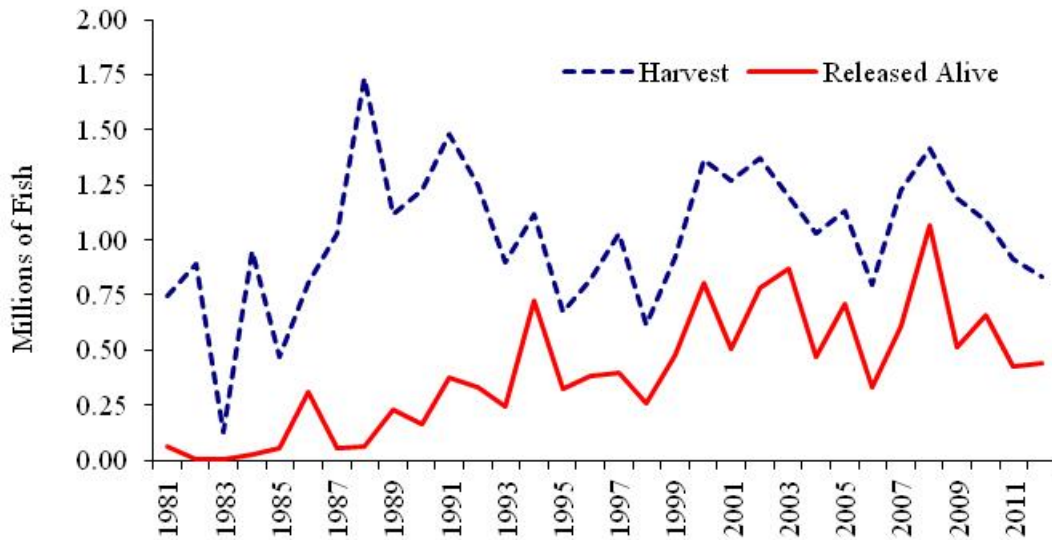


Figure 4. Recreational harvest and releases (numbers of fish) of Spanish mackerel, 1981-2012
 (See Tables 4 and 6 for values and sources)



XI. Tables

Table 1. Summary of state regulations for Spanish mackerel in 2012

Notes: A commercial license is required to sell Spanish mackerel in all states; other general gear restrictions apply to the harvest of Spanish mackerel.

State	Recreational	Commercial
NY	14" TL, 15 fish	14" TL. 3,500 lb trip limit
NJ	14" TL, 10 fish	14" TL.
DE	14" TL, 10 fish	14" TL.
MD	14" TL, 15 fish	14" TL.
PRFC	14" TL, 15 fish	14" TL. Closure if/when federal waters close.
VA	14" TL, 15 fish	14" TL. 3,500 lb trip limit. Closure if/when federal waters close.
NC	12" FL, 15 fish	12" FL. 3,500 lb trip limit (Spanish and king mackerel combined). Purse gill nets prohibited.
SC	12" FL, 15 fish	12" FL. 15 fish. Closure if/when federal waters close.
GA	12" FL, 15 fish	12" FL. 15 fish. Closure from December 1 - March 15.
FL	12" FL, 15 fish. Transfer to other vessels at sea is prohibited. Cast nets less than 14' and beach or haul seines with no greater than 2" stretched mesh allowed	12" FL. Trip limits: April 1 until Nov. 30 - 3500 lb; Dec. 1 until 75% of adjusted quota reached – 3500 lb Mon-Fri. & 1500 lb Sat-Sun; >75% adjusted quota until quota filled -1500 lb; > 100% of adjusted quota - 500 lb. Restricted Species Endorsement Required Transfer of fish between vessels prohibited Allowed gear: beach or haul seine, cast net, hook and line, or spearing

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Table 2. Commercial landings (pounds, calendar year) of Spanish mackerel by state, 1981-2012
 (Source: NMFS Fisheries Statistics Division, 10/25/2013)

Year	MA	RI	NY	NJ	MD	VA	NC	SC	GA	FL	Total
1981			500	500		3,500	51,639		518	4,174,432	4,231,089
1982			1,000	200		12,700	189,217	1,081	745	3,758,603	3,963,546
1983	2,600	2,600	600	100		3,500	41,336	706		5,947,102	5,998,544
1984			300	100		10,000	127,467	1,321		2,397,373	2,536,561
1985			100			15,300	173,186	847		3,244,980	3,434,413
1986	600		3,200	1,500		168,400	232,197	6,375	1,335	4,003,738	4,417,345
1987	16,000	4,900	16,600	24,000	4,800	251,200	504,063	961	255	3,497,135	4,319,914
1988		3,400	19,200	16,900	4,300	291,600	438,222	1,029	726	3,071,687	3,847,064
1989	12,400	8,900	17,700	24,100	10,400	354,400	589,383	1,605		2,853,177	3,872,065
1990	6,585	5,530	24,329	28,336	43,411	491,651	838,914	384	491	1,979,081	3,418,712
1991	19,698	9,530	149,321	77,151	62,688	447,127	858,808	444	197	2,986,871	4,611,835
1992	608	2,277	31,873	51,751	37,930	271,313	738,362	1,952	71	2,022,961	3,159,098
1993	5	2,843	42,063	23,036	9,445	335,688	589,868	480	95	3,902,240	4,905,763
1994	3,273	893	124,733	19,915	3,363	376,818	531,355	362		3,099,780	4,160,492
1995		12,419	9,136	2,153	3,089	168,732	402,305			3,064,926	3,662,760
1996		2,523	17,980	40,821		283,750	401,546			2,244,667	2,991,287
1997	15	86	31,107	12,122	3,033	164,639	766,901			2,269,289	3,247,192
1998	71	109	37,238	13,242	13,204	121,109	372,440			2,498,461	3,055,874
1999	2,407	276	47,831	17,144	21,604	251,626	459,120			1,566,706	2,366,714
2000		188	35,825	11,757	26,607	168,679	659,431			1,675,473	2,577,960
2001		20,052	13,851	9,401	18,899	178,849	653,491			2,115,782	3,010,325
2002		65	18,741	11,196	20,725	102,454	698,463			1,995,212	2,846,856
2003	514	366	18,339	5,432	5,239	103,409	456,794			2,740,632	3,330,725
2004	198	5,971	16,921	3,060	4,881	66,482	456,243			3,066,186	3,619,942
2005		294	5,197	2,074	7,750	43,126	446,013			3,133,772	3,638,226
2006		1,486	5,720	1,456	290	43,192	470,669			3,142,721	3,665,534
2007		2,143	7,244	2,075	3,734	58,064	487,891			3,264,452	3,825,603
2008			2,513		6,192	156,011	415,416			2,262,661	2,844,947
2009		218	3,462	3,324	11,570	138,292	961,836			2,629,343	3,748,048
2010	0	522	3,713	829	4,939	47,562	911,878	0	0	3,553,155	4,522,605
2011			1,149	305	5,054	36,314	45,222			3,432,932	3,521,009
2012		2,135	2,294	2,806	3,630	18,317	916,439			2,596,981	3,542,602

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Table 3. Coastwide commercial landings of Spanish mackerel by gear, 2012
(Personal communication with NMFS Fisheries Statistics Division, 11/13/2013)

Gear	Pounds	% of total
Gillnets	1,407,993	40.1%
Cast Nets	965,327	27.5%
Line Gears	1,056,938	30.1%
Pound Nets	54,035	1.5%
Other	25,306	0.7%
Total	3,509,599	

(Line gears include rod and reel, electric or hydraulic reel, troll lines and hand lines.)

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Table 4. Recreational harvest (numbers) of Spanish mackerel by state, 1981-2012
(NMFS Fisheries Statistics Division, 10/24/2013)

Year	MA	RI	CT	NY	NJ	DE	MD	VA	NC	SC	GA	FL	Total
1981	4,277								231,744	25,058	1,786	485,395	748,260
1982									694,420	21,092	408	173,649	889,569
1983									6,156	3,279	2,109	117,532	129,076
1984									618,313	79,855	3,718	248,048	949,934
1985									344,965	36,606	4,809	84,226	470,606
1986					1,479		457	6,942	431,021	147,358	25,257	195,385	807,899
1987				1,417			8,036	1,520	815,920	65,846	20,925	118,184	1,031,848
1988								101,691	1,312,070	82,136	4,403	233,582	1,733,882
1989		320		1,010	22,067			73,236	679,360	121,115	7,444	213,665	1,118,217
1990		403		1,726	2,495	319	1,355	63,821	821,334	81,375	31,567	225,263	1,229,658
1991	7,071	78	4,173	7,608	25,071	2,054	41,250	68,102	676,717	132,198	2,391	517,290	1,484,003
1992				1,325	10,549	210	4,847	71,265	701,974	62,546	25,736	370,809	1,249,261
1993	188			2,681	3,457		43,050	73,832	451,523	92,621	12,979	219,458	899,789
1994					7,910		43,710	145,872	535,949	113,991	15,235	252,668	1,115,335
1995							26,216	86,899	285,882	34,355	16,726	226,334	676,412
1996					1,172			69,399	355,036	134,282	16,948	245,085	821,922
1997								68,517	585,765	101,067	28,396	246,885	1,030,630
1998					4,046	186	3,633	33,140	239,052	65,584	28,002	244,235	617,878
1999		438			1,335	226	1,220	75,972	476,019	27,477	9,007	327,621	919,315
2000	1,528			4,453	923		15,219	71,249	671,353	28,283	20,545	547,315	1,360,868
2001	2,561			802			8,025	29,590	400,706	43,501	11,013	774,065	1,270,263
2002								17,433	401,982	24,235	1,927	926,600	1,372,177
2003	3,373						6,975	17,063	349,170	24,879	11,235	784,385	1,197,080
2004	1,338				1,531		8,800	21,012	308,996	144,394	7,906	532,956	1,026,933
2005							20,792	20,525	331,601	70,273	12,140	676,973	1,132,304
2006					465		3,118	21,303	305,343	42,867	2,441	439,324	814,861
2007							12,360	821	491,357	104,741	13,795	601,335	1,224,409
2008					470		5,777	121,773	686,501	58,465	14,519	566,397	1,453,902
2009					655		24,725	16,560	703,393	60,925	6,306	375,512	1,188,076,
2010							7,526	20,524	470,212	93,574	4,723	494,586	1,091,145
2011							10,554	35,054	367,086	87,109	7,486	406,068	913,357
2012							2,962	11,874	491,238	80,204	2,119	246,866	835,263

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Table 5. Recreational harvest (pounds) of Spanish mackerel by state, 1981-2012
(NMFS Fisheries Statistics Division, 10/8/2013)

Year	MA	RI	CT	NY	NJ	DE	MD	VA	NC	SC	GA	FL	Total
1981									423,801	53,292	4,306	808,808	1,290,207
1982									928,201	29,546	483	251,115	1,209,345
1983									14,725	8,274	4,198	199,331	226,528
1984									848,537	116,083	5,540	427,501	1,397,661
1985									507,545	34,445	3,547	152,113	697,650
1986					2,500		1,008	9,709	639,105	256,157	47,941	251,673	1,208,093
1987				2,890			14,345	2,011	1,296,732	117,053	40,681	230,725	1,704,437
1988								160,407	2,136,806	140,896	5,141	656,047	3,099,297
1989		847		3,560	35,415			81,107	877,911	197,982	6,162	303,485	1,506,469
1990				2,332	3,320	470	1,790	86,932	1,084,167	153,932	45,748	346,585	1,725,276
1991	26,327	251	16,958	19,612	36,096	3,062	57,249	72,708	1,056,524	291,717	3,717	887,777	2,471,998
1992				3,880	16,526	302	9,634	76,411	947,065	145,451	79,818	669,160	1,948,247
1993	580			7,590	5,280		68,757	93,272	664,815	135,287	22,209	439,555	1,437,345
1994					8,613		44,969	160,610	588,035	152,836	66,949	350,679	1,372,691
1995							34,705	110,433	329,466	40,995	12,072	302,632	830,303
1996								80,505	385,922	184,655	31,856	413,687	1,096,625
1997								22,233	862,497	143,297	37,877	400,148	1,466,052
1998					9,189	379	5,725	57,467	305,630	106,209	112,562	408,872	1,006,033
1999		1,303			2,207	240	1,715	79,601	469,258	44,917	10,031	578,123	1,187,395
2000	5,053			10,798	1,118		20,642	83,296	671,616	30,543	47,137	946,395	1,816,598
2001	10,351			1,168			14,526	42,046	499,829	46,945	23,056	1,232,506	1,870,427
2002								12,163	475,742	47,057	4,795	1,475,232	2,014,989
2003							9,762	22,031	446,052	29,107	34,855	1,021,204	1,563,011
2004					3,078		14,434	29,244	558,968	147,609	11,799	915,099	1,680,231
2005							38,946	28,192	359,927	138,517	16,296	1,088,720	1,670,598
2006							6,400	46,832	454,749	83,069	2,487	807,327	1,400,864
2007							25,276	957	729,687	119,207	26,513	1,003,340	1,904,980
2008					741		11,550	160,250	783,330	75,583	31,041	930,923	1,993,418
2009					913		42,300	26,471	892,632	101,614	13,272	708,270	1,785,472
2010					0		13,995	26,338	582,550	136,648	5,168	1,034,480	1,799,179
2011					0		22,630	41,325	194,521	72,631	9,439	873,604	1,214,150
2012					0		5,223	17,806	665,168	98,316	4,536	412,001	1,203,050

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Table 6. Recreational releases (numbers) of Spanish mackerel by state, 1981-2012
(NMFS Fisheries Statistics Division, 10/24/2013)

Year	MA	RI	CT	NY	NJ	DE	MD	VA	NC	SC	GA	FL	Total
1981									5,616			56,374	61,990
1982												6,613	6,613
1983											515	4,929	5,444
1984									2,931	1,300		21,797	26,028
1985									27,753	3,862		23,316	54,931
1986								74	280,252	7,879	605	20,469	309,279
1987								13,947	28,136	5,506	2,916	7,197	57,702
1988									17,413	27,019	2,456	18,334	65,222
1989								10,286	64,749	73,983	391	83,682	233,091
1990				257				21,094	76,940	26,929		35,520	160,740
1991	859				2,674	1,092	1,747	28,777	133,601	19,331	57	190,602	378,740
1992	586							18,072	180,235	15,515	3,859	113,062	331,329
1993	584				1,160		2,684	70,081	81,927	15,966		74,052	246,454
1994				1,059	50,743			91,832	241,082	207,055		136,041	727,812
1995				7,297	1,269		1,562	24,467	145,845	14,159	2,594	129,469	326,662
1996								28,951	103,067	83,543	139	167,411	383,111
1997						338		22,658	140,704	62,356		168,815	394,871
1998							1,075	49,429	80,700	32,087	7,351	87,804	258,446
1999				1,415	2,670			36,276	205,870	46,400	495	185,106	478,232
2000	667					608	1,656	82,227	300,384	47,273	16,479	353,042	802,336
2001	2,271			1,657	4,907	825	7,265	30,158	160,591	9,711	3,188	285,738	506,311
2002							4,449	9,923	196,967	9,206	8,641	554,743	783,929
2003							6,994	20,539	164,787	223,116	6,501	445,965	867,902
2004	2,853						753	13,738	121,531	114,157	3,527	213,577	470,136
2005							4,937		174,140	153,584	8,983	367,862	709,506
2006							1,620	8,973	89,912	33,328	6,609	192,010	332,452
2007							13,657	7,837	277,710	83,513	27,643	197,856	608,216
2008							4,672	66,593	541,764	93,009	6,823	353,098	1,065,959
2009					13,363		6,906	24,848	241,540	49,472	627	175,042	511,798
2010							0	29,586	268,356	54,297	128	303,829	656,196
2011							0	28,526	170,926	67,144	10,131	147,399	424,126
2012							0	17,150	234,905	98,371	1,724	88,592	440,742

New York State Department of Environmental Conservation

Division of Fish, Wildlife & Marine Resources

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Joe Martens
Commissioner

2012 New York Compliance Report to the ASMFC for Spanish Mackerel

I. Introduction

Spanish mackerel are incidentally caught by recreational and commercial fishermen in New York State. In 2012, no Spanish mackerel were intercepted by MRIP samplers and recreational catch and harvest is estimated to be zero. Commercial fishermen landed 2,294 lbs of Spanish mackerel in 2012. No regulatory changes are anticipated.

II. Request for de minimis, where 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).* None
- b. *Activity and results of fishery independent monitoring (provide general results and references to technical documentation).* None
- c. *Copy of regulations that were in effect, including a reference to the specific compliance criteria as mandated in the FMP.*

Commercial: Open all year, 14" TL minimum size, 3,500 lbs vessel possession limit.

Recreational: Open all year, 14" TL minimum size, 15 fish possession limit.

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

According to NMFS, NY commercial fishermen harvested 2,294 lbs of Spanish mackerel in 2012, with the majority of harvest not coded for a specific gear. On average (1981-2012), NY landings of Spanish mackerel account for 0.41% of coastwide commercial harvest for this species.

Estimates of Spanish mackerel catch and landings by NY recreational anglers have been zero from 2002 thru 2012 according to MRIP/MRFSS. On average (1981-2012), NY landings of Spanish mackerel account for 0.05% of coastwide recreational harvest for this species.

See Table 1.

- e. *Review of progress in implementing habitat recommendations.* None

IV. Planned management programs for the current calendar year

State of New Jersey
Department of Environmental Protection

Division of Fish & Wildlife

**Annual State Report for Spanish Mackerel:
2012 and Fishery Summary: 2013**

September 2013

Report By: Jennifer Pyle

**Submitted to the Atlantic States Marine Fisheries
Commission as a Requirement of the Omnibus
Amendment to the Interstate Fisheries Management Plan
for Spanish Mackerel**

I. SUMMARY OF SPANISH MACKEREL FISHERY AND RESOURCE MONITORING IN NEW JERSEY

In accordance with the Omnibus Amendment to the Interstate Fishery Management Plans for Spanish Mackerel, Spot, and Spotted Seatrout, the State of New Jersey herein submits its annual report on Spanish mackerel fisheries conducted within state waters during 2012. On June 12, 2012, a provision to the Special Fillet Permit was adopted to comply with Section 4 of the Amendment. The provision states that Spanish mackerel shall be landed with head, tail and fins attached.

II. REQUEST FOR *DE MINIMUS* STATUS

New Jersey requests *de minimus* status under the Omnibus Amendment to the Interstate Fishery Management Plans for Spanish Mackerel, Spot, and Spotted Seatrout because the past 3-years' average of New Jersey's combined commercial and recreational catch is less than 1% of the past 3-years' average of the coastwide combined commercial and recreational catch.

III. NEW JERSEY SPANISH MACKEREL FISHERY AND MANAGEMENT PROGRAM: 2012

A. Fishery Dependent Monitoring

The Bureau of Marine Fisheries does not conduct any fishery dependent monitoring for Spanish mackerel.

B. Fishery Independent Monitoring

The New Jersey Bureau of Marine Fisheries conducts five nearshore (within 12 nautical miles) trawl surveys each year. This survey began in 1988, and samples in January/February, April, June, August, and October. All species taken during these surveys are weighed and measured. Catch per unit effort in number of fish per tow and biomass (kilograms) per tow is calculated each year.

Marine Fisheries also conducts two additional surveys in the Delaware Estuary. A near shore fixed station trawl survey has been conducted in Delaware Bay from April through November since 1991 at eleven stations using a 16 foot otter trawl. A seine survey utilizing a bagged, 100-foot long by 6-foot deep by ¼-inch mesh beach seine has been conducted for striped bass young-of-year in the Delaware River since 1980. The survey consists of seining 32 stations twice monthly from June through November.

Data for the three surveys can be found in Table 1.

C. New Jersey Regulations on Spanish Mackerel in 2012

The following are New Jersey's regulations for Spanish mackerel as stated under N.J.A.C. 7:25-18.1:

(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.

Common Name
Spanish Mackerel

Scientific Name
Scomberomorus maculatus

(b) A person shall not purchase, sell, offer for sale, or expose for sale any species listed below less than the minimum length, measured in inches, except as may be provided elsewhere in this subchapter, and subject to the specific provisions of any such section. Any commercially licensed vessel or person shall be presumed to possess the following species for sale purposes and shall comply with the minimum sizes below. Fish length shall be measured from the tip of the snout to the tip of the tail (total length), except as noted below.

<u>Species</u>	<u>Minimum Size</u>
Spanish Mackerel	14 inches

(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:

<u>Species</u>	<u>Open Season</u>	<u>Minimum Size</u>	<u>Possession Limit</u>
Spanish Mackerel	Jan. 1 to Dec. 31	14 inches	10 fish

- (f) Special provisions applicable to a Special Fillet Permit are as follows:
 vi. Spanish mackerel shall be landed with head, tail and fins attached.

D. New Jersey Spanish Mackerel Harvest

Commercial fishery landings for Spanish mackerel were obtained from the National Marine Fisheries Service statistics website (1950-2006) and the Standard Atlantic Fisheries Information System from 2007 to present (Table 2). Recreational catch data were obtained from the Marine Recreational Information Program from 1981-2012.

E. Habitat Requirements

No mandatory measures related to habitat are implemented through this amendment.

IV. NEW JERSEY SPANISH MACKEREL FISHERY AND MANAGEMENT PROGRAM: 2013

A. New Jersey Regulations on Spanish Mackerel in 2013

See III C above for New Jersey’s 2013 Spanish mackerel regulations.

B. Spanish Mackerel Monitoring Programs for 2013

There will be no fishery dependent resource monitoring program for Spanish mackerel in 2013. The State’s ocean stock assessment program will continue in 2013 and any Spanish mackerel taken will be weighed and measured.

C. Significant Changes in Management and/or Monitoring of Spanish Mackerel in 2013

No changes from the previous year.

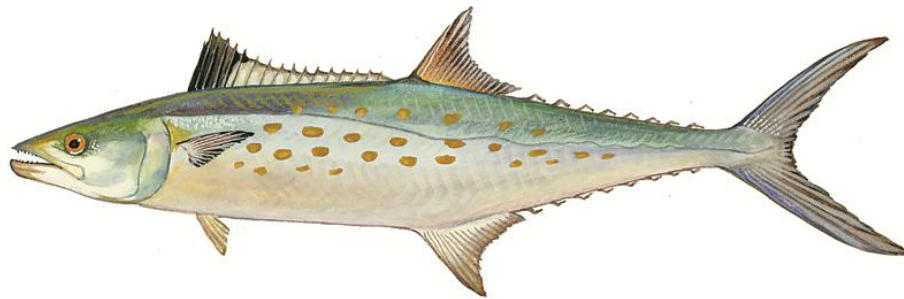
Table 1. Total Number of Spanish Mackerel Caught in New Jersey's Fishery Independent Surveys

Year	Ocean Trawl Survey	Delaware River Seine Survey	Delaware Bay Trawl Survey
1980	-	0	-
1981	-	0	-
1982	-	0	-
1983	-	0	-
1984	-	0	-
1985	-	0	-
1986	-	0	-
1987	-	1	-
1988	0	0	-
1989	321	3	-
1990	9	2	-
1991	5	6	0
1992	0	8	2
1993	3	0	0
1994	0	0	0
1995	0	0	0
1996	0	0	0
1997	1	4	0
1998	1	9	0
1999	1	0	0
2000	4	0	0
2001	1	0	0
2002	2	0	0
2003	0	0	0
2004	1	0	0
2005	0	0	0
2006	0	3	0
2007	0	0	0
2008	1	0	0
2009	0	1	0
2010	1	0	0
2011	1	0	0
2012	0	0	0
TOTAL	352	37	2

Table 2. New Jersey's Commercial and Recreational Spanish Mackerel Landings: 1950-2012

Year	Commercial (pounds)	Recreational (pounds)		Year	Commercial (pounds)	Recreational (pounds)
1953	100	-		1989	24,100	35,415
1956	200	-		1990	28,336	3,320
1958	200	-		1991	77,151	36,096
1959	800	-		1992	51,751	16,526
1964	100	-		1993	23,036	5,279
1966	100	-		1994	19,915	8,614
1967	200	-		1995	2,153	-
1968	100	-		1996	40,821	-
1970	200	-		1997	12,122	-
1971	100	-		1998	13,242	9,190
1972	100	-		1999	17,144	2,207
1973	100	-		2000	11,757	1,119
1974	1,700	-		2001	9,401	-
1975	4,500	-		2002	11,196	-
1976	1,400	-		2003	5,432	-
1977	400	-		2004	2,945	2,150
1978	100	-		2005	2,074	-
1980	600	-		2006	1,456	2,914
1981	500	-		2007	2,075	-
1982	200	-		2008	1,210	513
1983	100	-		2009	3,324	302
1984	100	-		2010	829	-
1986	1,500	2,500		2011	305	-
1987	24,000	-		2012	2,806	-
1988	16,900	-				

**Annual Spanish mackerel Report for the State of Delaware:
Harvest, Monitoring and Conservation for 2012
and Management Program for 2013**



Report to the
Atlantic States Marine Fisheries Commission.

Compiled by Michael Greco
Delaware Division of Fish and Wildlife
Dover DE
November 2013



I. Introduction

Delaware is a *de minimis* state for Spanish mackerel with no reported commercial or recreational landings in 2012. There were no changes in monitoring, regulations or harvest in 2012 and there are no changes planned for 2013.

II. Request for *de minimis*, where applicable

As a result of zero landings in the commercial and recreational fisheries since 2005, Delaware request continuation of its *de minimis* status for Spanish mackerel in 2013.

III. Previous calendar year's fishery and management program

A. Activity and results of fishery dependent monitoring.

Delaware monitored the commercial fishery through mandatory monthly logbook reports submitted by fishermen to the State of Delaware. Commercial landings data is supplemented through the federal dealer reporting system (SAFIS). There were no Spanish mackerel landed in 2012 and no biological sampling was conducted. Since mandatory logbook reporting was instituted in 1985, there have been four pounds of Spanish mackerel landed in 2001 and 15 pounds landed in 2005. **All reported commercial landings are deemed confidential in nature and are not for public distribution.**

Delaware relied on the Marine Recreational Information Program (MRIP) online data query for estimates of the recreational fishery in 2012. Prior to MRIP, recreational fishery catch estimates were obtained through the Marine Recreational Fisheries Statistics Survey (MRFSS).

B. Activity and result of fishery independent monitoring.

Delaware conducts a bottom trawl survey to monitor relative abundance of adult ground fish in the Delaware Bay. This survey has been conducted annually since 1990; prior surveys were conducted from 1966-1971 and 1979-1984. There were few occurrences of Spanish mackerel over the time series and none were taken in the 2012 survey year (Table 1).

The Division monitors juvenile fish abundance with its 16-ft bottom trawl survey, which has been conducted annually in the Delaware Bay since 1980. This survey was expanded in 1986 to include the Delaware's Inland Bays (Indian River and Rehoboth Bays) and further expanded in 1989 to include six stations in the Delaware River. There were few occurrences of Spanish mackerel in the juvenile survey over the time series and none were taken in the 2012 survey year (Table 2).

C. Copy of regulations that were in effect (Attachment 1).

Delaware's Spanish mackerel regulations (Attachment 1) remained unchanged for 2012 with a minimum size limit of 14 inches, a 15 fish creel limit and no closed season. In addition, it shall be unlawful for any commercial fisherman to have in his/her possession more than 3,500 pounds per day. No Spanish mackerel can be landed and sold in Delaware without a commercial foodfish license.

D. Harvest broken down by commercial and recreational.

Commercial Fishery

There were no Spanish mackerel harvested in Delaware as reported through the commercial logbook system or (SAFIS) in 2012.

Recreational Fishery

There was no reported or observed Spanish mackerel harvest in 2012 as reported by the MRIP. The last year that Spanish mackerel were documented in Delaware by the MRFSS/MRIP survey occurred in 2001 (Table 3, Figure 1).

E. Review of progress in implementing habitat recommendations.

N/A

IV. Planned management programs for the current calendar year

A. Summary of regulations for current year.

1. Commercial Fishery

There are no changes in commercial Spanish mackerel regulations anticipated for the current year.

2. Recreational Fishery

There are no changes in recreational Spanish mackerel regulations anticipated for the current year.

B. Summary of monitoring programs.

1. Commercial Fishery

The Division will continue to monitor commercial landings through mandatory commercial logbook reports.

2. Recreational Fishery

Delaware will rely on the Marine Recreational Information Program for the collection and characterization of Spanish mackerel caught recreationally in Delaware waters.

3. Research Trawl Survey

Delaware will continue to conduct both the adult groundfish and the juvenile trawl surveys in 2013.

Table 1. Spanish mackerel relative abundance from 30-foot trawl sampling in the Delaware Bay, 1966-2012.

Year	# of Tows	# / NM	Kg / NM	Kg / Tow	# / Tow
1966	56	0	0	0	0
1967	75	0	0	0	0
1968	40	0	0	0	0
1969	42	0	0	0	0
1970	35	0	0	0	0
1971	39	0	0	0	0
1979	99	0	0	0	0
1980	93	0	0	0	0
1981	98	0	0	0	0
1982	40	0	0	0	0
1983	38	0	0	0	0
1984	45	0	0	0	0
1990	61	0	0	0	0
1991	71	0	0	0	0
1992	89	0.012	0.000	0.000	0.011
1993	83	0.011	0.009	0.010	0.012
1994	71	0	0	0	0
1995	88	0	0	0	0
1996	76	0	0	0	0
1997	89	0	0	0	0
1998	80	0	0	0	0
1999	87	0	0	0	0
2000	90	0	0	0	0
2001	90	0	0	0	0
2002	68	0	0	0	0
2003	63	0	0	0	0
2004	90	0	0	0	0
2005	90	0	0	0	0
2006	90	0	0	0	0
2007	90	0	0	0	0
2008	90	0	0	0	0
2009	90	0	0	0	0
2010	90	0	0	0	0
2011	90	0	0	0	0
2012	90	0	0	0	0

Table 2. Annual abundance, expressed as the geometric mean of the catch per tow, for Spanish mackerel collected in Delaware Division of Fish & Wildlife 16 ft. trawl surveys, 1980-2012.

Year	Delaware Bay	Inland Bays
1978	0	-
1979	0	-
1980	0	-
1981	0	-
1982	0	-
1983	0	-
1984	0	-
1985	0	-
1986	0	0
1987	0	0
1988	0	0
1989	0	0
1990	0.0035	0
1991	0.0025	0
1992	0.0050	0.0525
1993	0	0
1994	0	0
1995	0	0
1996	0	0
1997	0	0
1998	0	0
1999	0	0
2000	0	0
2001	0	0
2002	0	0
2003	0	0
2004	0	0
2005	0	0
2006	0	0
2007	0	0
2008	0	0
2009	0	0
2010	0	0
2011	0	0
2012	0	0

Table 3. Recreational harvest of Spanish mackerel for Delaware 1990-2012. Source: MRIP, NMFS. Catch includes both landed and released fish.

	Harvest		Harvest		Mean	Total		Number
Year	Number	PSE (%)	Pounds	PSE (%)	Weight (lbs)	Catch	PSE (%)	Released
1990	319	62.3	469	63.2	1.47	319	62.3	0
1991	2,054	28.7	3,061	30.5	1.49	3,146	33.6	1,092
1992	210	65.1	302	79.7	1.44	210	65.1	0
1993	0	0	0	0	0.00	0	0	0
1994	0	0	0	0	0.00	0	0	0
1995	0	0	0	0	0.00	0	0	0
1996	0	0	0	0	0.00	0	0	0
1997	0	0	0	0	0.00	338	100	338
1998	186	99.1	380	99.3	2.04	186	99.1	0
1999	226	99.4	240	99.5	1.06	226	99.4	0
2000	0	0	0	0	0.00	608	100	608
2001	0	0	0	0	0.00	825	100	825
2002	0	0	0	0	0.00	0	0	0
2003	0	0	0	0	0.00	0	0	0
2004	0	0	0	0	0.00	0	0	0
2005	0	0	0	0	0.00	0	0	0
2006	0	0	0	0	0.00	0	0	0
2007	0	0	0	0	0.00	0	0	0
2008	0	0	0	0	0.00	0	0	0
2009	0	0	0	0	0.00	0	0	0
2010	0	0	0	0	0.00	0	0	0
2011	0	0	0	0	0.00	0	0	0
2012	0	0	0	0	0.00	0	0	0
Average	130	15	194	16	0	255	29	124

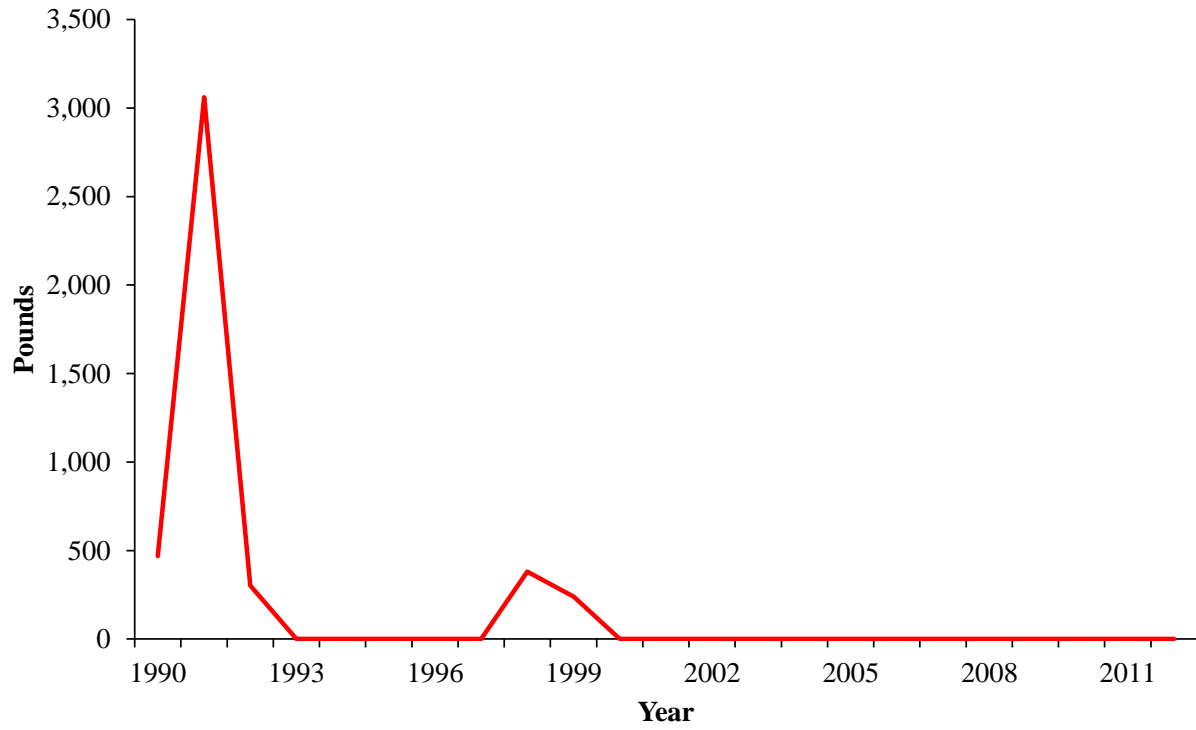


Figure 1. Recreational harvest, in pounds, of Spanish mackerel in Delaware from 1990-2012.

Attachment 1

Copy of the Spanish mackerel regulations in effect for the 2012 & 2013 fishing seasons.

Title 7 Natural Resources and Environmental Control
3500 Tidal Finfish

3000 Division of Fish and Wildlife

3500 Tidal Finfish

 [Authenticated PDF Version](#)

Spanish Mackerel

3552 Spanish Mackerel Size Limit and Possession Requirements.

(Penalty Section 7 **Del.C.** §936(b)(2))

1.0 Unless otherwise authorized, it shall be unlawful for any person to possess any Spanish mackerel, (*Scomberomorus maculatus*), that measure less than fourteen (14) inches total length.

2.0 Unless otherwise authorized, it shall be unlawful for any recreational finfisherman to have in possession more than fifteen (15) Spanish mackerel at or between the place caught and his/her personal abode or temporary or transient place of lodging.

3.0 Unless otherwise authorized, it shall be unlawful for any recreational finfisherman to possess any Spanish mackerel at or between the place caught and his/her personal abode or temporary or transient place of lodging without the head and fins intact.

4.0 Unless otherwise authorized, it shall be unlawful for any commercial finfisherman to possess or land more than 3,500 pounds of Spanish mackerel per vessel, per day.

5.0 Unless otherwise authorized, it shall be unlawful for any commercial finfisherman to possess any Spanish mackerel without the head and fins intact prior to selling, trading or bartering said Spanish mackerel.

4 DE Reg 1552 (3/1/01)

16 DE Reg. 94 (07/02/12)



Martin O'Malley, Governor
Anthony G. Brown, Lt. Governor
Joseph P. Gill, Secretary
Frank W. Dawson III, Deputy Secretary

Maryland Spanish Mackerel (*Scomberomorus maculatus*) Compliance Report to The Atlantic States Marine Fisheries Commission – 2012

Prepared by

Harry W. Rickabaugh Jr.

**Maryland Department of Natural Resources
Fisheries Service**

September 2013

I. Introduction

In Maryland Spanish Mackerel (*Scomberomorus maculatus*) are primarily captured in the lower portion of Maryland's Chesapeake Bay and to a lesser extent in the Atlantic ocean off of Maryland's coast by both commercial and recreational fishermen. Spanish mackerel are primarily encountered south of the Chesapeake Bay Bridges in the main stem of the Chesapeake Bay and inside of tidal river mouths, with range expanding slightly with increased salinity in dry years. A small number of local guides and recreational private boat anglers target Spanish mackerel when abundant, generally in late summer and early fall. In years of higher abundance incidental catches by recreational fishermen targeting striped bass and bluefish become more common, especially while trolling. Most commercial harvest is incidental catch in pound net and gill net fisheries targeting other species.

Maryland has a 14 inch total length (TL) minimum size limit and 15 fish per person per day creel limit for recreational anglers, and a 14 inch TL minimum size limit for commercial fishermen. Landings from both commercial and recreational fisheries have been variable with years of zero reported or estimated harvest for both sectors.

II. Request for *de minimis*

De minimis status is not being requested by Maryland at this time.

III. 2012 fishery and management program

- a. MD DNR fisheries biologists sampled commercial pound nets weekly in Maryland's portion of the Chesapeake Bay from May 22 through September 11, 2012. Spanish mackerel have been measured for fork length (FL), total length or both in each year of the onboard pound net survey. Since 2001, however, only FL has been taken, to be consistent with data collected by other state and federal agencies. During this time period FL from the onboard sampling has ranged from 208 – 681 mm. One hundred seven Spanish mackerel were encountered in 2012, with a mean FL of 393 mm (Table 1). The number of mackerel measured has been low most years, with the largest number of samples occurring from 2005-2007.
- b. Maryland does not conduct any fishery independent monitoring for Spanish mackerel.
- c. The following regulations were in place for all of 2012 and are from Maryland Code of Regulations:

08.02.05.14 .14 Spanish Mackerel.

A. Recreational Fishery.

(1) Minimum Size. An individual may not catch or possess a Spanish mackerel less than 14 inches total length.

(2) Catch Limit. An individual may not catch or possess more than 15 Spanish mackerel per day.

(3) Season. The recreational season for catching Spanish mackerel is January 1 through December 31.

(4) All Spanish mackerel harvested by a recreational angler shall be landed with the heads and fins attached naturally.

B. Commercial Fishery.

(1) Minimum Size. An individual licensed to catch fish for commercial purposes may not catch or possess a Spanish mackerel less than 14 inches total length.

(2) Catch Limit. No more than 3,500 pounds of Spanish mackerel may be landed per vessel per day or trip, whichever is longer, regardless of the number of licensees on board the vessel.

(3) Season. The commercial season for catching Spanish mackerel is March 1 through the last day of February.

C. General.

(1) The Secretary may modify catch limits or size limits or open or close a season as required by the Atlantic States Marine Fisheries Commission Interstate Fishery Management Plan for Spanish Mackerel by publishing notice in a daily newspaper of general circulation at least 48 hours in advance of the modification, stating the effective hour and date.

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

- d. Commercial fishermen in MD are required to report all Spanish mackerel harvested on daily fishing reports submitted to DNR. The 2012 preliminary commercial harvest of Spanish mackerel in Maryland was 3,630 pounds, a 28% decrease from 2011 (5,054 pounds; Figure 1), and below the 1965 to 2011 mean of 6,359 pounds per year. Commercial harvest was very low from 1965 – 1986 with no catches greater than 3,600 pounds including six years of zero harvest. Commercial harvest has been somewhat more stable since 1987 with a peak of 62,688 pounds in 1991. Since 1996, the majority of Spanish mackerel harvest has come from Chesapeake Bay, but during the 1987 – 1995 time period Atlantic Ocean catches dominated.

The Marine Recreational Information Program (MRIP) estimated that the recreational harvest in Maryland peaked in the early to mid 1990's with three years of approximately 42,000 fish harvested (Figure 2; MRIP 2013). This followed a period of seven out of ten annual estimates with zero fish captured. Harvest estimates for 1998 – 2011 were variable, ranging from 0 – 20,049 fish with an average of 8,686 fish taken. In 2012, an estimated 2,962 (PSE = 57.9) Spanish mackerel were harvested, more than three times fewer than 2011 estimate of 10,554 fish (PSE = 52.6, Figure 2). Due to the high PSE values, these estimates are considered tenuous.

Licensed charter boat captains in Maryland were required to keep log books of their clients catch from 1993-2012. Spanish mackerel charter boat harvest from 1993 to 2012 ranged from 563 – 10,653 fish per year (Figure 3). A geometric mean (GM) harvest per angler was calculated from the charter boat data. Only positive trips are available, as no indication of target species is recorded. The geometric mean harvest per angler was variable with a declining trend ($R^2 = 0.358$, $p = 0.005$; Figure 4), but has increased slightly the past two years.

- e. Review of progress in implementing habitat recommendations.

No species specific habitat requirements were included in the management plan.

IV. Planned management programs for 2013

- a. Maryland does not plan to make any changes to our Spanish mackerel regulations in 2013. Those listed in section III. c. above are currently in effect.
- b. Maryland will continue monitoring commercial pound nets in 2013. No additional monitoring of Spanish mackerel is planned for 2013.
- c. No changes from 2012 are planned.

Reference

MRIP 2013. Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division September, 24, 2013

Table 1. Mean total length (mm), fork length (mm), standard deviation, and number captured by year for Spanish mackerel captured during Maryland onboard pound net sampling, 1993-2012.

	Total Length			Fork Length		
	Mean Length	Std. Dev.	n	Mean Length	Std. Dev.	n
1993	261	114.3328	3			
1994	391	55	78			
1995	487	38	39	418	34	44
1996	481	55	27	401	62	27
1997	520		1	437		1
1998	418	45	4	379		1
1999	468	82	45			
2000	455	66	35	386	34	49
2001				406	34	19
2002				422	81	20
2003				405	63	11
2004				391	95	8
2005				422	33	373
2006				439	35	445
2007				436	51	158
2008				407	59	18
2009				418	53	7
2010						0
2011						0
2012				393	74	107

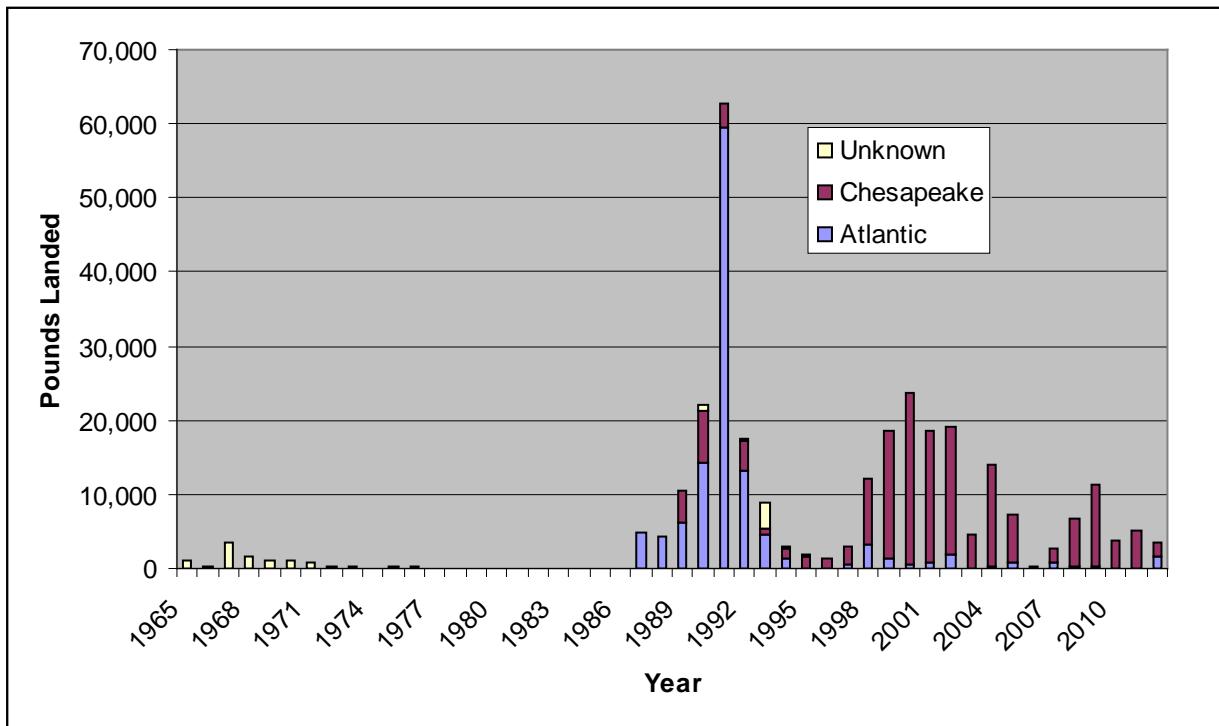


Figure 1. Maryland commercial Spanish mackerel landings in pounds by region, 1965-2012.

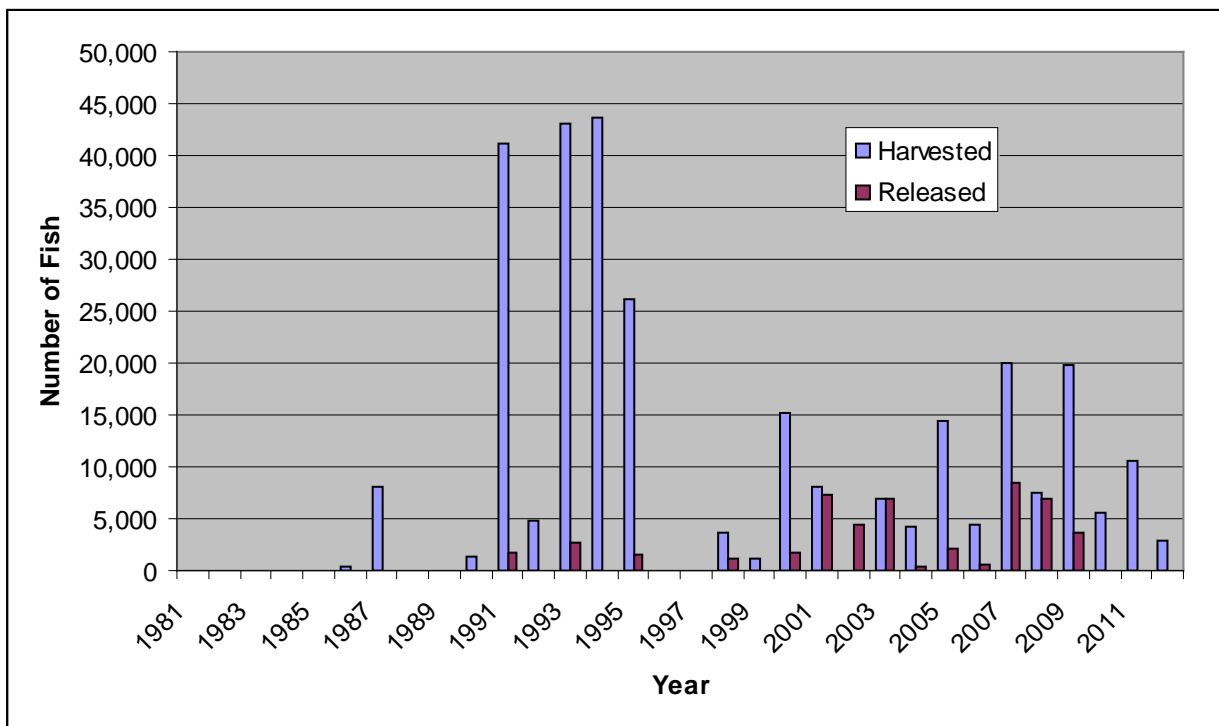


Figure 2. Maryland recreational harvest and release estimates for Spanish mackerel, 1981-2012. Estimates from MRIP, downloaded on September 24, 2013.

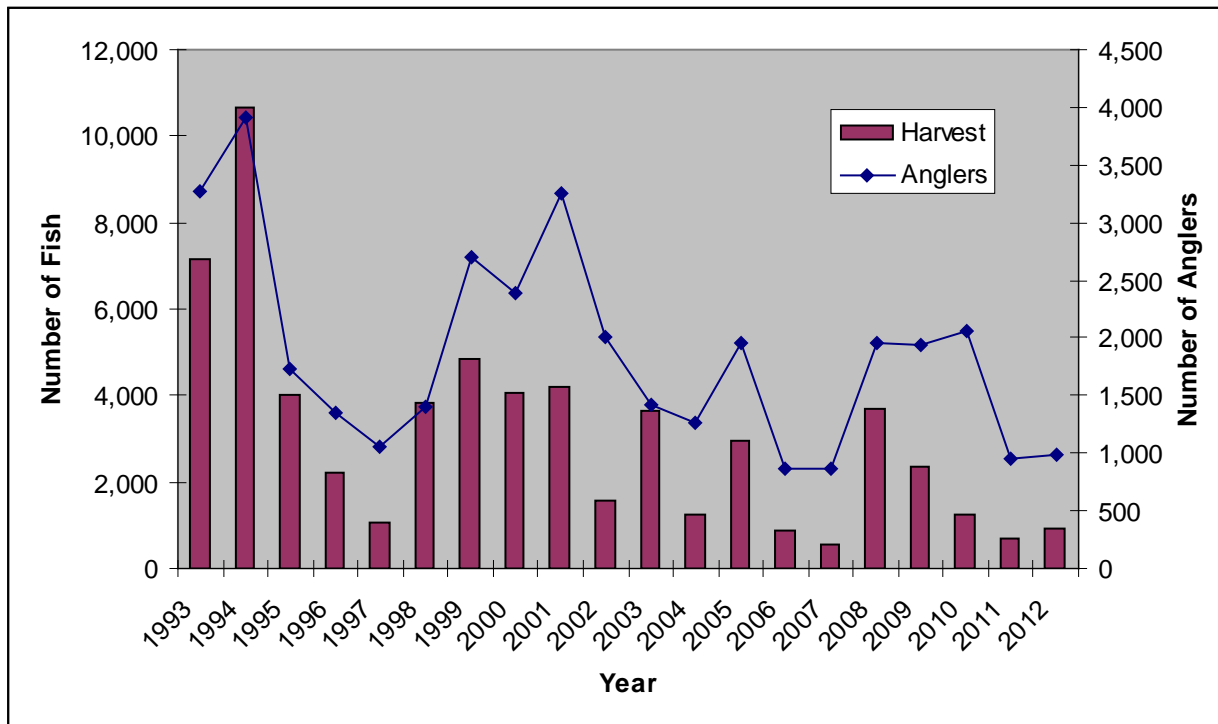


Figure 3. Number of Spanish mackerel captured and number of anglers reported during trips harvesting Spanish mackerel by year from Maryland charter boat log data, 1993-2012.

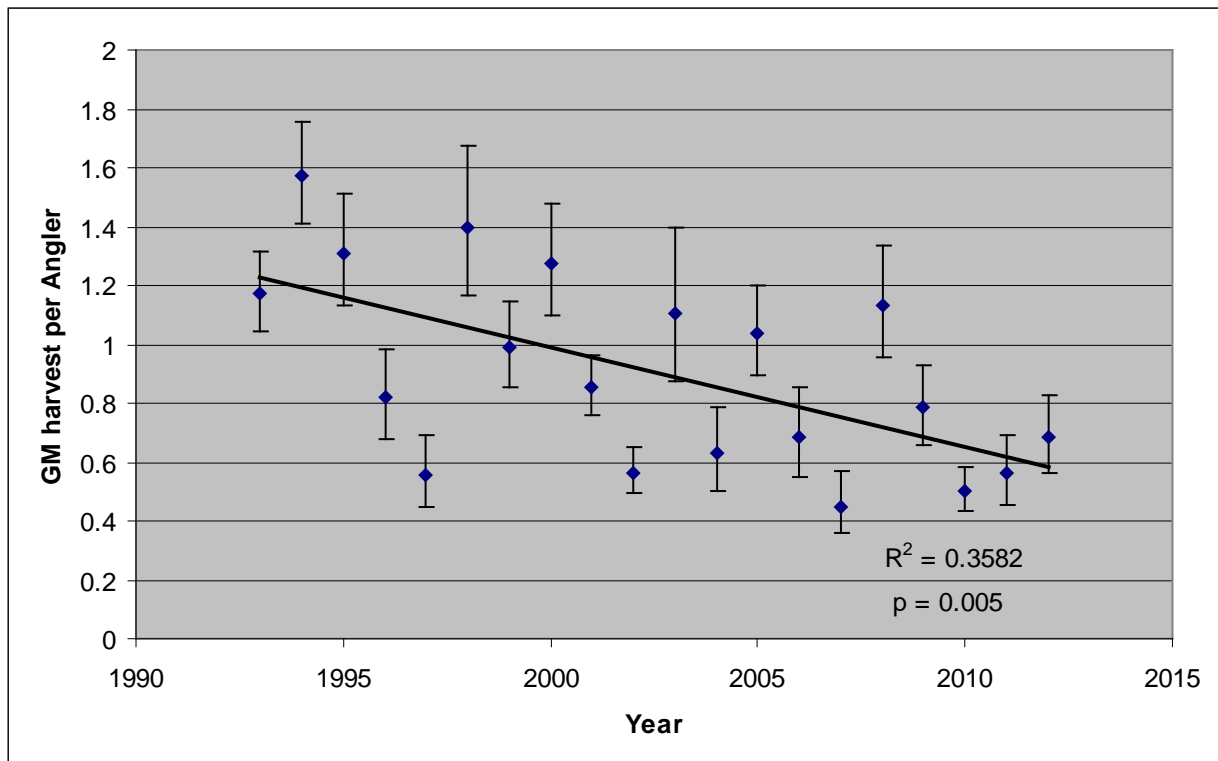


Figure 4. Spanish mackerel geometric mean harvest per angler by year from Maryland charter boat log data, 1993-2012.



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



Spanish Mackerel
2012 Annual State Report
 October 1, 2013

I. Introduction

Commercial harvest of Spanish mackerel in the Potomac River in 2012 was negligible.

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

III. Previous calendar year’s fishery and management program

A. Fishery Dependent Monitoring

Spanish mackerel are taken as incidental harvest in the commercial pound net fishery. The PRFC has a mandatory commercial harvest daily reporting system that collects harvest as well as discards or releases. There were no Spanish mackerel reported as discards or releases.

B. Fishery Independent Monitoring - None.

C. Regulations in Effect

The commercial Spanish mackerel season was January 1st through December 31st. There was a 14” TL minimum size limit and no catch limit. Trip limits may be set by ASMFC annually as needed, and the season is closed by Order when both Maryland and Virginia fisheries are closed. Purse seines and drift gill nets are prohibited in the Potomac River.

The recreational Spanish mackerel season was January 1st through December 31st. There was a 14” TL minimum size limit and the catch limit was fifteen fish per person per day. No person shall alter the natural state of any fish such that its length cannot be measured. There are no recreational gill nets in the Potomac River.

D. Characterization of Harvest

Commercial Spanish mackerel harvest in 2012 was reported as 270 pounds, from the PRFC’s mandatory commercial 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).

<u>Harvest (lbs)</u>	<u>Gear</u>	<u>Effort</u>
270	Pound Net	13 PN fishing days

We know of no directed recreational harvest of Spanish mackerel. The PRFC ‘adds-on’ to the MRFSS phone survey. Results are reported and included as either MD or VA catch.

Tables and Figures:

Table 1 shows the annual Potomac River commercial harvest of Spanish mackerel from 1964 through the reporting year.

Figure 1 illustrates the Potomac River commercial Spanish mackerel harvest.

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. We have no specific regulations for Spanish mackerel.

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.

B. Monitoring programs - We will continue our mandatory daily harvest reports.

C. Any changes from the previous year. - None

Table 1

Potomac River Commercial Harvest (lbs) for SPANISH MACKEREL by gear type

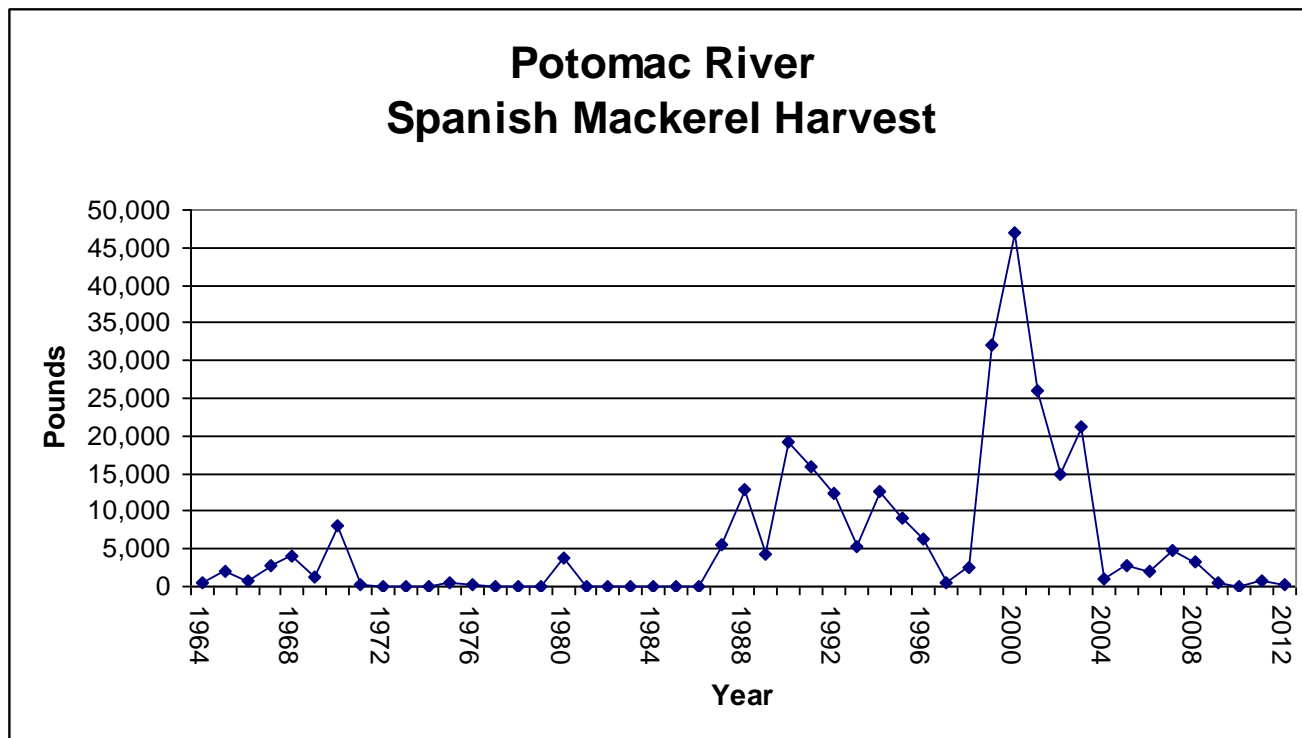
YEAR	HAUL SEINE	POUND NET	FYKE NET	GILL NET	H & L	LBS LANDED		TOTAL
						IN MD	IN VA	
1964	-	-	-	-	-	-	-	480
1965	-	-	-	-	-	-	-	1,916
1966	-	-	-	-	-	-	-	817
1967	-	-	-	-	-	-	-	2,789
1968	-	-	-	-	-	-	-	4,018
1969	-	-	-	-	-	-	-	1,149
1970	-	-	-	-	-	-	-	7,956
1971	-	-	-	-	-	-	-	223
1972	-	-	-	-	-	-	-	35
1973	-	-	-	-	-	-	-	0
1974	-	-	-	-	-	-	-	73
1975	-	-	-	-	-	-	-	534
1976	-	231	-	-	-	-	231	231
1977	-	-	-	-	-	-	-	0
1978	-	-	-	-	-	-	-	0
1979	-	-	-	-	-	-	-	0
1980	-	169	-	3,603	-	3,657	115	3,772
1981	-	-	-	-	-	-	-	0
1982	-	-	-	-	-	-	-	0
1983	-	-	-	-	-	-	-	0
1984	-	-	-	-	-	-	-	0
1985	-	-	-	-	-	-	-	0
1986	-	65	-	-	-	-	65	65
1987	-	5,445	-	-	-	-	5,445	5,445
1988	-	12,917	-	-	-	690	12,227	12,917
1989	-	4,383	-	-	-	48	4,335	4,383
1990	-	19,113	-	-	-	350	18,763	19,113
1991	-	15,972	-	-	-	128	15,844	15,972
1992	-	12,324	-	-	-	291	12,033	12,324
1993	-	5,393	-	-	-	67	5,326	5,393
1994	-	12,671	-	-	-	140	12,531	12,671

Table 1 continued

Potomac River Commercial Harvest (lbs) for SPANISH MACKEREL

YEAR	HAUL SEINE	POUND NET	FYKE NET	GILL NET	H & L	LBS LANDED		TOTAL
						IN MD	IN VA	
1995	-	9,001	-	-	-	1,246	7,755	9,001
1996	-	6,229	-	-	-	-	6,229	6,229
1997	-	557	-	-	-	31	526	557
1998	-	2,513	-	-	-	258	2,255	2,513
1999	-	31,945	-	-	-	2,432	29,513	31,945
2000	140	46,832	-	-	-	2,645	44,327	46,972
2001	15	25,946	9	-	-	193	25,777	25,970
2002	-	14,922	-	-	-	493	14,429	14,922
2003	-	21,267	-	-	-	555	20,712	21,267
2004	-	917	-	-	-	84	833	917
2005	-	2,725	-	-	-	211	2,514	2,725
2006	-	2,019	-	-	-	60	1,959	2,019
2007	-	4,915	-	-	-	458	4,457	4,915
2008	-	2,745	-	-	508	224	3,029	3,253
2009	-	478	-	-	16	143	351	494
2010	-	68	-	-	-	-	68	68
2011	-	675	-	-	-	5	670	675
2012	-	270	-	-	-	-	270	270

Figure 1





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

September 25, 2013

MEMORANDUM

TO: Kirby Rootes-Murdy, FMP Coordinator
Atlantic States Marine Fisheries Commission

FROM: Joseph Grist, Deputy Chief, Fisheries Management Division
Virginia Marine Resources Commission

SUBJECT: Virginia's 2013 Compliance Report for Spanish Mackerel

I. Introduction

Spanish mackerel are harvested in Virginia waters from spring to fall. The minimum size limit for Spanish mackerel is 14 inches total length (TL). It is unlawful for any person fishing with recreational gear to possess more than 15 Spanish mackerel. It is unlawful for any person to land commercially, in Virginia, any amount of Spanish mackerel in excess of 3,500 pounds, from any vessel, in any one day (Appendix I: Chapter 4VAC20-540-10 et seq. "Pertaining to Spanish and King Mackerel").

The Virginia Marine Resources Commission (VMRC) currently operates a mandatory reporting program (Appendix II: Chapter 4VAC20-610-10 et seq. "Pertaining to Commercial Fishing and Mandatory Harvest Reporting"), for recording commercial harvests. The VMRC obtains recreational fisheries data from the Marine Recreational Information Program (MRIP) and the Marine Sportfish Collection Project.

II. Request for *de minimis* status

The Commonwealth of Virginia does not request *de minimis* status for this fishery.

III. Previous Calendar Year's Fishery and Management Program

a. Activity and results of Fishery Dependent Monitoring

1. Commercial fishery dependent monitoring

An Agency of the Natural Resources Secretariat

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

The VMRC Biological Sampling Program collects biological data from Virginia's commercial and recreational fisheries. Biological information, including length-weight data, is recorded and otoliths are removed for ageing, for numerous selected species, including Spanish mackerel. Since 2002, 3,754 Spanish mackerel have been sampled from commercial fisheries (Table 1). The majority of samples are from the commercial pound net fishery, followed by the commercial gill net fishery. Sample lengths ranged from 8 to 32 inches TL, with an average of 18 inches TL (Figure 1). The average weight of Spanish mackerel from commercial landings samples was 1.3 pounds. The Spanish mackerel sampled from the commercial fishery ranged in age from 0 to 10 years (Figure 2). All samples taken outside of the legal harvest range were obtained from confiscated fish or biological research projects.

2. Recreational fishery dependent monitoring

The VMRC introduced its Marine Sportfish Collection Project in June 2007. The program sets up freezers at official weigh-in stations for the Virginia Saltwater Fishing Tournament, where recreational anglers can donate their whole fish or carcasses on a voluntary basis. Anglers that donate carcasses have the opportunity to weigh their fish on one of the certified scales and provide the weight information along with the donated fish. The VMRC processes the donated fish for sex, length, and age. A total of 76 Spanish mackerel has been donated by recreational hook-and-line fishermen from 2008 through 2012 (Table 2). From these donated samples, 76 lengths, 1 weight, and 75 otoliths were taken for ageing. The lengths of Spanish mackerel sampled from the recreational hook-and-line fishery ranged from 14 to 22 inches TL (Figure 3). The average length of the Spanish mackerel recreational fishery samples was 16.5 inches TL. Only one weight was sampled from the recreational fishery, at 1.05 pounds. The Spanish mackerel sampled from the recreational hook-and-line fishery ranged in age from 0 to 5 years.

b. Activity and results of fishery independent monitoring

There were no fishery independent monitoring programs during the 2012 calendar year.

c. Copy of regulations in effect for 2012

See Appendix 1.

d. Harvest for commercial and recreational fisheries

Virginia's commercial fishery harvested 18,317 pounds of Spanish mackerel in 2012 (Table 3). This is a decrease compared to the previous year. Pound nets accounted for the greatest percentage of the Spanish mackerel harvest in 2012, with 82% of the total harvest. Gill nets accounted for 17% of the 2012 harvest (Table 4).

The 2012 MRIP estimated recreational landings of Spanish mackerel in Virginia totaled 17,806 pounds (A+B1), or 11,847 fish (Table 5). The 2012 MRIP estimated number of fish released (B2) totaled 17,150 fish (Table 5). In Virginia, saltwater anglers took 2,521,577 trips in 2012 for all species (Table 6).

Currently, no fishery-independent sampling programs or estimates of non-harvest loss are available.

e. Review of progress in implementing habitat recommendations

No programs have been implemented relating specifically to Spanish mackerel.

IV. Planned management programs for the current calendar year

a. Summarize regulations that will be in effect for 2013

In 2013 the minimum size limit for Spanish mackerel will remain 14 inches TL. It is unlawful for any person fishing with recreational gear to possess more than 15 Spanish mackerel. It is unlawful for any person to land commercially, in Virginia, any amount of Spanish mackerel in excess of 3,500 pounds, from any vessel, in any one day (Appendix I: Chapter 4VAC20-540-10 et seq. "Pertaining to Spanish and King Mackerel").

b. Summarize monitoring programs that will be performed

The VMRC will continue to monitor commercial harvest of Spanish mackerel through the mandatory reporting program, and to collect biological data from commercial and recreational fisheries.

c. Highlight any changes from the previous year

N/A

Table 1. Number of Spanish mackerel samples collected from commercial fisheries by the VMRC Biological Sampling Program, by year and gear, 2002 through 2012.

<i>Year</i>	<i>Trawl</i>	<i>Haul Seine</i>	<i>Gill Net</i>	<i>Pound Net</i>	Total
2002		55	30	810	895
2003			54	332	386
2004			27	403	430
2005			6	354	360
2006		2	4	412	418
2007		3	22	245	270
2008	57		73	118	248
2009		8	47	99	154
2010			18	186	204
2011			13	210	223
2012				166	166
Total	57	68	244	3,241	3,754

Table 2. Number of recreational Spanish mackerel sampled from the Marine Sportfish Collection Project, 2008 through 2012.

<i>Year</i>	<i>Number of Lengths</i>
2008	3
2009	26
2010	20
2011	9
2012	18
Total	76

Table 3. Virginia's Spanish mackerel landings, 1993 through 2012.

<i>Year</i>	<i>Pounds</i>	<i>Value</i>
1993	335,068	\$163,004
1994	373,681	\$176,900
1995	168,732	\$107,388
1996	281,897	\$198,986
1997	165,151	\$88,491
1998	115,884	\$81,016
1999	251,686	\$207,659
2000	168,716	\$110,595
2001	178,849	\$142,663
2002	102,454	\$76,914
2003	103,409	\$86,175
2004	66,482	\$49,662
2005	43,126	\$51,267
2006	43,192	\$63,855
2007	58,064	\$63,855
2008	156,011	\$90,256
2009	138,292	\$81,865
2010	47,562	\$32,768
2011	36,314	\$28,782
2012	18,317	\$21,251

Table 4. Virginia's Spanish mackerel commercial landings by gear, 1993 through 2012.

Year	<i>Gill Nets</i>		<i>Pound Net</i>		<i>Haul Seine</i>		<i>**Other</i>	
	Pounds	Value	Pounds	Value	Pounds	Value	Pounds	Value
1993	103,686	\$58,402	229,160	\$103,407	1,578	\$892	644	\$307
1994	82,391	\$34,664	287,949	\$140,608	3,008	\$1,458	333	\$170
1995	14,019	\$8,179	154,124	\$98,780	485	\$386	104	\$43
1996	26,909	\$20,898	252,700	\$176,717	635	\$516	1,653	\$854
1997	19,653	\$13,482	143,850	\$74,048	648	\$464	1,000	\$997
1998	27,652	\$19,425	86,460	\$60,573	779	\$546	993	\$472
1999	19,396	\$16,423	228,172	\$187,598	3,610	\$3,350	508	\$288
2000	21,055	\$14,967	143,412	\$92,602	3,951	\$2,805	298	\$221
2001	13,730	\$10,928	164,522	\$131,234	496	\$418	101	\$83
2002	10,213	\$7,420	91,793	\$69,159	386	\$293	62	\$42
2003	5,515	\$4,962	97,087	\$80,495	606	\$547	201	\$171
2004	2,630	\$2,057	63,828	\$47,583	*	*	24	\$22
2005	2,085	\$2,452	40,606	\$48,404	*	*	405	\$411
2006	3,362	\$4,817	39,680	\$58,850	92	\$137	58	\$51
2007	5,801	\$6,482	52,027	\$57,127	157	\$180	79	\$65
2008	10,751	\$10,779	144,119	\$78,323	531	\$569	610	\$585
2009	6,203	\$6,028	131,617	\$75,521	92	\$97	380	\$219
2010	3,106	\$3,038	44,328	\$29,610	*	*	128	\$120
2011	2,236	\$2,113	29,382	\$21,105	4,567	\$5,482	129	\$83
2012	3,204	\$4,363	14,961	\$16,698	*	*	153	\$190

* = Confidential data

**Other (Multiple gears: Fyke net, Hand Line, Hard Pot, Fish Pot, Otter Bottom Trawl, Patent Tong Crab Pots, Long Line, Long Seine, Pound net, Other, Other, Other, and Dredge, Other)

#Gill Net (Anchor, Drift, Staked, and Great Lakes gill nets)

Table 5. Virginia's Spanish mackerel recreational landings (A+B1) and releases (B2), 1986 through 2012.

Year	<i>Landings (Type A +B1)</i>				<i>Released Alive (Type B2)</i>	
	Number	PSE [Number]	Weight [Pounds]	PSE [Weight]	Number	PSE [Number]
1986	6,942	72.7	9,708	74.6	74	100
1987	1,520	70.7	2,010	.	13,947	71.6
1988	101,691	37.6	160,407	39.1	0	.
1989	73,236	31.7	81,108	31.3	10,286	60.8
1990	63,821	23.7	86,933	26.4	21,094	57
1991	68,102	20.4	72,708	21.3	28,777	43.7
1992	71,265	19.3	76,412	20	18,072	41.8
1993	73,832	24.1	93,272	24.4	70,081	23.9
1994	145,872	13.7	160,609	14.1	91,832	26.2
1995	86,899	45.6	110,433	48.4	24,467	56.5
1996	69,399	49.2	80,505	47.4	28,951	38.9
1997	68,517	43.6	22,234	34.9	22,658	40.6
1998	33,140	38.6	57,467	43	49,429	41.8
1999	75,972	41	79,602	42.7	36,276	31.2
2000	71,249	47.5	83,297	45.3	82,227	34.2
2001	29,590	35.1	42,047	34.2	30,158	39.9
2002	17,433	53.1	12,163	62.6	9,923	59.4
2003	17,063	33.1	22,030	32.3	20,539	30.7
2004	28,301	46.5	36,497	46.1	14,456	60.5
2005	10,573	85.5	14,459	85.6	0	.
2006	40	99.2	70	99.2	8,504	88.2
2007	16	100.9	29	100.9	279	84
2008	83,903	32	112,619	31.7	37,850	37.5
2009	16,451	68.2	24,663	69	20,980	69
2010	20,524	38.2	26,338	38	33,103	64
2011	35,054	73.2	41,325	75.5	28,526	63.5
2012	11,847	46	17,806	48	17,150	41.3

***1986-2012 taken from MRIP data**

Table 6. Total number of recreational trips taken in Virginia, all species combined, 1986 through 2012.

<i>Year</i>	<i>Trips</i>
1986	2,578,928
1987	2,028,075
1988	2,461,821
1989	1,748,811
1990	1,962,276
1991	3,044,585
1992	1,877,642
1993	2,067,787
1994	2,634,221
1995	2,865,419
1996	2,743,913
1997	3,712,259
1998	2,956,024
1999	2,693,943
2000	3,390,719
2001	4,128,242
2002	3,253,844
2003	3,113,183
2004	3,663,879
2005	3,964,054
2006	3,787,818
2007	3,511,486
2008	3,498,928
2009	3,047,706
2010	2,596,891
2011	2,898,696
2012	2,521,577

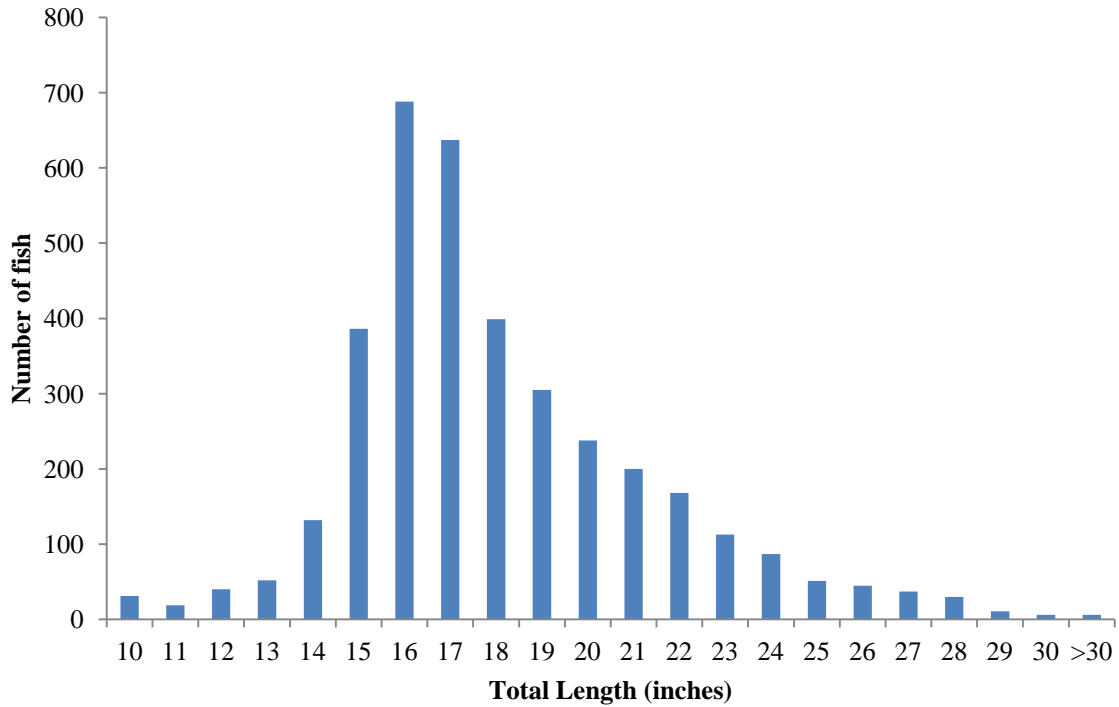


Figure 1. Length-frequency distributions of Spanish mackerel samples collected from commercial landings by the VMRC Biological Sampling Program, 2002 through 2012, combined.

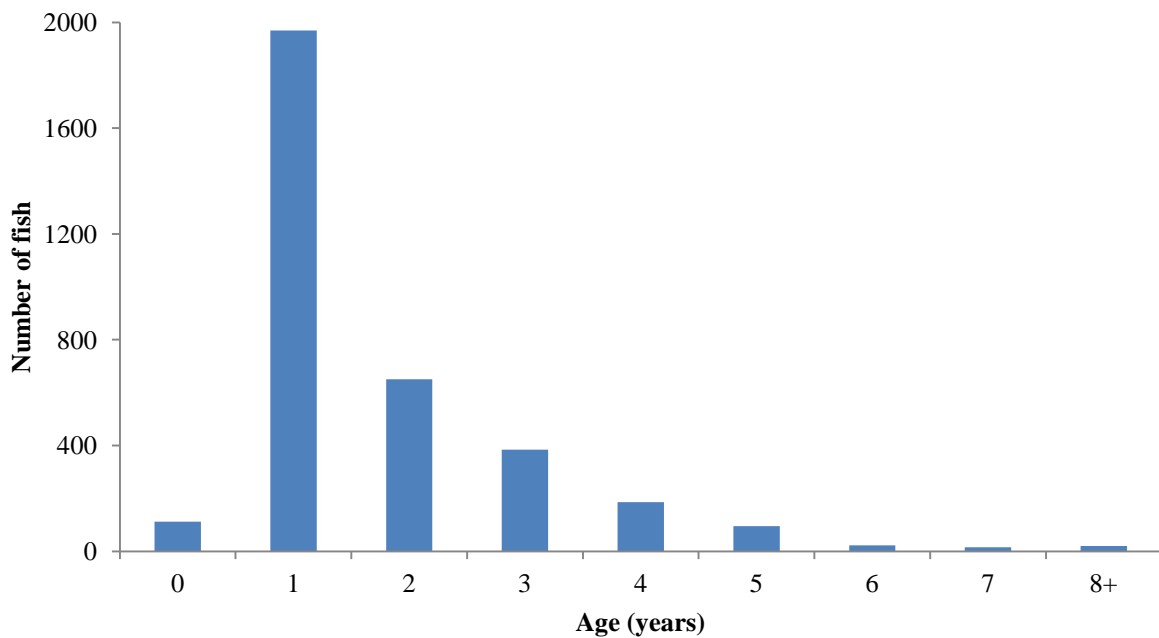


Figure 2. Age-frequency distribution of Spanish mackerel samples collected from commercial landings by the VMRC Biological Sampling Program, 2002 through 2012, combined.

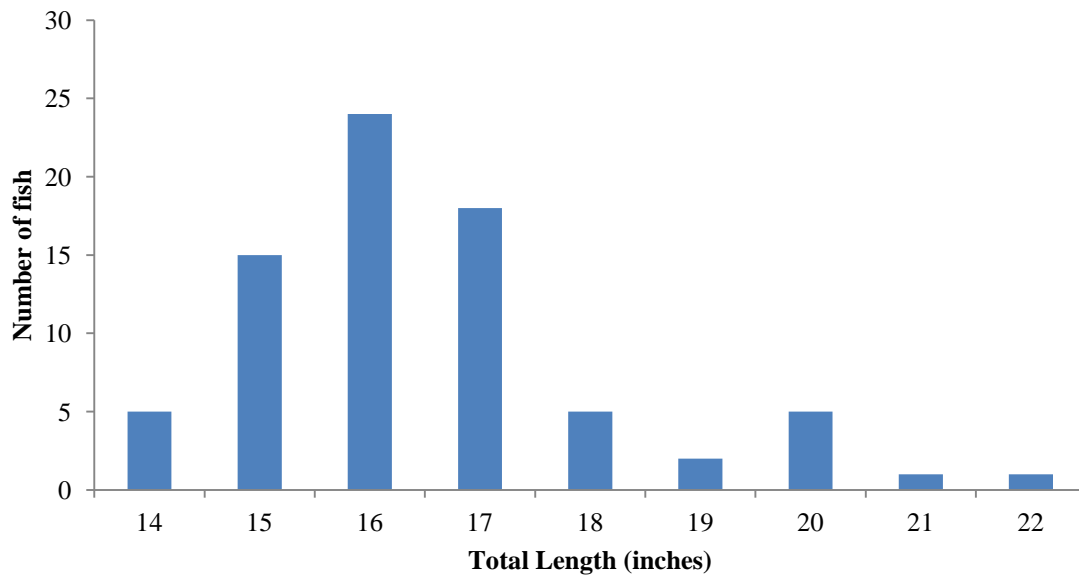


Figure 3. Length-frequency distribution of Spanish mackerel samples donated by recreational hook-and-line anglers to the VMRC Marine Sportfish Collection Project, 2008 through 2012, combined.

APPENDIX I: ADMINISTRATIVE CODE CHAPTER 4VAC20-540-10 ET SEQ.
“PERTAINING TO SPANISH AND KING MACKEREL”

PREAMBLE

This chapter establishes possession limits, minimum size limits, and trip limits, on the harvest of Spanish mackerel and king mackerel. These chapters are established to prevent overfishing and to assist the further recovery of Spanish mackerel and king mackerel along the Atlantic Coast. This chapter is promulgated pursuant to authority contained in §§28.2-201 of the Code of Virginia. This chapter amends previous Chapter 4VAC20-540-10 et seq., which was adopted October 24, 2000 and effective January 1, 2001. The effective date of this chapter is June 1, 2012.

4 VAC 20-540-10. PURPOSE.

The purpose of this chapter is to prevent overfishing of the Spanish mackerel and king mackerel stocks found in Virginia waters and along the Atlantic Coast. This chapter supports the goals and objectives of federal and interstate management measures for Spanish and king mackerel.

4 VAC 20-540-20. DEFINITIONS.

The following word and term, when used in this chapter, shall have the following meaning unless the context indicates otherwise.

"Trip" means that period during which the vessel shall have left a dockside landing place, relocated to waters where fishing for Spanish mackerel by the vessel is legally permitted, and returned to a dockside landing place.

4 VAC 20-540-30. POSSESSION LIMITS ESTABLISHED.

- A. It shall be unlawful for any person fishing with hook and line, hand line, rod and reel, spear, or gig or other recreational gear to possess more than 15 Spanish mackerel or more than three king mackerel.
- B. When fishing from a boat or vessel, where the entire catch is held in a common hold or container, the possession limits shall be for the boat or vessel and shall be equal to the number of persons on board legally eligible to fish multiplied by 15 for Spanish mackerel or multiplied by three for king mackerel. The captain or operator of the boat or vessel shall be responsible for any boat or vessel possession limit.
- C. The possession limit provisions established in this section shall not apply to persons harvesting Spanish mackerel or king mackerel with licensed commercial gear.

4 VAC 20-540-40. MINIMUM SIZE LIMITS ESTABLISHED.

- A. Minimum size limit for Spanish mackerel is established at 14 inches total length.

APPENDIX I: ADMINISTRATIVE CODE CHAPTER 4VAC20-540-10 ET SEQ.
“PERTAINING TO SPANISH AND KING MACKEREL”

- B. Minimum size limit for king mackerel is established at 27 inches in total length.
- C. It shall be unlawful for any person to take, catch or possess any Spanish mackerel less than 14 inches in total length.
- D. Except as provided in F of this section it shall be unlawful for any person to take, catch or possess any king mackerel less than 27 inches in total length.
- E. Total length shall be measured in a straight line from the tip of the nose to the tip of the tail for the purposes of this chapter.
- F. Nothing in this section shall prohibit the taking, catching, or possession of any king mackerel less than 27 inches total length, by a licensed pound net.

4 VAC 20-540-50. TRIP LIMIT ESTABLISHED.

It shall be unlawful for any person to land in Virginia any amount of Spanish mackerel in excess of 3,500 pounds from any vessel in any one day.

4 VAC 20-540-60. 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.

APPENDIX II: ADMINISTRATIVE CODE CHAPTER 4VAC20-610-10 ET SEQ.
“PERTAINING TO COMMERCIAL FISHING AND MANDATORY HARVEST
REPORTING”

PREAMBLE

This chapter describes the procedures and manner for application for registration as a commercial fisherman, the manner and form of mandatory harvest reports by commercial fishermen and others, and exceptions to the registration process and delay requirements as specified in § 28.2-241 of the Code of Virginia. A commercial hook-and-line license is also established.

This chapter is promulgated pursuant to authority contained in §§ 28.2-201, 28.2-204, 28.2-242, and 28.2-243 of the Code of Virginia. This chapter amends and readopts, as amended, previous Chapter 4VAC20-610-10 et seq. which was promulgated February 26, 2013 and made effective on March 1, 2013. The effective date of this chapter, as amended, is July 1, 2013.

4VAC20-610-10. Purpose.

The purpose of this chapter is to establish the procedures for the registration of commercial fishermen and the manner and form of mandatory harvest reports from fishermen and others. Further, the purpose is to license commercial fishermen using hook-and-line, rod-and-reel, or hand line.

4VAC20-610-20. Definitions.

The following words and terms when used in this chapter shall have the following meanings unless the context clearly indicates otherwise:

“Agent” means any person who possesses the commercial fisherman registration license, fishing gear license, or fishing permit of a registered commercial fisherman in order to fish that commercial fisherman's gear or sell that commercial fisherman's harvest.

"Clam aquaculture harvester" means any person who harvests clams from leased, subleased, or fee simple ground or any aquaculture growing area, within or adjacent to Virginia tidal waters.

"Clam aquaculture product owner" means any person or firm that owns clams on leased, subleased, or fee simple ground, or any aquaculture growing area within or adjacent to Virginia tidal waters that are raised by any form of aquaculture. This does not include any riparian shellfish gardeners whose activities are authorized by 4VAC20-336, General Permit No. 3 Pertaining to Noncommercial Riparian Shellfish Growing Activities.

"Clam aquaculture product owner vessel" means any vessel, legally permitted through a no-cost permit, by a clam aquaculture product owner, used to transport clam aquaculture harvesters who do not possess an individual clam aquaculture harvester permit.

"Commission" means the Marine Resources Commission.

"Commissioner" means the Commissioner of the Marine Resources Commission.

APPENDIX II: ADMINISTRATIVE CODE CHAPTER 4VAC20-610-10 ET SEQ.
“PERTAINING TO COMMERCIAL FISHING AND MANDATORY HARVEST
REPORTING”

"Continuing business enterprise" means any business that is required to have a Virginia Seafood Buyer's License or is required to have a business license by county, city or local ordinance.

"Oyster aquaculture harvester" means any person who harvests oysters from leased, subleased, or fee simple ground or any aquaculture growing area, within or adjacent to Virginia tidal waters.

"Oyster aquaculture product owner" means any person or firm that owns oysters on leased, subleased, or fee simple ground, or any aquaculture growing area within or adjacent to Virginia tidal waters that are raised by any form of aquaculture. This does not include any riparian shellfish gardeners whose activities are authorized by 4VAC20-336, General Permit No. 3 Pertaining to Noncommercial Riparian Shellfish Growing Activities.

"Oyster aquaculture product owner vessel" means any vessel, legally permitted through a no-cost permit, by an oyster aquaculture product owner, used to transport oyster aquaculture harvesters who do not possess an individual oyster aquaculture harvester permit.

"Sale" means sale, trade, or barter.

"Sell" means sell, trade, or barter.

"Selling" means selling, trading or bartering.

"Sold" means sold, traded, or bartered.

4VAC20-610-25. Oyster aquaculture permit requirements.

A. For the purposes of collecting oyster fisheries statistics from the Virginia aquaculture industry, as authorized by §28.2-204 of the Code of Virginia and in accordance with §28.2-613 of the Code of Virginia, which describes conditions that determine the duration of a lease, any oyster aquaculture product owner shall obtain an oyster aquaculture product owner's permit and shall report harvest of any oysters from leased, subleased, or fee simple ground or any aquaculture growing area within or adjacent to Virginia tidal waters in accordance with 4VAC20-610-60.

B. It shall be unlawful for any person, except an oyster aquaculture product owner permittee, oyster aquaculture harvester permittee, or a harvester designated for harvest by an oyster aquaculture product owner vessel permit, to harvest oysters from leased, subleased, or fee simple ground or any aquaculture growing area, within or adjacent to Virginia tidal waters, unless that person is authorized to harvest oysters from areas described in this subsection by an oyster aquaculture product owner.

APPENDIX II: ADMINISTRATIVE CODE CHAPTER 4VAC20-610-10 ET SEQ.
“PERTAINING TO COMMERCIAL FISHING AND MANDATORY HARVEST
REPORTING”

C. It shall be unlawful for any person permitted as an oyster aquaculture harvester to fail to possess that permit on his person while harvesting unless that person is on a permitted oyster aquaculture product owner vessel and is harvesting oysters of that oyster aquaculture product owner.

D. Minor persons younger than 18 years of age shall be exempt from the requirements to obtain an oyster aquaculture harvester’s permit provided that minor person is harvesting oysters under the supervision of a legally permitted oyster aquaculture product owner.

4VAC20-610-26. Clam aquaculture permit requirements.

A. For the purposes of collecting clam fisheries statistics from the Virginia aquaculture industry, as authorized by §28.2-204 of the Code of Virginia and in accordance with §28.2-613 of the Code of Virginia, which describes conditions that determine the duration of a lease, any clam aquaculture product owner shall obtain a clam aquaculture product owner’s permit and shall report harvest of any clams from leased, subleased, or fee simple ground or any aquaculture growing area, within or adjacent to Virginia tidal waters, in accordance with 4VAC20-610-60.

B. It shall be unlawful for any person, except a clam aquaculture product owner permittee, clam aquaculture harvester permittee, or a harvester designated for harvest by a clam aquaculture product owner vessel permit, to harvest clams from leased, subleased, or fee simple ground or any aquaculture growing area, within or adjacent to Virginia tidal waters, unless that person is authorized to harvest clams from areas described in this subsection by a clam aquaculture product owner.

C. It shall be unlawful for any person permitted as a clam aquaculture harvester to fail to possess that permit on his person while harvesting unless that person is on a permitted clam aquaculture product owner vessel and is harvesting clams of that clam aquaculture product owner.

D. Minor persons younger than 18 years of age shall be exempt from the requirements to obtain a clam aquaculture harvester’s permit provided that minor person is harvesting clams under the supervision of a legally permitted clam aquaculture product owner.

4VAC20-610-30. Commercial Fisherman Registration License; exceptions and requirements of authorized agents.

A. In accordance with §28.2-241 C of the Code of Virginia, only persons who hold a valid Commercial Fisherman Registration License may sell, trade, or barter their harvest, or give their harvest to another, in order that it may be sold, traded, or bartered. Only these licensees may sell their harvests from Virginia tidal waters, regardless of the method or manner in which caught. Exceptions to the requirement to register as a commercial fisherman for selling harvest are authorized for the following persons or firms only:

1. Persons taking menhaden under the authority of licenses issued pursuant to §28.2-402 of the Code of Virginia.

APPENDIX II: ADMINISTRATIVE CODE CHAPTER 4VAC20-610-10 ET SEQ.
“PERTAINING TO COMMERCIAL FISHING AND MANDATORY HARVEST
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2. Persons independently harvesting and selling, trading, or bartering no more than three gallons of minnows per day who are not part of, hired by, or engaged in a continuing business enterprise.

a. Only minnow pots, a cast net or a minnow seine less than 25 feet in length may be used by persons independently harvesting minnows.

b. All other marine species taken during the process of harvesting minnows shall be returned to the water immediately.

B. Requirements of authorized agents.

1. No person whose Commercial Fisherman Registration License, fishing gear license, or fishing permit is currently revoked or rescinded by the Marine Resources Commission pursuant to §28.2-232 of the Code of Virginia is authorized to possess the Commercial Fisherman Registration License, fishing gear license, or fishing permit of any other registered commercial fisherman in order to serve as an agent for fishing the commercial fisherman's gear or selling the harvest.

2. No registered commercial fisherman shall use more than one person as an agent at any time.

3. Any person serving as an agent shall possess the Commercial Fisherman Registration License and gear license of the commercial fisherman while fishing.

4. When transporting or selling a registered commercial fisherman's harvest, the agent shall possess either the Commercial Fisherman Registration License of that commercial fisherman or a bill of lading indicating that fisherman's name, address, Commercial Fisherman Registration License number, date and amount of product to be sold.

C. Requirements of authorized blue crab fishery agents.

1. Any person licensed to harvest blue crabs commercially shall not be eligible to also serve as an agent.

2. Any person serving as an agent to harvest blue crabs for another licensed fisherman shall be limited to the use of only one registered commercial fisherman's crab license; however, an agent may fish multiple crab traps licensed and owned by the same person.

3. There shall be no more than one person, per vessel, serving as an agent for a commercial crab licensee.

4. Prior to using an agent in any crab fishery, the licensee shall submit a crab agent registration application to the Commission. Crab agent registration applications shall be

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approved by the Commissioner, or his designee, for a crab fishery licensee according to the following guidelines:

a. Only 168 agents may participate in the 2013 crab fishery, as described in subdivision 4 b of this subsection, unless the Commissioner, or his designee, approves a request for agent use because of a non-economic hardship circumstance and

b. 153 of the 168 agents may be utilized by those crab fishery licensees who received approval for agent use in 2012 or who currently are licensed by a transferred crab fishery license from a licensee approved for agent use in 2012, except that should any of these licensees described in this subdivision fail to register for agent use, applications for agent use by other 2013 licensees shall be approved on a first-come, first-serve basis, starting with those licensees who have registered prior to the effective date of this regulation.

D. Failure to abide by any of the provisions of this section, shall constitute a violation of this regulation.

E. In accordance with §28.2-241 H of the Code of Virginia, only persons with a valid Commercial Fisherman Registration License may purchase gear licenses. Beginning with licenses for the 1993 calendar year and for all years thereafter, gear licenses will be sold only upon presentation of evidence of a valid Commercial Fisherman Registration License.

Exceptions to the prerequisite requirement are authorized for the following gears only and under the conditions described below:

1. Menhaden purse seine licenses issued pursuant to §28.2-402 of the Code of Virginia may be purchased without holding a Commercial Fisherman Registration License.

2. Commercial gear licenses used for recreational purposes and issued pursuant to §28.2-226.2 of the Code of Virginia may be purchased without holding a Commercial Fisherman Registration License.

F. Exceptions to the two-year delay may be granted by the commissioner if he finds any of the following:

1. The applicant for an exception (i) has demonstrated, to the satisfaction of the commissioner, that the applicant has fished a significant quantity of commercial gear in Virginia waters during at least two of the previous five years; and (ii) can demonstrate, to the satisfaction of the commissioner, that a significant hardship caused by unforeseen circumstances beyond the applicant's control has prevented the applicant from making timely application for registration. The commissioner may require the applicant to provide such documentation as he deems necessary to verify the existence of hardship.

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2. The applicant is purchasing another commercial fisherman's gear, and the seller of the gear holds a Commercial Fisherman Registration License and the seller surrenders that license to the commission at the time the gear is sold.
3. An immediate member of the applicant's family, who holds a current registration, has died or is retiring from the commercial fishery and the applicant intends to continue in the fishery.
4. Any applicant denied an exception may appeal the decision to the commission. The applicant shall provide a request to appeal to the commission 30 days in advance of the meeting at which the commission will hear the request. The commission will hear requests at their March, June, September, and December meetings.
5. Under no circumstances will an exception be granted solely on the basis of economic hardship.

4VAC20-610-40. Registration procedures.

A. An applicant may renew his Commercial Fisherman Registration License by registering during the months of December through February as commercial fishermen as follows:

1. The applicant shall complete an application for a Commercial Fisherman Registration License.
2. The applicant shall mail the completed application to the Virginia Marine Resources Commission, 2600 Washington Avenue, 3rd Floor, Newport News, VA 23607.
3. The Commercial Fisherman Registration License will be returned to the applicant by mail upon validation of his application.

B. Persons desiring to enter the commercial fishery and those fishermen failing to register as provided in subdivision A may apply only during December, January or February of each year. All such applications shall be for a delayed registration and shall be made as provided below.

1. The applicant shall complete an application for a Commercial Fisherman Registration License by providing his complete name, mailing address (and 911 address if different than mailing address), social security number, birth date, weight, height, eye color, hair color, telephone number of residence, and signature.
2. The applicant shall mail the completed application to the Virginia Marine Resources Commission, 2600 Washington Avenue, Newport News, VA 23607.
3. The Commercial Fisherman Registration License will be returned to the applicant by mail two years after the date of receipt of the application by the commission. Notification of any change in the address of the applicant shall be the responsibility of the applicant.

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C. No part of the Commercial Fisherman Registration License fee shall be refundable.

D. The Commercial Fisherman Registration License may be renewed annually during the months of December, January or February, only when any and all mandatory reporting harvest reports are up to date and there are no outstanding compliance issues. Any person failing to renew his license shall be subject to the delay provision of subsection B of this section.

4VAC20-610-50. Commercial hook-and-line license.

A. On or after January 1, 1993, it shall be unlawful for any person to take or harvest fish in the tidal waters of Virginia with hook-and-line, rod-and-reel, or hand line and to sell such harvest without first having purchased a Commercial Hook-and-Line License from the commission or its agent.

B. A Commercial Fisherman Registration License, as described in §28.2-241 H of the Code of Virginia, is required prior to the purchase of this license.

4VAC20-610-60. Mandatory harvest reporting.

A. It shall be unlawful for any valid commercial fisherman registration licensee, seafood landing licensee, oyster aquaculture product owner permittee, or clam aquaculture product owner permittee to fail to fully report harvests and related information as set forth in this chapter.

B. It shall be unlawful for any recreational fisherman, charter boat captain, head boat captain, commercial fishing pier operator, or owner of a private boat licensed pursuant to §§28.2-302.7 through 28.2-302.9 of the Code of Virginia, to fail to report recreational harvests, upon request, to those authorized by the commission.

C. All registered commercial fishermen and any valid seafood landing licensee shall complete a daily form accurately quantifying and legibly describing that day's harvest from Virginia tidal waters and federal waters. The forms used to record daily harvest shall be those provided by the commission or another form approved by the commission. Registered commercial fishermen and seafood landing licensees may use more than one form when selling to more than one buyer.

D. Any oyster aquaculture product owner permittee or clam aquaculture product owner permittee shall complete a monthly form accurately quantifying and legibly describing that month's harvest from Virginia tidal waters. The forms used to record monthly harvest shall be those provided by the commission or another form approved by the commission.

E. Registered commercial fishermen, seafood landing licensees, valid oyster aquaculture product owner permittees and valid clam aquaculture product owner permittees shall submit a monthly harvest report to the commission no later than the fifth day of the following month. This report shall be accompanied by the daily harvest records described in subsection F of this section. Completed forms shall be mailed or delivered to the commission or other designated locations.

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F. The monthly harvest report requirements shall be as follows:

1. Registered commercial fishermen shall be responsible for providing monthly harvest report and daily harvest records that include the name and signature of the registered commercial fisherman and his commercial fisherman’s registration license number; the name and license registration number of any agent, if used; the license registration number of no more than five helpers who were not serving as agents; any buyer or private sale information; the date of any harvest; the city or county of landing that harvest; the water body fished, gear type, and amount of gear used for that harvest; the number of hours any gear was fished and the number of hours the registered commercial fisherman fished; the number of crew on board, including captain; species harvested; market category; live weight or processed weight of species harvested; and vessel identification (Coast Guard documentation number, Virginia license number, or hull/VIN number). Any information on the price paid for the harvest may be provided voluntarily.

2. The monthly harvest report from oyster aquaculture product owner permittees and clam aquaculture product owner permittees shall include the name, signature, permit number, lease number, date of the last day of the reporting month, city or county of landing, gear (growing technique) used, weight or amount of species harvested by market category, total number of individual crew members for the month, and buyer or private sale information.

3. The monthly harvest report and daily harvest records from seafood landing licensees shall include the name and signature of the seafood landing licensee and his seafood landing license number; buyer or private sale information; date of harvest; city or county of landing; water body fished; gear type and amount used; number of hours gear fished; number of hours the seafood landing licensee fished; number of crew on board, including captain; nonfederally permitted species harvested; market category; live weight or processed weight of species harvested; and vessel identification (Coast Guard documentation number, Virginia license number, or hull/VIN number).

G. Registered commercial fishermen, oyster aquaculture product owner permittees and clam aquaculture product owner permittees not fishing during a month, or seafood landing licensees not landing in Virginia during a month, shall so notify the commission no later than the fifth of the following month by postage paid postal card provided by the commission or by calling the commission's toll free telephone line.

H. Any person licensed as a commercial seafood buyer pursuant to §28.2-228 of the Code of Virginia shall maintain for a period of one year a copy of each fisherman's daily harvest record form for each purchase made. Such records shall be made available upon request to those authorized by the commission.

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I. Registered commercial fishermen, seafood landing licensees, oyster aquaculture product owner permittees and clam aquaculture product owner permittees shall maintain their harvest records for one year and shall make them available upon request to those authorized by the commission.

J. Registered commercial fishermen, seafood landing licensees and licensed seafood buyers shall allow those authorized by the commission to sample harvest and seafood products to obtain biological information for scientific and management purposes only. Such sampling shall be conducted in a manner that does not hinder normal business operations.

K. The reporting of the harvest of federally permitted species from beyond Virginia's tidal waters that are sold to a federally permitted dealer shall be exempt from the procedures described in this section.

L. The owner of any purse seine vessel or bait seine vessel (snapper rig) licensed under the provisions of §28.2-402 of the Code of Virginia shall submit the Captain's Daily Fishing Reports to the National Marine Fisheries Service, in accordance with provisions of Amendment 1 to the Interstate Fishery Management Plan of the Atlantic States Marine Fisheries Commission for Atlantic Menhaden, which became effective July 2001.

4VAC20-610-65. Noncompliance.

A. Any initial violation of 4VAC20-610-60 by any registered commercial fisherman, oyster aquaculture product owner permittee, clam aquaculture product owner permittee, or seafood landing licensee shall be subject to penalties as described in subdivisions 1 through 4 of this subsection.

1. Any failure to report harvest or no harvest activity or no landing in Virginia within one to three months after that report was due shall result in a minimum of one year of probation.

2. Any failure to report harvest or no harvest activity or no landing in Virginia within four to six months after that report was due shall result in a minimum of two years of probation.

3. Any failure to report harvest or no harvest activity or no landing in Virginia within seven to twelve months after that report was due shall result in a minimum of six months of suspension of all commercial licenses and permits.

4. Any failure to report harvest or no harvest activity or no landing in Virginia more than twelve months after that report was due shall result in a minimum of one year of suspension of all commercial licenses and permits.

B. Any second or subsequent violation of 4VAC20-610-60 by any registered commercial fisherman, oyster aquaculture product owner permittee, clam aquaculture product owner

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permittee, or seafood landing licensee may be subject to having his commercial licenses and permits suspended by the Commission.

4VAC20-610-70. Penalty.

A. 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.

B. In addition to the penalties described by law, any person violating any provision of this chapter may be subject to license suspension or revocation.

ATLANTIC STATES MARINE FISHERIES COMMISSION
SPANISH MACKEREL FISHERY MANAGEMENT PLAN – OMNIBUS AMENDMENT

NORTH CAROLINA ANNUAL SPANISH MACKEREL COMPLIANCE REPORT 2012

September 2013

NC Department of Environment and Natural Resources

Division of Marine Fisheries

PO Box 769

Morehead City, NC 28557



1. Introduction

In North Carolina, Spanish mackerel are currently included in the Interjurisdictional Fishery Management Plan, which defers to the Atlantic States Marine Fisheries Commission's (ASMFC) Fishery Management Plan for Spanish mackerel and South Atlantic Fishery Management Council's Coastal Migratory Pelagics Fishery Management Plan.

The ASMFC approved the Omnibus Amendment in 2011. The management goal for the Omnibus Amendment is to bring the Fishery Management Plan for Spanish mackerel under authority of the Atlantic Coastal Fisheries Cooperative Management Act, providing for more efficient and effective management and changes to management in the future. The proposed objectives of Amendment 1 are:

1. Manage the Spanish mackerel fishery by restricting fishing mortality to rates below the threshold fishing mortality rates to provide adequate spawning potential to sustain long-term abundance of the Spanish mackerel populations.
2. Manage the Spanish mackerel stock to maintain the spawning stock biomass above the target biomass levels.
3. Minimize endangered species bycatch in the Spanish mackerel fishery.
4. Provide a flexible management system that coordinates management activities between state and federal waters to promote complementary regulations throughout Spanish mackerel's range which minimizes regulatory delay while retaining substantial ASMFC, Council, and public input into management decisions; and which can adapt to changes in resource abundance, new scientific information and changes in fishing patterns among user groups or by area.
5. Develop research priorities that will further refine the Spanish mackerel management program to maximize the biological, social, and economic benefits derived from the Spanish mackerel population.

Although not required, it is recommended that:

Encourage the continued use of BRDs in fisheries to reduce Spanish mackerel bycatch.

No regulatory changes occurred during 2012.

2. Request for *de minimis*

North Carolina is not requesting *de minimis* status.

3. 2012 Fishery and Management Programs in North Carolina

a. Activity and results of fishery dependent monitoring

Commercial Spanish mackerel landings 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 a licensed fisherman lands 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 on 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.

Commercial fishing activity is monitored through fishery dependent sampling conducted under Title III of the Interjurisdictional Fisheries Act and has been ongoing since 1982. Data collected in this program allow the size and age distribution of Spanish mackerel to be characterized by gear/fishery. Predominant fisheries for Spanish mackerel include gill nets and estuarine pound nets. In 2012, 95% of the Spanish mackerel harvest was taken in gill nets (Table 1). Other gears include pound nets and hook and line. A total of 5,339 fish was measured from commercial fisheries during 2012.

Recreational fishing activity is monitored through the Marine Recreational Information Program (MRIP, Figure 1).

b. Activity and results of fishery independent monitoring

Three fishery independent gill net surveys were initiated by the NCDMF in May of 2001, 2003 and 2008, respectively. These surveys utilize a stratified random sampling scheme designed to characterize the size and age distribution for key estuarine species in Atlantic Ocean, Pamlico Sound, Pamlico, Pungo, Neuse, Cape Fear and New rivers. By continuing a long-term database of age composition and developing an index of abundance these surveys will help managers assess stocks without relying solely on commercial and recreational fishery dependent data. Additionally, data collected is used to help improve bycatch estimates, evaluate the success of management measures, and look at habitat usage. The overall Spanish mackerel CPUE was very low for all areas except the Atlantic Ocean where the 2012 CPUE was 0.79 (n=58).

c. Regulations in effect for North Carolina in 2012

North Carolina's regulations for Spanish mackerel in commercial and recreational fisheries are as follows:

15A NCAC 03M .0301 SPANISH AND KING MACKEREL

(a) Spanish Mackerel:

(1) It is unlawful to possess Spanish mackerel less than 12 inches fork length.

(2) It is unlawful to possess more than 15 Spanish mackerel per person per day taken for recreational purposes.

(3) It is unlawful to possess more than 15 Spanish mackerel per person per day in the Atlantic Ocean beyond three miles in a commercial fishing operation except for persons holding a valid National Marine Fisheries Service Spanish Mackerel Commercial Vessel Permit.

(c) Charter vessels or head boats that hold a valid National Marine Fisheries Service Coastal Migratory Pelagic (Charter Boat and Head Boat) permit must comply with the Spanish mackerel and king mackerel possession limits established in Subparagraphs (a)(2) and (b)(2) of this Rule when fishing with more than three persons (including the captain and mate) on board.

(d) It is unlawful to possess aboard or land from a vessel, or combination of vessels that form a single operation, more than 3,500 pounds of Spanish or king mackerel, in the aggregate, in any one day.

History Note: Authority G.S. 113-134; 113-182; 113-221; 143B-289.52;

Eff. January 1, 1991;

Amended Eff. March 1, 1996;

Temporary Amendment Eff. January 1, 2000; July 1, 1999;
Amended Eff. October 1, 2008; August 1, 2002; April 1, 2001.

15A NCAC 03M .0302 PURSE GILL NET PROHIBITED

It is unlawful to have a purse gill net on board a vessel when taking or landing Spanish or King Mackerel.

*History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Eff. January 1, 1991.*

The rule 15A NCAC 03M .0512 would be used to implement (via proclamation) any regulations deemed necessary by the ASMFC in the future.

15A NCAC 03M .0512 COMPLIANCE WITH FISHERY MANAGEMENT PLANS

(a) In order to comply with management requirements incorporated in Federal Fishery Management Council Management Plans or Atlantic States Marine Fisheries Commission Management Plans or to implement state management measures, the Fisheries Director may, by proclamation, take any or all of the following actions for species listed in the Interjurisdictional Fisheries Management Plan:

- (1) Specify size;
- (2) Specify seasons;
- (3) Specify areas;
- (4) Specify quantity;
- (5) Specify means and methods; and
- (6) Require submission of statistical and biological data.

(b) Proclamations issued under this Rule shall be subject to approval, cancellation, or modification by the Marine Fisheries Commission at its next regularly scheduled meeting or an emergency meeting held pursuant to G.S. 113-221.1.

*History Note: Authority G.S. 113-134; 113-182; 113-221; 113-221.1; 143B-289.4;
Eff. March 1, 1996;
Amended Eff. October 1, 2008.*

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

Commercial landings in 2012 were 916,439 lbs; an increase from 2011 landings (45,222 lbs) and higher than the ten-year mean of 639,431 lbs (2003-2012). Gill nets accounted for 95% of the commercial landings in 2012 (Table 1).

Table 1. North Carolina's 2012 Spanish mackerel harvest (lb and percent by gear) and the number of individuals measured by NCDMF.

Gear	Landings (lb)	% Total Landings	Number Measured
Pound Net	38,612	4.21	456
Gill Net	874,160	95.39	4851
Hook and Line	2,289	0.25	7
Other Gears	1,378	0.15	25
Total	916,439	100	5339

Recreational landings (MRIP) in 2012 were 665,168 lbs; an increase from 2011 landings (194,521 lbs) and above the ten-year average (2003-2012 – 589,189 lbs) (Figure 1).

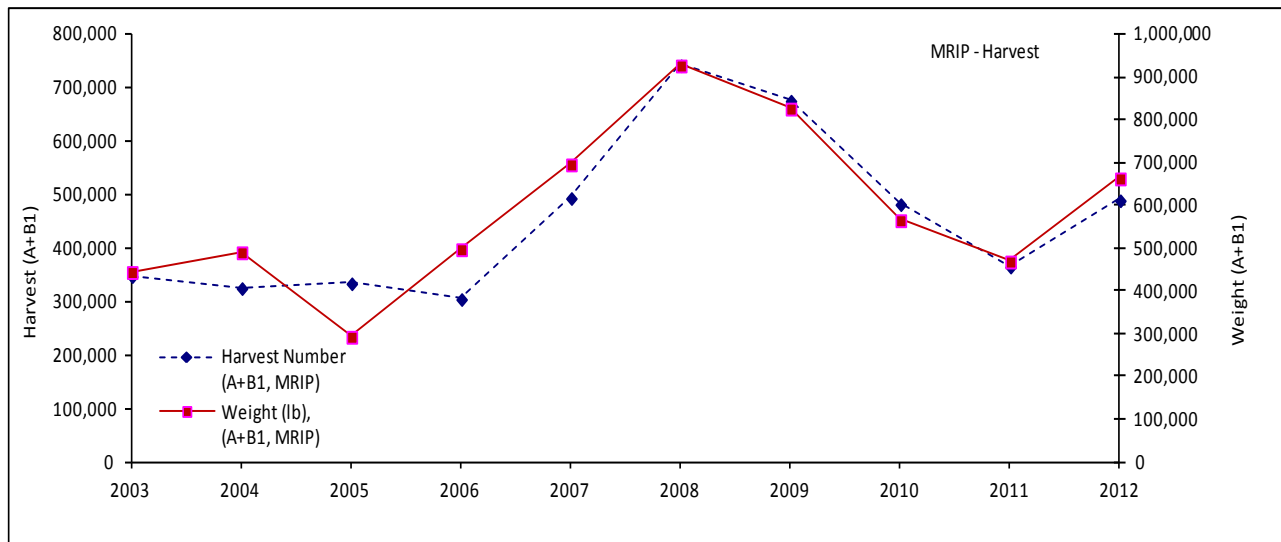


Figure 1. Landings for the North Carolina Spanish mackerel recreational fishery as estimated from MRIP, 2003-2012.

Non-harvest loss in the commercial fishery is currently not fully known. It is likely that non-harvest loss occurs in the gill net, pound net, and trawl fisheries.

e. Review of progress in implementing habitat recommendations

The NCDMF regularly provides input to federal and state regulatory agencies of the location of habitats used by Spanish mackerel. The Division reviews impact statements and permit applications for projects or facilities, which may impact Spanish mackerel habitat and provides appropriate recommendations to minimize impacts or to preserve habitats.

4. Planned Management Program for 2013

a. Regulations Summary

In compliance with the requirements of the ASMFC Omnibus Amendment North Carolina will continue under the current management program outlined in 3 c. of this report.

b. Current monitoring programs

Current monitoring programs outlined in Section 2 a. and b. will be continued.

c. Changes from previous year

Addendum I to the Omnibus Amendment establishes a pilot program that would allow states to reduce the Spanish mackerel minimum size limit for the commercial pound net fishery to 11 ½ inches during the summer months of July through September for the 2013 and 2014 fishing years only. The measure is intended to reduce waste of these shorter fish, which are discarded dead in the summer months, by converting them to landed fish that will be counted against the quota. The Division issued a proclamation suspending the 12 inch fork length size limit and adopting the 11 ½

inch fork length size limit in the commercial pound net fishery from August 11, 2013 to September 30, 2013.

FF-42-2013

PROCLAMATION

RE: SPANISH MACKEREL COMMERCIAL

Dr. Louis B. Daniel III, Director, Division of Marine Fisheries, hereby announces that effective **12:01 A.M.**

Sunday, August 11, 2013, the following will apply to Spanish mackerel in the **commercial pound net**

fishery:

I. SPANISH MACKEREL TEMPORARY RULE SUSPENSION

North Carolina Marine Fisheries Commission Rule 15A NCAC 03M .0301 (a) (1) is suspended.

II. MINIMUM SIZE LIMIT

A. **It is unlawful to possess Spanish mackerel in the commercial pound net fishery less than 11 1/2 inches fork length. This is effective until 12:01 A.M. Monday, September 30, 2013.**

B. It is unlawful to possess Spanish mackerel less than 12 inches fork length in all other fisheries.

III. GENERAL INFORMATION:

A. This proclamation is issued under the authority of N.C.G. S. 113-170.4; 113-170.5; 113-182; 113-221.1; 143B-289.52 and N.C. Marine Fisheries Commission Rules 15A NCAC 03H .0103, and 03M .0512.

B. It is unlawful to violate the provisions of any proclamation issued by the Fisheries Director under his

delegated authority pursuant to N.C. Marine Fisheries Commission Rule 15A NCAC 03H .0103.

C. On August 7, 2013 the Atlantic States Marine Fisheries Commission (ASMFC) approved Addendum 1 to the ASMFC Spanish Mackerel Fishery Management Plan. This allows for a seasonal (July through September) exemption from the minimum size limit for Spanish mackerel in the pound net fishery only. The intent is to minimize dead regulatory discards.

D. This proclamation does not affect the possession limits in Marine Fisheries Commission Rule 15A NCAC 03M .0301.

South Carolina
Spanish Mackerel Fishery and Management Program
Compliance Report for the Year 2012



1 October 2013

Prepared by: Pearse Webster
Marine Resources Research Institute
Marine Resources Division
South Carolina Department of Natural Resources

I. Introduction

Compliance reporting for Spanish mackerel fisheries is new to South Carolina, and indeed all Atlantic states. Prior to approval of the Omnibus Amendment to the Interstate Fishery Management Plans for Spanish mackerel, spot, and spotted seatrout (Omnibus Amendment) August 4, 2011, existing fisheries management plans (FMPs) for Spanish Mackerel had been implemented prior to the passage of the Atlantic Coast Fisheries Cooperative Management Act (1993) (ACFCMA) and the ASMFC Interstate Fishery Management Program Charter (1995). The legal implication of the previous state of affairs was that there was no legal requirement for states to adhere to measures of the FMP. Approval of the Omnibus Amendment eliminated this loophole. The following year, 2012, became the first for which compliance reporting would be due. However, while many recommendations were included in the Omnibus Amendment, few compliance measures were put in place. Such measures were basically limited to the following recreational and commercial fishing management measures, relative to SC:

Recreational Fishing	<ul style="list-style-type: none">• Size limit: 12" FL or 14" TL minimum• Creel limit: 15 fish• Must be landed with head and fins intact• Season: Calendar year• Prohibited gear: Drift gill nets prohibited south of Cape Lookout, NC• Recreational quotas decreased, via reduced bag limits, the following year if Total ACL is exceeded and stock is overfished
Commercial Fishing	<ul style="list-style-type: none">• Prohibited: purse seines; drift gill nets south of Cape Lookout, NC• Size limit: 12" FL or 14" TL minimum• Season: March 1 – end of February• Trip limits (per vessel, per day): NY-GA: 3500 lbs• Commercial quotas decreased the following year if Total ACL is exceeded and stock is overfished

In a letter dated January 11, 2012, SC verified their intent and capacity to comply with federal measures. SC Code Section 50-5-2730 implements federal regulations, unless specifically superseded by a relevant state law.

Essentially, there has been no directed commercial fishery for Spanish mackerel off SC for years. Juvenile mackerel are, however, a bycatch species of the shrimp trawl fishery. In 2012, all reported SC landings of Spanish mackerel were generated by the recreational fishery, which is largely executed in coastal offshore waters from just outside the breakers on into the EEZ, but tends to be more of a near-shore fishery. While some recreational trips are targeted at

Spanish mackerel, most landings probably result from incidental or opportunistic capture during untargeted fishing effort, or trips targeting other species.

II. Request for *de minimis* – Not Applicable.

Per section 4.4.3 of the Omnibus Amendment: “States may apply for *de minimis* status, if for the preceding three years for which data are available, their average combined commercial and recreational landings (by weight) constitute less than one percent of the average combined coastwide commercial and recreational landings for the same period.” Though SC recreational landings are relatively low and commercial landings have been minimal over the last twenty years, they still comprise almost 1.7% of average combined landings for the three year period 2010-2012, and thus SC does not qualify for *de minimis* status.

III. 2012 Spanish Mackerel fishery and management program

a. Fishery Dependent Monitoring:

The Omnibus Amendment included no requirement for fishery-dependent monitoring, but encouraged state management groups to pursue full implementation of the standards of the Atlantic coastal Cooperative Statistics Program (ACCSP) and implement reporting programs as possible to meet the standards. To that end, SC participates in the Marine Recreational Information Program (MRIP) to capture and report recreational landings data. Harvest (A+B1 = 98,316 lbs.) increased 35% from 2011 harvest); which does not appear to be an unusual degree of fluctuation for this species levels (Fig. 1) (source: <http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-data-query/queries/index>). PSEs which appear to range from 30 up, could be responsible for some of this variability. Lengths were collected from sixteen fish. A separate one-time pier survey of approximately nine months duration was also conducted, in an effort to better characterize this mode. However, this data effort was completely separate from the MRIP process. Commercial data are collected and reported from commercial vessel log books and wholesale dealer records. However, no Spanish Mackerel appear to have been reported from SC commercial catch in 2012. This is conceivable, as commercial landings have been sporadic and very low in recent years.

SC Spanish Mackerel Recreational Harvest (A+B1)

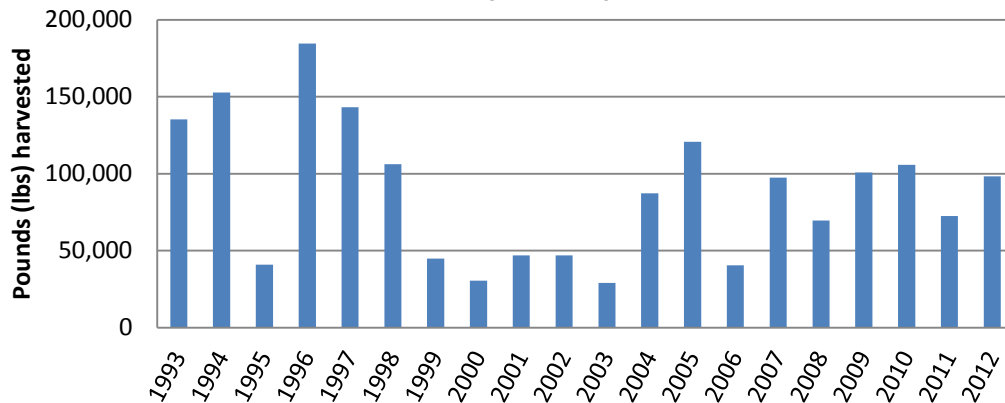


Figure 1. MRIP recreational harvest data (A+B1) for Spanish mackerel taken off SC over the last 20 years.

b. Fishery Independent Monitoring:

The state of SC has no fishery independent monitoring program targeting Spanish mackerel. However, via funding support from NMFS, it does operate the Coastal Survey of SEAMAP-SA. This trawl survey samples spring, summer, and fall in near-shore coastal waters from Cape Hatteras, NC down to Cape Canaveral, FL, including SC waters. The trawl gear employed yields numerous juvenile mackerel as well as occasional adults. In 2012, length data (cm FL) was collected from captured individuals and a subset of these were processed to obtain otoliths for aging, gonad samples for assessment of sex and reproductive stage, and stomach samples for diet study. In 2012 the Coastal Survey captured 113 Spanish mackerel off SC. Figure 2 provides CPUE in Kg per tow for both the entire sampling region and SC waters, by year, for the last 20 years. Figure 3 provides a histogram of the distribution of cm fork lengths for specimens collected off SC. Most of these individuals are young-of-the-year or one year olds. Life history samples retained from these specimens include: 76 otoliths, 65 gonad tissue samples, and 62 stomachs. More detail can be found at:

<http://www.seamap.org/documents/seamapDocs/trawlReports/annual%20trawl%20report%202012.pdf> .

Spanish mackerel are encountered by at least three other fishery independent programs operated by SCDNR/MRD/MRRI. But, occurrence in each is sporadic and total numbers encountered are far too low to be informative for most purposes.

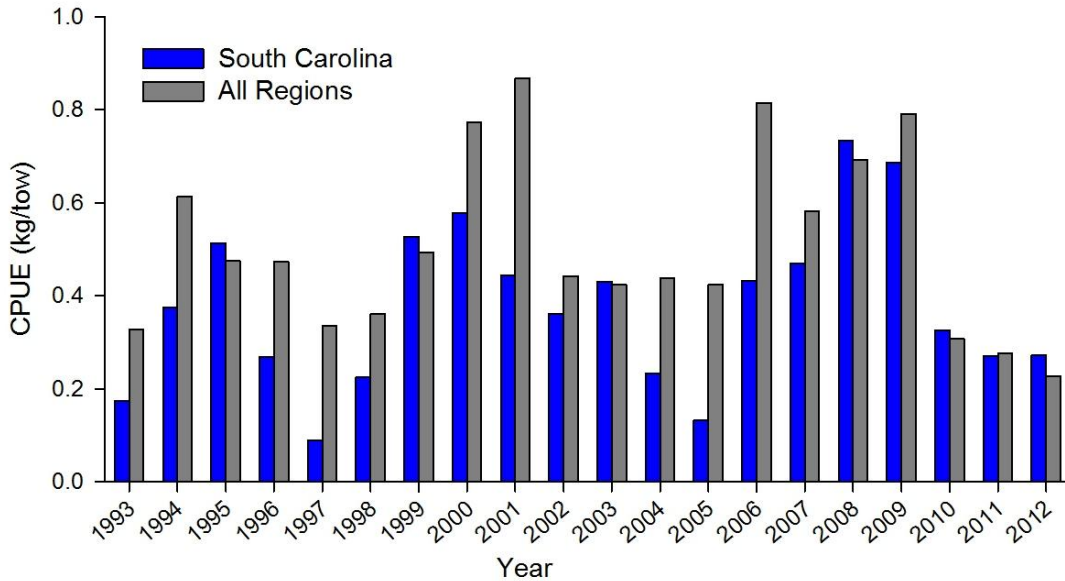


Figure 2. CPUE (kg/tow) for 20 years of Spanish mackerel catch data from the SEAMAP-SA Coastal Survey. Annual data from catches off SC presented, with corresponding annual value for entire sampling area from Cape Hatteras, NC to Cape Canaveral, FL.

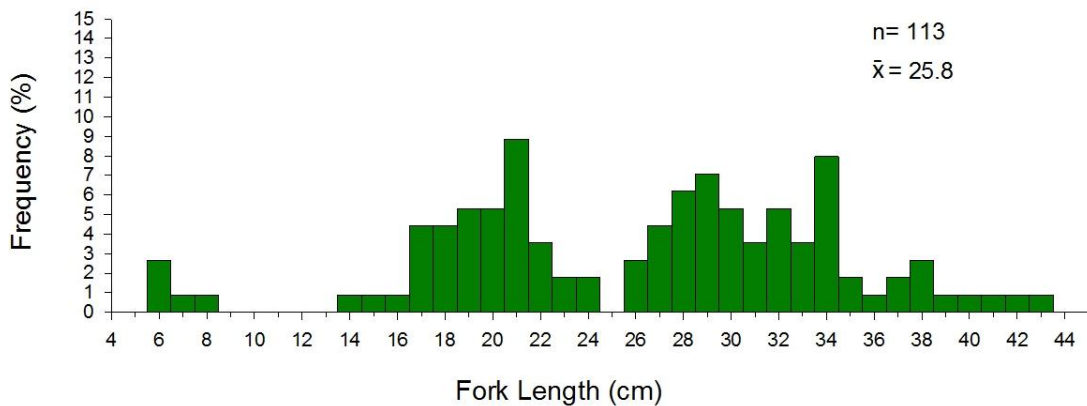


Figure 3. Size composition (cm fork lengths) of SEAMAP-SA Coastal Survey Spanish mackerel from the 2012 sampling year off SC only.

c. Regulations in effect for Spanish mackerel:

Applicable law

Section 50-5-2730 of the South Carolina Code of Laws allows the state to mandate the federal Spanish mackerel 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 50-5-360 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.

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.

Current SC regulations comply with the management plan and are as follows: Recreational- 12 inch fork length minimum size and 15 fish per person /day. Commercial- 12 inch fork limit, March 1 through February annual season, 3,500 lb trip limit all applicable gears with exception of gill nets which are prohibited by law in state waters.

d. Harvest of Spanish mackerel:

1. No directed commercial fishery effort for Spanish mackerel existed in 2012. Negligible landings may have occurred as bycatch from the shrimp trawl fishery, but do not appear in the reported data.
2. Spanish mackerel are typically present in SC waters from April through November, but are probably most heavily fished during their spring migration as they move north and again in fall as they migrate back south. SC recreational landings (A+B1) reported by MRFSS for 2012 total 98,316 lbs. Recreational landings have been highly variable. For the ten year period 2002-2011, average landings were 77,107 lbs. and ranged from 29,108 lbs up to 120,830 lbs. So, 2012 was substantially above average for recent history, but far from a record year.

e. Review of progress in implementing habitat recommendations

Habitat protection strategies recommended in the Omnibus Amendment were generic and largely related to efforts meant to preserve water quality and protect critical

habitat. Quite a variety of existing state and federal regulations are already in place to support the goal of preserving or even improving water quality. It does not seem like enough is known regarding “critical habitat” for Spanish mackerel, to be able to properly evaluate progress on this front.

IV. Planned Spanish mackerel management programs for the current calendar year

a. Regulations in Effect for 2013:

There are no anticipated relevant changes to state law for 2013. State law, relative to mackerel harvest regulations, will automatically track federal regulations.

b. Monitoring programs that will be performed:

It is anticipated that existing monitoring efforts will continue at similar levels.

c. Changes from the Previous Year:

There are no changes in management planned at this time.



MARK WILLIAMS
COMMISSIONER

A.G. 'SPUD' WOODWARD
DIRECTOR

October 12, 2013

Kirby Rootes-Murdy
FMP Coordinator
Atlantic States Marine Fisheries Commission
1050 N. Highland St., Suite 200 A-N
Arlington VA, 22201

Kirby:

Please find enclosed Georgia's 2012 Spanish Mackerel Compliance Report.

Sincerely,

B.J. Hilton
Natural Resources Technician

cc: Pat Geer
Spud Woodward



MARK WILLIAMS
COMMISSIONER

A.G. 'SPUD' WOODWARD
DIRECTOR

Georgia's 2012 Spanish Mackerel Compliance Report

I. Introduction

Spanish mackerel 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 through the MRIP suggests that 2,119 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 Spanish mackerel 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 Spanish Mackerel FMP. The commercial fishery in Georgia is non-existent with no reported landings in 2012. Any commercial harvester who lands Spanish mackerel is 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 *de minimus* status in this fishery. For 2012 Georgia had no reported commercial landings of Spanish mackerel. Total recreational landings in 2012 were 4,536 lbs. For the period 2010-2012 Georgia's combined commercial and recreational landings were 7,033 lbs. well below the 704,298 lb. *de minimus* quota (0.1% of the 7,042,984 lbs. coast-wide total landings for 2011).

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, 6 trips were intercepted; however, no Spanish mackerel were observed.

Bycatch Characterization - CRD conducts fishery-dependent bycatch characterization studies aboard large trawl 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 during 2012. Fishery-dependent bycatch characterization was also conducted aboard large jellyball trawls. During 2012, 44 tows were observed which resulted in the capture of 5 Spanish mackerel with an average length of 329.8 mm FL.

b. Activity and results of fishery-independent monitoring

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

EMTS - 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). Only one Spanish mackerel (186 mm FL) was captured in 494 tows in 2012..

MSPHS - The MSPHS is a multi-faceted ongoing survey 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 June to August, 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. Spanish mackerel are captured as bycatch in this gear. Fish are measured and released. During 2012, 216 net sets resulted in the capture of three 3 Spanish mackerel with an average length of 403 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 three Spanish mackerel with an average length of 397 mm CL.

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

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

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

Commercial Landings - There were no commercial landings of Spanish mackerel observed in Georgia waters in 2012.

Recreational Landings - Year 2012 MRIP preliminary expanded total catch data indicate Georgia anglers landed 3,843 Spanish mackerel across all modes (PSE 40.2). For Type A and B1 harvest modes, 2,119 Spanish mackerel were estimated to have been taken recreationally in Georgia (PSE 45.8). MRIP data in GA for Spanish mackerel are very imprecise due to the limited number of interviews conducted with anglers catching that species. Catch data for Spanish mackerel were collected from only 13 vessel or shore angler trips representing ~50 anglers. Of the 67 harvested fish available for inspection to interviewers, all but one fish was measured. Of those fish measured, all but two were from the charter fishing mode and all (regardless of fishing mode) were of legal size.

Since 2000, CRD has been the contractor for the intercept survey within the NMFS's Marine Recreational Information Program (MRIP). In 2012, survey clerks interviewed 1,826 anglers. It is estimated that 303,391 anglers (8.4% PSE) completed 892,417 trips (PSE 10.5). Coastal Georgia residents accounted for 44.1% (133,769 PSE 12.1) of the total anglers. Non-coastal residents accounted for 31.6% (95,887 PSE 14.4) and out of state anglers accounted for the remaining 24.3% (73,736 PSE 19.1). Expanded data are presented in Table 1 below.

		Number of Angler Trips		A +B1 + B2 Released + Harvest		B2 Released Alive		A+B1 Harvest	
FISHING AREA	MODE	Total	PSE	Total	PSE	Total	PSE	Total	PSE
INLAND	CHARTER	15,663	10.8	0		0		0	
	PRIVATE	469,527	13.8	1,634	57.6	1,634	57.6	0	
	SHORE	228,634	23.9	0		0		0	
INLAND Total		713,824	11.9	1,634	57.6	1,634	57.6	0	
OCEAN (<= 3 MI)	CHARTER	1,144	23.6	0		0		0	
	PRIVATE	14,793	32.6	0		0		0	
	SHORE	147,617	26.7	1,710	69.7	0		1,710	69.7
OCEAN (<= 3 MI) Total		163,554	24.3	1,710	69.7	0		1,710	69.7
OCEAN (> 3 MI)	CHARTER	3,112	18.7	499	56.5	90	82.6	409	66.5
	PRIVATE	11,926	36.1	0		0		0	
OCEAN (> 3 MI) Total		15,038	28.9	499	56.5	90	82.6	409	66.5
Grand Total		892,417	10.5	3,843	40.2	1,724	54.8	2,119	57.7

e. Review of progress in implementing habitat recommendations

N/A

Planned management programs for the current calendar year

f. Summarize regulations that will be in effect

2013 Management Program - All current regulations regarding Spanish mackerel 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. Currently the fishing season for Spanish mackerel is open from March 16 to November 30; however, a GADNR Board rule is being drafted to change the fishing season to year-round. The rule is scheduled for review at the October 2013 Board meeting, and if passed, will be implemented January 1, 2014. All Spanish mackerel must be landed whole, and transfer at sea is prohibited.

g. 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.

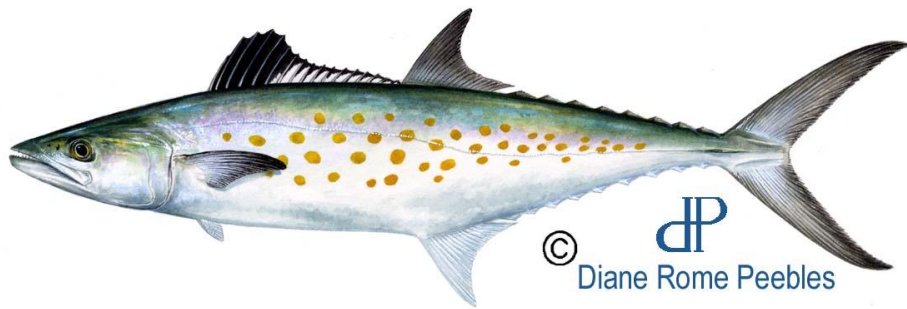
O.C.G.A 27-4-110 requires that anyone wishing to engage in commercial fishing in the salt waters of Georgia must obtain a commercial fishing license. Further O.C.G.A. 27-4-118 requires that each commercial fisherman maintain a record and report their landings to and in a manner specified by the Department 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. Spanish mackerel captured during these activities will be measured to determine length.

h. Highlight any changes from the previous year.

No changes have occurred in Georgia's Spanish mackerel regulations.

**The 2013 Atlantic State Marine Fisheries Commission Compliance Report for
Spanish Mackerel, *Scomberomorus maculatus*, on Florida's Atlantic Coast**



**Dustin Addis
Florida Fish and Wildlife Conservation Commission
Fish and Wildlife Research Institute
St. Petersburg, Florida**

December 5, 2013

I. INTRODUCTION

The Florida Fish and Wildlife Conservation Commission (FWC) regulates Spanish Mackerel harvest under Chapter 68B-23 (F.A.C.). Various regulations enacted by FWC between October 30, 1986-August 3, 2010 established different within-year commercial harvest limits during the March through February fishing year. The March 1 through November 30 segments has a commercial trip-limit of 3,500 pounds. The segment from December 1 until the date that the unlimited harvest of Spanish Mackerel in the Exclusive Economic Zone (EEZ) closes has a commercial trip-limit of 3,500 pounds during weekdays and 1,500 pounds during weekends. From the day that unlimited harvest within the EEZ is closed through the date the commercial trip-limit in federal waters is reduced to 500 pounds, the state commercial trip limit is 1,500 pounds. A trip limit of 500 pounds applies from the date the state's 1,500 pound season ends until the end of February. Effective June 1, 1999 a 12-inch minimum size limit was reestablished. The recreational bag limit to 15 fish per person became effective July 1, 2000. The objective of this report is to update the Atlantic States Marine Fisheries Commission (ASMFC) on the response of the recreational and commercial fisheries in 2012 to these regulations.

The 2012 total landings of Spanish Mackerel for the commercial, headboat, and recreational sectors of Florida's Atlantic coast amounted to 3,010,425 pounds. This represented about 70% and 66% of the 2011 and 2010 total landings, respectively. The 2012 landings were 2% lower than the average landings for the last five years. Total landings have averaged 3,661,699 pounds per year on the Atlantic coast of Florida since 2001 (Table 1). The headboat fishery's contribution to landings continues to remain very low (>10,000 pounds).

The proportion of the total landings of Spanish Mackerel caught by recreational anglers showed multiple peak years with a general increasing trend since 1985 when the lowest proportion occurred at 3% (Fig. 1). The proportion has varied between 3% and 38%. In 2012, the recreational landings represented 14% of total landings by weight.

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

Commercial data were acquired from edited (batches 1065-1208) trip tickets received by FWC through November 13, 2013. Landings for 2012 were classified as preliminary but should be very close to the final amounts. The commercial fishery for Spanish Mackerel was seasonal in 2012 because the harvest primarily took place in fall-spring months (Fig. 2).

Preliminary Spanish Mackerel landings for 2012 amounted to 2,596,981 pounds from 7,614 trips (Table 2; Fig. 3). Compared with 2011, the 2012 landings decreased by 24% while the number of trips increased slightly by 0.4%. Commercial landings and trips for Spanish Mackerel declined steeply during 1993-1999 and have shown general increases since then.

Although most counties on Florida's Atlantic coast reported commercial landings of Spanish Mackerel in 2012, the largest proportions came from Martin (47.0%), Palm Beach (17.4%), St. Lucie (17.1%), and Brevard (13.0%) Counties (Table 3; Fig. 4). Additionally, the largest proportions of Atlantic coast commercial trips also came from Martin (36.8%), Palm Beach (20.4%), St. Lucie (20.4%), and Brevard (11.0%) Counties (Table 3).

Based on the 2012 dealer records, Spanish mackerel landed by gear-type in 2012 (Table 4; Fig. 5) were predominately caught using hook-and-lines (41.2%), cast nets (38.1%), and gillnets (20.6%). Compared with 2011, the 2012 commercial landings made with hook-and-line increased 9.7%, while cast nets and gillnets decreased by 2.8% and 33.6%, respectively. Hook-and-lining, cast-netting, and gillnetting accounted for 62.6%, 24.6%, and 12.6% of trips made in 2012 (Table 4; Fig. 6).

Annual standardized commercial catch rates for Spanish Mackerel on Florida's Atlantic coast (Fig. 7) were estimated from 1992-2012 using a reduced generalized linear model (GLM). Catch rates show a steep increasing trend from 1992-2004, followed by a fluctuating but decreasing trend through 2012.

Trip Limit and Quota Compliance

Of the 7,614 commercial trips made in 2012, none exceeded the 3,500-lb daily limit between March 1 and November 29; however, one trip exceeded the 1,500-lb weekend day limit during the season segment after December 1 as described under Chapter 68B-23.

Size Limits

A general evaluation of compliance with the 12-inch minimum size limit was investigated by calculating the percentage of all Spanish Mackerel measured that were less than 12-inches fork length. Of the 2,385 fish measured in 2012 from commercial landings on Florida's Atlantic coast, more than 99% percent were greater than 12-inches (Table 5).

Recreational Fishery

Description of 2012 Fishery

Estimates of recreational fishery data were generated from the NMFS (National Marine Fisheries Service) Marine Recreational Fishing Statistical Survey (MRFSS)/Marine Recreational Information Program (MRIP). There were no MRFSS intercept data in 2012. Historic MRFSS recreational landings and MRIP landings were calibrated by applying a ratio estimator (MRFSS/MRIP calibration workshop, 2012) to produce numbers harvested (Type A+B1), which were multiplied by average weights to produce recreational harvest in pounds (Table 6; Fig. 1).

The Spanish Mackerel recreational harvests, standardized trips (estimated by dividing the total number of Spanish mackerel caught – Type A1+B1+B2 – by the annual standardized total catch rates, derived themselves from a GLM for catch rates), and directed angler trips were estimated for Florida's Atlantic coast (Table 6; Fig. 8). Directed and standardized trips show variation from one another throughout the time series.

Estimates of Spanish Mackerel recreational harvests in 2012 amounted to 246,866 fish weighing approximately 412,002 pounds. During the last decade, the recreational harvests of

Spanish Mackerel were highest during 2000-2003. Recent harvests have dropped and are similar to historic harvests reported in the 1990's. Since 1986 onwards, the ratio of released fish to those kept by anglers varied between 0.07 and 0.83 fish released for 1 fish kept. In 2012, the preliminary estimate of the ratio fish released/fish kept was 0.36. Based on a 20% mortality estimate for released fish (SEDAR 28), release mortality estimates for 2012 represented 7.2% of the total number of fish kept by recreational anglers.

MRFSS/MRIP combined annual standardized recreational catch rates were estimated for Spanish Mackerel on Florida's Atlantic coast from 1991-2012 (Fig. 9). Catch rates (numbers/trip) show a general increasing trend from 1991-2005, followed by fluctuating rates through 2012.

Size Limit

A general evaluation of compliance with the 12-inch minimum size limit was investigated by calculating the percentage of all Spanish Mackerel measured that were less than 12-inches fork length. Of the 360 fish measured in 2012 from recreational landings on Florida's Atlantic coast, 100% percent were greater than 12-inches (Table 5).

Bag Limit

FWC implemented the 15 Spanish Mackerel per person-per-day recreational bag limit as of July 1, 2000. Lack of MRFSS intercept data in 2012 did not permit the evaluation of bag limit compliance in 2012. The MRFSS recreational intercepts were grouped into two time periods representing pre- and post-regulations, i.e. 1992-2000 (Table 7a) and 2001-2011 (Table 7b).

Tables 7a and 7b summarize bag limit compliance. The tables show the data categorized by the integer number of Spanish mackerel 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 Spanish Mackerel kept or less, the number of Spanish Mackerel caught and the number of Spanish Mackerel retained on all the trips within that category, and the cumulative percentage of Spanish Mackerel kept per angler.

Headboat Fishery

Description of 2012 Fishery

In 2012, headboat landings on Florida's Atlantic coast were 371 Spanish Mackerel weighing 1,442 pounds (Fig. 10; Table 8). Historically, headboat landings of Spanish Mackerel on the Atlantic coast of Florida have been very small (average of 0.75% of the MRFSS recreational landings since 1985) and have declined since 1986 (Fig. 10; Table 8).

Size Limits

Based on Spanish mackerel measured by headboat samplers, only 8 fish out of a total of 1,212 fish measured were less than 12" during 1992-2012 (Table 5). In some years during the

1990's, however, less than 15 fish were sampled and it is unclear whether the fishery was adequately sampled.

Bag Limit

Compliance with the 15-fish-per-day bag limit could not be assessed because the Spanish Mackerel 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's Atlantic coast at northern Indian River Lagoon in 1990, southern Indian Lagoon in 1997 and northeast Florida (Jacksonville study area) in 2001. The FIM data included in this report were collected monthly. Atlantic coast young-of-the-year indices were collected by 70' center-bag seines in the northern Indian River Lagoon from Melbourne Beach to north of Titusville. Collections of post-young-of-the-year were made from 1997 onwards using 600' center-bag-haul seines deployed in the Indian River Lagoon from the Banana River south to Jupiter Inlet.

Catch rates were standardized using a generalized linear model to predict the proportion of sets that caught Spanish Mackerel each year. The proportion of positive sets was used as a simple index of abundance of young-of-the-year (age 0 based on length) and post-young-of-the-year.

Very few Spanish Mackerel young-of-the-year (YOY, age-0) were captured during 1997-2012, with a small peak in annual catch rates appearing in 2009 (Fig. 11a). Post young-of-the-year catches on Florida's Atlantic coast were variable from 1997-2012 with lows in 1997-1999, 2004, 2009, and 2012 and peaks in 2001, 2007 and 2010 (Fig. 11b).

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

CHAPTER 68B-23 SPANISH MACKEREL

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

68B-23.001	Purpose, Intent and Repeal of Other Laws; Designation as Restricted Species
68B-23.002	Definitions
68B-23.003	Gear Specifications and Prohibited Gear
68B-23.0035	Size Limit
68B-23.004	Commercial Fishing Season for Spanish Mackerel; Commercial Vessel Limits
68B-23.005	Recreational Bag Limit for Spanish Mackerel
68B-23.006	Other Prohibitions

68B-23.001 Purpose, Intent and Repeal of Other Laws; Designation as Restricted Species.

(1) The purpose and intent of this chapter are to protect, manage, conserve and replenish Florida's Spanish mackerel resource, species *Scomberomorus maculatus*. Accordingly, this chapter is intended to repeal Section 370.08(7), F.S (1985).

(2) If any provision of this chapter is held to be an invalid exercise of delegated legislative authority, it is the intent of the Commission that the invalidity not affect other provisions of the chapter which can be given effect without the invalid provision, and to this end, the provisions of this chapter are declared to be severable.

(3) Spanish mackerel are hereby designated as a restricted species pursuant to Section 379.101(23), F.S. (1985).

Rulemaking Authority Art. IV, Sec. 9, Fla. Const., Chapter 83-134, Laws of Fla., as amended by Chapter 84-121, Laws of Fla. Law Implemented Art. IV, Sec. 9, Fla. Const., Chapter 83-134, Laws of Fla., as amended by Chapter 84-121, Laws of Fla. History—New 11-28-85, Amended 10-30-86, 12-10-87, 10-1-88, 10-19-89, 9-30-96, Formerly 46-23.001.

68B-23.002 Definitions.

(1) "Charter vessel" means a boat or vessel, including what is commonly known as a "headboat", whose captain or operator is licensed by the U.S. Coast Guard to carry passengers and whose passengers fish for a fee. The "crew" of a charter vessel means those individuals who receive monetary or other compensation from the vessel owner, captain, or operator or from the passengers who are engaged in fishing from the vessel as anglers.

(2) "Commercial harvest," "harvest for commercial purposes," or words of similar import, when used in connection with the harvest of Spanish mackerel, means the taking or harvesting of any Spanish mackerel for purposes of sale or with intent to sell. Spanish mackerel harvested from state waters in excess of the recreational bag limit shall constitute harvest for commercial purposes.

(3) "Commission" means the Florida Fish and Wildlife Conservation Commission.

(4) "East Coast Region" means state waters along the east coast of Florida north of the Dade-Monroe County line in the Atlantic Ocean.

(5) "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.

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

(7) "Person" means any natural person, firm, entity or corporation.

(8) "Recreational harvester" means a person harvesting Spanish mackerel for other than commercial purposes.

(9) "Spanish mackerel" means any fish of the species *Scomberomorus maculatus*, or any part thereof.

(10) "Spearing" means the catching or taking of a fish by bow hunting, gigging, spearfishing, or by any device used to capture a fish by piercing the body. Spearing does not include the catching or taking of a fish by a hook with hook and line gear or by snagging (snatch hooking).

(11) "Vessel" means and includes every description of water craft used or capable of being used as a means of transportation on water, including nondisplacement craft and any aircraft designed to maneuver on water.

(12) "West Coast Region" means state waters of the Atlantic Ocean south and west of the Dade-Monroe County line in the Atlantic Ocean and all state waters of the Gulf of Mexico.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History—New 11-28-85, Amended 10-30-86, 10-1-88, 10-1-90, 11-29-93, 9-30-96, 1-1-98, Formerly 46-23.002.

68B-23.003 Gear Specifications and Prohibited Gear.

The harvest or attempted harvest of any Spanish mackerel by or with the use of any gear other than a beach or haul seine, a cast net, hook and line gear, or by spearing, is prohibited.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History—New 11-28-85, Amended 10-30-86, 12-10-87, 10-1-88, 2-16-93, 11-29-93, 9-30-96, 1-1-98, Formerly 46-23.003.

68B-23.0035 Size Limit.

(1) No person shall harvest from state waters, possess while in or on state waters, or land any Spanish mackerel with a fork length less than 12 inches, measured from the tip of the snout to the rear center edge of the tail.

(2) All Spanish mackerel harvested in or from Florida or adjacent federal Exclusive Economic Zone (EEZ) waters shall be landed in a whole condition. The possession, while in or on state waters, on any public or private fishing pier, on a bridge or catwalk attached to a bridge from which fishing is allowed, or on any jetty, of a Spanish mackerel that has been deheaded, sliced, divided, filleted, ground, skinned, scaled, or deboned is prohibited. Mere evisceration or "gutting" of Spanish mackerel, or mere removal of gills before landing is not prohibited.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History—New 6-1-99, Formerly 46-23.0035.

68B-23.004 Commercial Fishing Season for Spanish Mackerel; Commercial Vessel Limits.

(1) East Coast Region.

(a) Persons harvesting Spanish mackerel for commercial purposes from waters of the East Coast Region shall have a season that begins on the regional season opening date of March 1 of each year and continues through the end of February the following year. These persons shall be subject to commercial vessel limits effective during segments of the season as follows (consistent with the Federal Standards established in 50 C.F.R. §622.44(b)):

1. Beginning on March 1 and continuing through November 30 of each year, no person harvesting Spanish mackerel for commercial purposes shall harvest or land from a single vessel in any one day more than 3,500 pounds of Spanish mackerel. During this season segment, the possession of more than 3,500 pounds of Spanish mackerel aboard a single vessel in or on state waters at any time, is prohibited.

2. Beginning December 1 of each year, until the date the unlimited harvest of Spanish mackerel in adjacent federal Exclusive Economic Zone (EEZ) waters is closed:

a. On Monday through Friday during this period, no person harvesting Spanish mackerel for commercial purposes shall harvest in any one day from state waters of this region, or possess at any time while fishing in state waters of this region, more than 3,500 pounds of Spanish mackerel.

b. On Saturday through Sunday during this period, no person harvesting Spanish mackerel

for commercial purposes shall harvest in any one day from state waters of this region, or possess at any time while fishing in state waters of this region, more than 1,500 pounds of Spanish mackerel.

3. A limit of 1,500 pounds of Spanish mackerel per vessel per day shall apply from the date the unlimited harvest of Spanish mackerel is closed in adjacent federal Exclusive Economic Zone (EEZ) waters until the date the commercial vessel limit in such federal waters is reduced to 500 pounds of Spanish mackerel. During this season segment, no person shall possess while in or on the waters of the state, or land from a single vessel in any one day within this region, more than 1,500 pounds of Spanish mackerel.

4. A limit of 500 pounds of Spanish mackerel per vessel per day shall apply from the date the 1500-pound season segment ends until the end of February each year. During this season segment, no person shall possess while in or on the waters of the state, or land from a single vessel in any one day within this region, more than 500 pounds of Spanish mackerel.

(b) For purposes of this subsection:

1. A "day" starts at 6:00 a.m., local time, and extends for 24 hours. For example, Monday starts at 6:00 a.m. on Monday and extends until 6:00 a.m. on Tuesday. A person aboard a vessel terminating a trip prior to 6:00 a.m., but who possesses Spanish mackerel aboard the vessel after that time shall not be considered to possess Spanish mackerel in excess of the daily limits provided the vessel is not underway after 6:00 a.m. and such Spanish mackerel are unloaded prior to 6:00 p.m. following termination of the trip.

2. Transfer of Spanish mackerel harvested for commercial purposes between vessels within this region is prohibited.

(2) West Coast Region. Persons harvesting Spanish mackerel for commercial purposes from waters of the West Coast Region shall have a season that begins on the regional season opening date of April 1 of each year and continues through March 31 of the following year.

If at any time during the season, adjacent federal Exclusive Economic Zone (EEZ) waters are closed to commercial harvest of Spanish mackerel, a limit of 500 pounds per vessel per day shall apply for the remainder of the season. During this period, no person shall harvest from state waters or land from a single vessel in any one day within this region more than 500 pounds of Spanish mackerel.

(3) Notice of the closure of each season segment described in paragraph (1)(a) or subsection (2) of this rule shall be given by the Executive Director of the Fish and Wildlife Conservation Commission in the manner provided in Section 120.81(5), F.S.

(4) For purposes of subsection (2) of this rule, the total regional commercial harvest of Spanish mackerel during a particular commercial fishing season shall consist of those Spanish mackerel harvested for commercial purposes by all forms of gear from the waters of the West Coast Region and the Exclusive Economic Zone of the United States (EEZ) contiguous to such waters, based on projections from official statistics collected and maintained by the Commission pursuant to Florida's Marine Fisheries Information System, Chapter 68E-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 Spanish mackerel commercially harvested on and after the regional season opening date of each year and continue until the regional season closing date of the following year.

(5) Nothing in this section shall be construed to permit the harvest of Spanish mackerel from any area, during any time, or utilizing any form of gear where same is otherwise prohibited by law.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History—New 10-30-86, Amended 12-10-87, 10-1-88, 11-1-89, 10-1-90, 11-26-92, 11-29-93, 9-30-96, 12-2-96, 1-1-98, Formerly 46-23.004, Amended 1-1-01, 8-3-10.

68B-23.005 Recreational Bag Limit for Spanish Mackerel.

(1) No recreational harvester shall harvest more than 15 Spanish mackerel per day from waters of the state.

(2)(a) No recreational harvester shall possess, while in or on the waters of the state or on any dock, pier, bridge, beach, or other fishing site adjacent to such waters, more than 15 Spanish mackerel, whether harvested from state waters or from adjacent federal waters.

(b) The captain or crew of a charter vessel may each temporarily possess more than the applicable possession limit for Spanish mackerel, once the vessel is docked, for the limited purposes of transporting, cleaning, or storing fish for customers, so long as the fish are segregated in bags or other containers by customer and the customer has given written authorization to the captain to temporarily possess the fish for such limited purposes. The authorization shall remain attached to the bag or container containing the fish until they are returned to the customer.

(3) No recreational harvester, while on any vessel in state waters, shall transfer any Spanish mackerel to any other vessel.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History—New 10-30-86, Amended 12-10-87, 10-1-88, 10-1-90, 11-26-92, 2-14-94, 1-1-98, Formerly 46-23.005, Amended 7-1-00.

68B-23.006 Other Prohibitions.

(1) It is unlawful for any person to possess, transport, buy, sell, exchange or attempt to buy, sell or exchange any Spanish mackerel harvested in violation of this chapter.

(2) The prohibitions of this chapter apply as well to any and all persons operating a vessel in state waters, who shall be deemed to have violated any prohibition which has been violated by another person aboard such vessel.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History—New 10-30-86, Amended 10-1-88, Formerly 46-23.006, Amended 6-1-99.

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

See Table 1 and Figure 1 for the cumulative harvest of Spanish mackerel 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 6 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.

V. LITERATURE CITED

MRFSS/MRIP Calibration Workshop. 2012. Ad-hoc working group report. May 16, 2012. 12 p.

SEDAR. 2012. SEDAR 28 - South Atlantic Spanish mackerel Stock Assessment Report. SEDAR, North Charleston SC. 444 pp. available online at:

http://www.sefsc.noaa.gov/sedar/Sedar_Workshops.jsp?WorkshopNum=28

Table 1. Summary of Spanish Mackerel landed (pounds) by fishery on the Atlantic coast of Florida. Recreational landings (Type A+B1) are MRFSS/MRIP calibrated numbers multiplied by average weights. The 2012 commercial landings were preliminary.

Year	Commercial landings (lbs)	Headboat landings (lbs)	Recreational (Type A+B1; lbs)	Total pounds
1985	3,912,562	2,906	124,624	4,040,092
1986	3,256,777	4,440	206,190	3,467,407
1987	3,497,135	9,160	189,028	3,695,323
1988	3,071,687	752	537,488	3,609,927
1989	2,853,177	855	248,640	3,102,672
1990	1,978,811	1,878	283,951	2,264,640
1991	2,972,156	2,055	727,340	3,701,551
1992	2,028,703	2,399	548,231	2,579,333
1993	3,903,498	1,325	360,120	4,264,943
1994	3,098,336	4,268	287,305	3,389,909
1995	3,064,926	2,209	247,941	3,315,076
1996	2,244,667	1,078	338,927	2,584,672
1997	2,269,289	2,679	327,835	2,599,803
1998	2,498,461	1,307	334,981	2,834,749
1999	1,566,706	5,165	473,647	2,045,518
2000	1,675,458	2,260	775,366	2,453,084
2001	2,115,774	2,698	1,009,771	3,128,243
2002	1,995,200	2,026	1,208,633	3,205,859
2003	2,739,660	1,442	836,655	3,577,757
2004	3,066,186	4,914	731,088	3,802,188
2005	3,133,772	3,461	879,306	4,016,539
2006	3,142,721	2,033	581,173	3,725,927
2007	3,264,452	3,102	863,893	4,131,447
2008	2,262,661	1,221	924,517	3,188,399
2009	2,629,343	699	666,424	3,296,466
2010	3,553,155	1,506	994,642	4,549,303
2011	3,432,932	1,294	873,604	4,307,830
2012	2,596,981	1,442	412,002	3,010,425

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

Year	Landings (lbs)	Trips
1985	3,912,562	4,046
1986	3,256,777	5,397
1987	3,497,135	5,559
1988	3,071,687	5,004
1989	2,853,177	4,903
1990	1,978,811	6,918
1991	2,972,156	7,723
1992	2,028,703	7,175
1993	3,903,498	7,346
1994	3,098,336	6,970
1995	3,064,926	5,348
1996	2,244,667	2,495
1997	2,269,289	4,134
1998	2,498,461	4,111
1999	1,566,706	3,334
2000	1,675,458	3,773
2001	2,115,774	4,104
2002	1,995,200	4,595
2003	2,739,660	4,527
2004	3,066,186	4,855
2005	3,133,772	5,610
2006	3,142,721	5,495
2007	3,264,452	6,571
2008	2,262,661	5,931
2009	2,629,343	7,235
2010	3,553,155	7,314
2011	3,432,932	7,586
2012	2,596,981	7,614

Table 3. Florida's Atlantic coast commercial Spanish Mackerel landings (pounds) and trips made by county; 2012 estimates are preliminary and subject to change.

Landings												
	Brevard	Broward	Duval	Flagler	Indian River	Martin	Miami-Dade	Palm Beach	St Johns	St Lucie	Volusia	Total
1985	17,285	298	11,091		11,129	2,452,567	11,926	6,174	58	1,400,208	1,826	3,912,562
1986	86,765	85	33,419		28,898	1,091,699	4,567	11,969	1,083	1,987,272	11,020	3,256,777
1987	51,836	1,245	37,104		24,976	1,449,553	8,196	97,404	690	1,822,950	3,181	3,497,135
1988	110,321	588	32,607		35,463	1,204,637	4,753	28,440	1,359	1,644,919	8,600	3,071,687
1989	91,540	1,591	19,494		109,409	601,989	1,941	24,981	44	1,994,184	8,004	2,853,177
1990	215,734	5,180	38,393		269,846	494,180	1,754	16,593	249	919,280	17,602	1,978,811
1991	802,501	5,557	49,365		297,977	245,375	11,918	12,207	399	1,540,087	6,770	2,972,156
1992	328,070	8,544	44,118		210,917	592,804	4,842	36,660	12,841	778,391	11,516	2,028,703
1993	381,074	9,594	13,773		173,560	1,599,167	8,127	202,627	2,659	1,475,017	37,900	3,903,498
1994	343,040	7,790	23,819	4	139,374	1,390,807	3,296	172,468	2,292	990,780	24,666	3,098,336
1995	407,428	15,531	9,102		136,842	1,225,356	4,734	210,863	2,661	980,845	71,564	3,064,926
1996	408,872	7,462	2,832		139,219	602,196	4,294	50,694	2,829	1,025,949	320	2,244,667
1997	1,024,588	8,532	6,993	110	136,253	274,702	21,410	35,586	138	760,714	263	2,269,289
1998	1,386,241	4,755	904		59,200	201,602	11,639	22,798	2,635	808,381	306	2,498,461
1999	558,968	4,183	529		111,813	163,227	8,458	41,657	39	677,289	543	1,566,706
2000	625,339	5,258	685	53	142,806	255,907	10,442	184,366	10,605	439,650	347	1,675,458
2001	352,822	3,678	826		158,918	626,394	12,827	98,011	102	860,392	1,805	2,115,774
2002	360,168	1,837	255		169,323	590,679	10,059	162,062	1	700,401	416	1,995,200
2003	283,187	3,140	6,389		253,864	1,037,127	12,131	370,430	258	772,635	498	2,739,660
2004	197,557	5,155	603		269,232	1,539,687	16,629	303,092	81	733,908	242	3,066,186
2005	520,527	2,726	2,394	14,446	142,420	1,440,587	14,642	385,410	1,452	608,610	558	3,133,772
2006	538,206	4,119	283		96,278	1,376,298	21,458	260,256	3,658	842,127	39	3,142,721
2007	875,620	3,624	5,293	16,511	116,812	1,158,599	31,086	210,867	37	845,693	310	3,264,452
2008	316,326	7,723	1,534		299,753	638,085	18,620	293,878	32	680,419	6,291	2,262,661
2009	527,593	2,624	56,277		141,523	808,266	18,626	294,337	11,032	766,062	3,004	2,629,343
2010	349,984	2,971	21,584		165,889	1,389,668	23,609	650,479	175	947,426	1,370	3,553,155
2011	208,181	7,773	28,849		183,798	1,524,096	39,490	511,178	7	927,479	2,082	3,432,932
2012	336,850	3,394	16,065		70,513	1,220,125	37,081	451,331	104	443,674	17,844	2,596,981

Trips												
	Brevard	Broward	Duval	Flagler	Indian River	Martin	Miami-Dade	Palm Beach	St Johns	St Lucie	Volusia	Total
1985	561	8	165		637	948	23	85	2	1,548	69	4,046
1986	813	2	489		962	1,000	137	156	6	1,645	187	5,397
1987	877	35	371		960	1,244	125	285	6	1,562	94	5,559
1988	791	34	308		603	993	111	339	2	1,676	147	5,004
1989	622	56	264		773	844	46	322	3	1,881	92	4,903
1990	1,812	110	773		1,243	723	46	294	7	1,795	115	6,918
1991	1,856	140	752		1,882	561	173	241	22	1,928	168	7,723
1992	1,360	156	842		1,798	1,018	81	271	31	1,456	162	7,175
1993	1,476	246	404		1,275	1,241	68	596	29	1,815	196	7,346
1994	1,300	170	553	1	1,003	1,704	54	336	18	1,669	162	6,970
1995	870	186	260		561	1,543	46	429	9	1,337	107	5,348
1996	651	155	160		341	379	55	217	15	508	14	2,495
1997	1,332	146	235	1	561	352	90	225	10	1,158	24	4,134
1998	1,578	100	44		499	363	77	177	10	1,220	43	4,111
1999	1,299	104	15		314	292	79	271	6	929	25	3,334
2000	943	108	23	1	491	453	120	611	4	996	23	3,773
2001	648	83	28		428	788	157	408	5	1,534	25	4,104
2002	624	63	11		581	847	137	482	1	1,834	15	4,595
2003	358	108	31		485	1,322	160	729	13	1,305	16	4,527
2004	431	96	17		404	1,920	239	645	10	1,087	6	4,855
2005	726	84	37	7	277	2,050	138	1,061	10	1,205	15	5,610
2006	734	91	30		350	1,852	216	858	6	1,354	4	5,495
2007	1,039	65	30	14	514	2,107	296	745	2	1,749	10	6,571
2008	715	86	37		810	1,309	229	890	1	1,812	42	5,931
2009	1,124	50	64		629	2,012	196	821	7	2,259	73	7,235
2010	609	64	59		595	2,277	181	1,458	4	2,041	26	7,314
2011	663	63	61		416	2,723	257	1,496	1	1,894	12	7,586
2012	835	40	58		429	2,804	288	1,555	1	1,555	49	7,614

Table 4. Florida's Atlantic coast commercial Spanish Mackerel landings (pounds) and trips made by gear-type; 2012 estimates are preliminary and subject to change. Records per gear-type were unavailable prior to 1991.

Landings							
	Cast Net	Gillnet	Hook and Line	Trawl	Other	Unknown	Grand Total
1985						3,912,562	3,912,562
1986			504,917		2,595,921	155,939	3,256,777
1987			340,549		2,465,396	691,190	3,497,135
1988			305,487		2,326,919	439,281	3,071,687
1989			453,613		1,832,861	566,703	2,853,177
1990			642,649		1,212,440	123,722	1,978,811
1991	392	564,735	594,015	13,819	954,339	844,856	2,972,156
1992	155	1,820,885	68,157	9,853	89,470	40,183	2,028,703
1993	10,474	3,745,163	92,303	6,131	49,427		3,903,498
1994	1,274	2,986,307	52,557	10,024	48,174		3,098,336
1995	11,034	2,804,705	168,487	3,582	77,118		3,064,926
1996	47,851	2,077,802	115,330	3,591	42	51	2,244,667
1997	213,036	1,951,562	85,758	7,235	11,698		2,269,289
1998	68,836	2,297,324	131,286	896	119		2,498,461
1999	67,580	1,326,960	168,335	191	2,872	768	1,566,706
2000	365,021	1,041,042	264,253	10	482	4,649	1,675,458
2001	894,806	923,899	293,095	1,600	16	2,358	2,115,774
2002	974,723	613,895	406,151	172	259		1,995,200
2003	1,915,577	473,927	350,007	119	31		2,739,660
2004	2,266,592	251,794	546,338	32	1,429		3,066,186
2005	1,602,585	729,758	790,269	287	10,873		3,133,772
2006	1,556,492	929,067	650,854	1,112	5,196		3,142,721
2007	1,316,393	1,227,806	713,799	5,010	1,444		3,264,452
2008	729,888	704,616	825,145	727	2,286		2,262,661
2009	991,318	699,506	937,519	5	995		2,629,343
2010	1,863,027	556,563	1,118,969	141	14,455		3,553,155
2011	1,810,281	369,642	1,239,855	49	13,105		3,432,932
2012	988,649	533,934	1,069,983	1,275	3,140		2,596,981

Trips							
	Cast Net	Gillnet	Hook and Line	Trawl	Other	Unknown	Grand Total
1985						4,046	4,046
1986			1,903		3,126	368	5,397
1987			1,876		3,243	440	5,559
1988			1,557		2,801	646	5,004
1989			1,834		2,640	429	4,903
1990			2,854		3,540	524	6,918
1991	14	1,184	3,040	316	2,397	772	7,723
1992	15	4,849	1,168	255	758	130	7,175
1993	61	5,535	1,078	215	457		7,346
1994	25	5,498	859	261	327		6,970
1995	94	3,939	954	156	205		5,348
1996	290	1,090	956	155	3	1	2,495
1997	475	1,982	1,446	220	11		4,134
1998	262	2,250	1,571	21	7		4,111
1999	256	1,629	1,413	7	8	21	3,334
2000	756	1,186	1,797	2	9	23	3,773
2001	1,270	972	1,838	7	4	13	4,104
2002	1,543	815	2,208	2	27		4,595
2003	2,321	449	1,747	3	7		4,527
2004	2,603	444	1,799	2	7		4,855
2005	2,237	957	2,387	6	23		5,610
2006	2,055	1,036	2,356	12	36		5,495
2007	2,128	1,282	3,102	14	45		6,571
2008	1,452	915	3,514	5	45		5,931
2009	1,797	1,171	4,186	2	79		7,235
2010	2,315	724	4,219	8	48		7,314
2011	2,380	792	4,364	6	44		7,586
2012	1,871	956	4,763	2	22		7,614

Table 5. Percentage of illegal (less than 12-inches FL) and legal (12-inches or larger) Spanish Mackerel in the commercial, recreational, and headboat landings on Florida's Atlantic coast, during 1992-2012. N is the total number of fish measured.

Years	Commercial			Recreational			Headboat		
	>=12"	<12"	N	>=12"	<12"	N	>=12"	<12"	N
1992	99.9	0.1	1725	98.1	1.9	210	100.0	0.0	25
1993	99.9	0.1	2747	100.0	0.0	120	100.0	0.0	11
1994	99.8	0.2	1901	89.3	10.7	103	100.0	0.0	12
1995	98.1	1.9	1961	94.1	5.9	118	100.0	0.0	30
1996	91.8	8.2	3233	93.4	6.6	76	100.0	0.0	5
1997	81.6	18.4	1514	99.2	0.8	132	100.0	0.0	76
1998	91.5	8.5	153	98.1	1.9	108	95.5	4.5	44
1999	100.0	0.0	42	99.1	0.9	331	100.0	0.0	60
2000	99.9	0.1	1355	99.0	1.0	315	100.0	0.0	60
2001	97.3	2.7	1071	99.8	0.2	419	96.0	4.0	25
2002	94.8	5.2	381	98.7	1.3	311	100.0	0.0	36
2003	99.8	0.2	609	98.0	2.0	244	98.3	1.7	115
2004	100.0	0.0	426	99.0	1.0	689	97.9	2.1	48
2005	99.6	0.4	994	100.0	0.0	567	100.0	0.0	29
2006	100.0	0.0	787	99.6	0.4	494	100.0	0.0	95
2007	99.9	0.1	1278	99.2	0.8	477	100.0	0.0	97
2008	100.0	0.0	327	97.9	2.1	482	100.0	0.0	151
2009	99.8	0.2	1352	99.5	0.5	394	99.1	0.9	112
2010	99.7	0.3	1335	100.0	0.0	672	100.0	0.0	73
2011	99.9	0.1	1721	98.9	1.1	368	98.3	1.7	60
2012	99.4	0.6	2385	100.0	0.0	360	100.0	0.0	53

Table 6 – Calibrated MRFSS/MRIP numbers and pounds of Spanish Mackerel 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. MRFSS intercept data for 2012 were not available.

Years	MRFSS/MRIP (A+B1) Numbers with Ratio Adjustment	Numbers released (B2)	Estimated landings (A+B1) in weight (lbs)	Numbers caught (A+B1+B2)	Standardized catch rates (Number caught/trip)	Standardized numbers of trips	Estimated directed (angler) trips
1982	142,268	6,613	205,735	148,881	1.73	86,058	91,684
1983	96,292	4,929	163,309	101,221	1.23	82,294	223,075
1984	203,221	21,797	350,244	225,018	0.95	236,861	71,473
1985	69,005	23,316	124,624	92,321	1.05	87,925	233,298
1986	160,076	20,469	206,190	180,544	1.45	124,513	26,303
1987	96,826	7,197	189,028	104,023	1.07	97,218	80,130
1988	191,370	18,334	537,488	209,703	0.90	233,004	264,316
1989	175,052	83,682	248,640	258,735	1.33	194,537	92,500
1990	184,554	35,520	283,951	220,074	0.94	234,121	286,515
1991	423,807	190,602	727,340	614,409	1.40	438,864	321,277
1992	303,797	113,062	548,231	416,859	1.50	277,906	422,936
1993	179,798	74,052	360,120	253,851	1.47	172,688	441,572
1994	207,007	136,041	287,305	343,048	1.61	213,073	410,869
1995	185,431	129,469	247,941	314,900	1.51	208,543	541,482
1996	200,794	167,411	338,927	368,205	1.59	231,575	419,789
1997	202,268	168,815	327,835	371,083	1.91	194,285	316,331
1998	200,097	87,804	334,981	287,901	1.40	205,644	121,804
1999	268,415	185,106	473,647	453,520	1.49	304,376	278,629
2000	448,406	353,042	775,366	801,448	1.58	507,246	360,995
2001	634,178	285,738	1,009,771	919,916	2.14	429,867	566,953
2002	759,147	554,743	1,208,633	1,313,891	1.92	684,318	530,559
2003	642,633	445,965	836,655	1,088,598	1.77	615,027	460,343
2004	368,998	218,520	731,088	949,608	2.02	470,103	149,959
2005	512,607	248,636	879,306	1,127,942	2.09	539,685	174,048
2006	322,789	140,986	581,173	722,159	1.72	419,860	125,789
2007	455,689	197,529	863,893	1,061,422	1.25	849,137	223,395
2008	503,398	363,542	924,517	1,288,059	1.87	688,802	228,888
2009	368,615	149,825	666,424	816,249	1.31	623,091	186,126
2010	512,295	282,252	994,642	1,276,894	1.80	709,385	237,100
2011	406,068	147,399	873,604	1,021,003	1.83	557,925	145,977
2012	246,866	88,592	412,002	500,594	1.37	365,397	115,084

Table 7a. Bag limit compliance for anglers that landed and kept Spanish Mackerel while fishing on Florida's Atlantic coast, 1992-2000 (source: NMFS Marine Recreational Fisheries Statistical Survey or Intercepts).

Number of fish kept per an 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	9	1,716	1,877	1.09	55.17	1,248	37	20.54	0.90
1	9	578	718	1.24	76.28	730	645	32.55	16.58
2	9	191	271	1.42	84.24	634	518	42.99	29.18
3	9	105	147	1.4	88.57	530	439	51.71	39.85
4	9	77	115	1.49	91.95	527	453	60.39	50.86
5	9	58	87	1.5	94.50	524	433	69.01	61.39
6	8	29	49	1.69	95.94	344	293	74.67	68.51
7	8	14	21	1.5	96.56	158	144	77.27	72.02
8	6	16	26	1.63	97.33	301	205	82.23	77.00
9	3	5	11	2.2	97.65	99	96	83.85	79.33
10	8	45	66	1.47	99.59	774	658	96.59	95.33
11	1	3	5	1.67	99.74	55	55	97.50	96.67
12	2	3	5	1.67	99.88	59	59	98.47	98.10
15	1	2	2	1	99.94	30	30	98.96	98.83
18	1	1	1	1	99.97	33	18	99.51	99.27
30	1	1	1	1	100.00	30	30	100.00	100.00
Totals		2,844	3,402			6,076	4,113		

Table 7b. Bag limit compliance for anglers that landed and kept Spanish Mackerel while fishing on Florida's Atlantic coast, 2001-2011 (source: NMFS Marine Recreational Fisheries Statistical Survey or Intercepts).

Number of fish kept per an 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	2,431	2,885	1.19	47.49	2,777	132	17.47	1.18
1	11	998	1,399	1.4	70.52	1,384	1,254	26.18	12.42
2	11	355	520	1.46	79.08	1,214	988	33.82	21.28
3	11	197	298	1.51	83.98	974	864	39.95	29.03
4	11	133	207	1.56	87.39	923	811	45.76	36.3
5	11	132	192	1.45	90.55	1,181	950	53.19	44.81
6	10	61	91	1.49	92.05	687	544	57.51	49.69
7	10	40	55	1.38	92.95	434	377	60.24	53.07
8	9	42	66	1.57	94.04	701	524	64.66	57.77
9	8	22	33	1.5	94.58	300	294	66.54	60.4
10	10	85	113	1.33	96.44	1,570	1,130	76.42	70.53
11	4	9	15	1.67	96.69	185	164	77.59	72
12	7	15	17	1.13	96.97	272	204	79.3	73.83
13	6	15	24	1.6	97.37	381	314	81.7	76.65
14	4	10	19	1.9	97.68	286	267	83.49	79.04
15	10	91	112	1.23	99.52	1,902	1,679	95.46	94.09
16	1	2	5	2.5	99.6	84	81	95.99	94.82
17	2	2	3	1.5	99.65	64	51	96.39	95.28
18	3	5	5	1	99.74	90	90	96.96	96.08
20	3	3	4	1.33	99.8	105	80	97.62	96.8
25	2	2	4	2	99.87	119	99	98.37	97.69
30	1	1	1	1	99.88	30	30	98.56	97.96
31	1	1	3	3	99.93	93	92	99.14	98.78
33	1	2	2	1	99.97	66	66	99.56	99.37
34	1	1	1	1	99.98	34	34	99.77	99.68
36	1	1	1	1	100	36	36	100	100
Totals		4,656	6,075			15,892	11,155		

Table 8. Headboat catch of Spanish Mackerel in number and weight (lbs) and the number of headboat angler-days for various species on the Atlantic coast of Florida, 1981-2012

Year	Number	Weight (lbs)	Angler-days
1981	18,954	40,907	258,065
1982	9,734	48,286	213,502
1983	2,734	4,295	232,723
1984	416	1,347	229,330
1985	698	2,906	235,544
1986	1,390	4,440	283,797
1987	3,574	9,160	272,008
1988	387	752	228,674
1989	528	855	213,407
1990	559	1,878	256,835
1991	761	2,055	236,223
1992	963	2,399	250,794
1993	615	1,325	209,592
1994	1,741	4,268	201,037
1995	731	2,209	181,157
1996	562	1,078	161,675
1997	886	2,679	143,967
1998	409	1,307	119,516
1999	1,228	5,165	117,124
2000	1,414	2,260	148,481
2001	710	2,698	109,130
2002	464	2,026	101,849
2003	467	1,442	92,714
2004	1,789	4,914	141,954
2005	1,100	3,461	125,578
2006	994	2,033	131,609
2007	1,355	3,102	119,893
2008	687	1,221	101,329
2009	335	699	101,930
2010	555	1,506	73,877
2011	551	1,294	90,134
2012	371	1,442	96,353

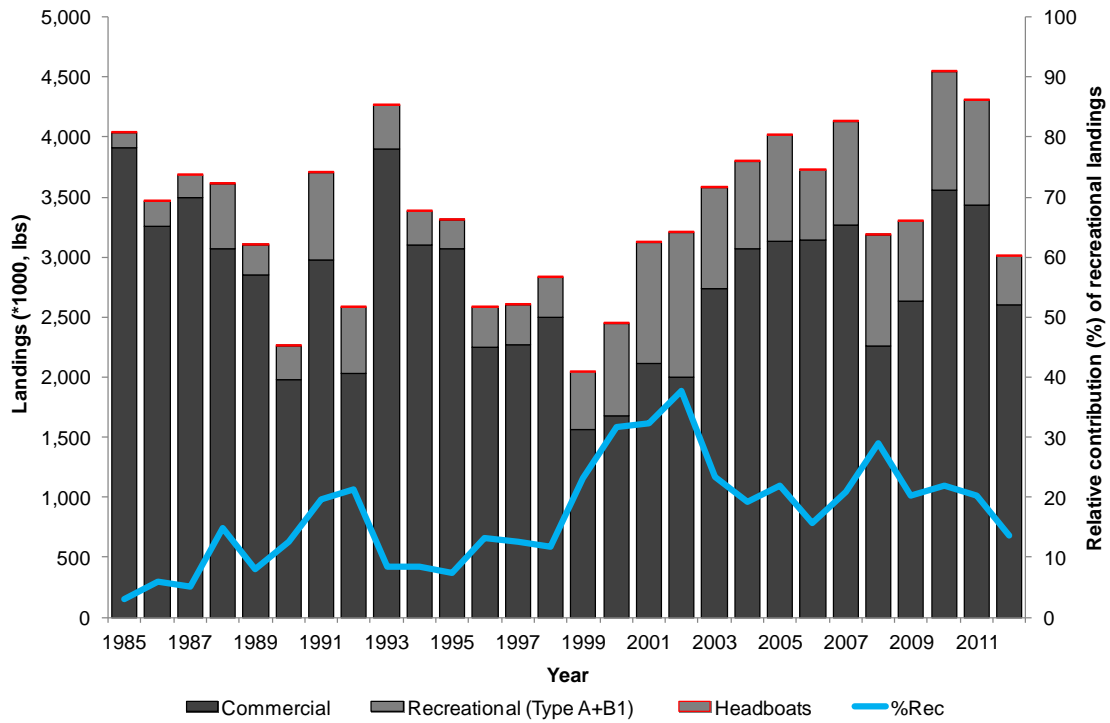


Figure 1. Total landings (pounds) by fishery sector and proportions of recreational landings of Spanish Mackerel caught on Florida’s Atlantic coast, 1985-2012. Recreational landings (A+B1) are MRFSS/MRIP calibrated numbers multiplied by average weights. Commercial landings for 2012 were preliminary.

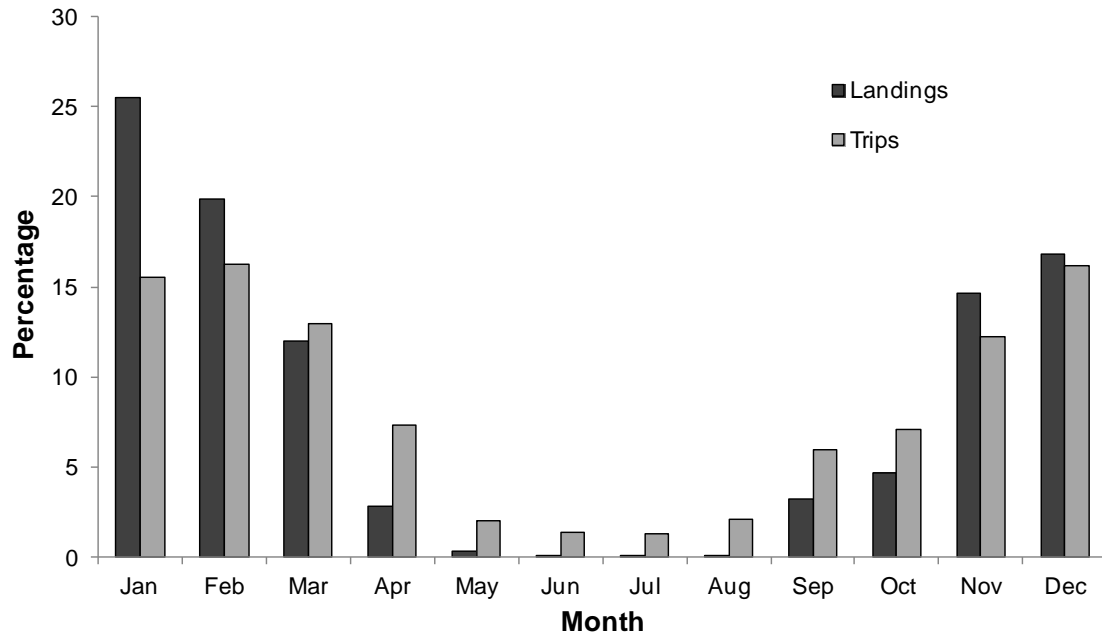


Figure 2. Monthly variations of relative Spanish Mackerel commercial landings and Spanish Mackerel commercial trips on the Atlantic coast of Florida in 2012.

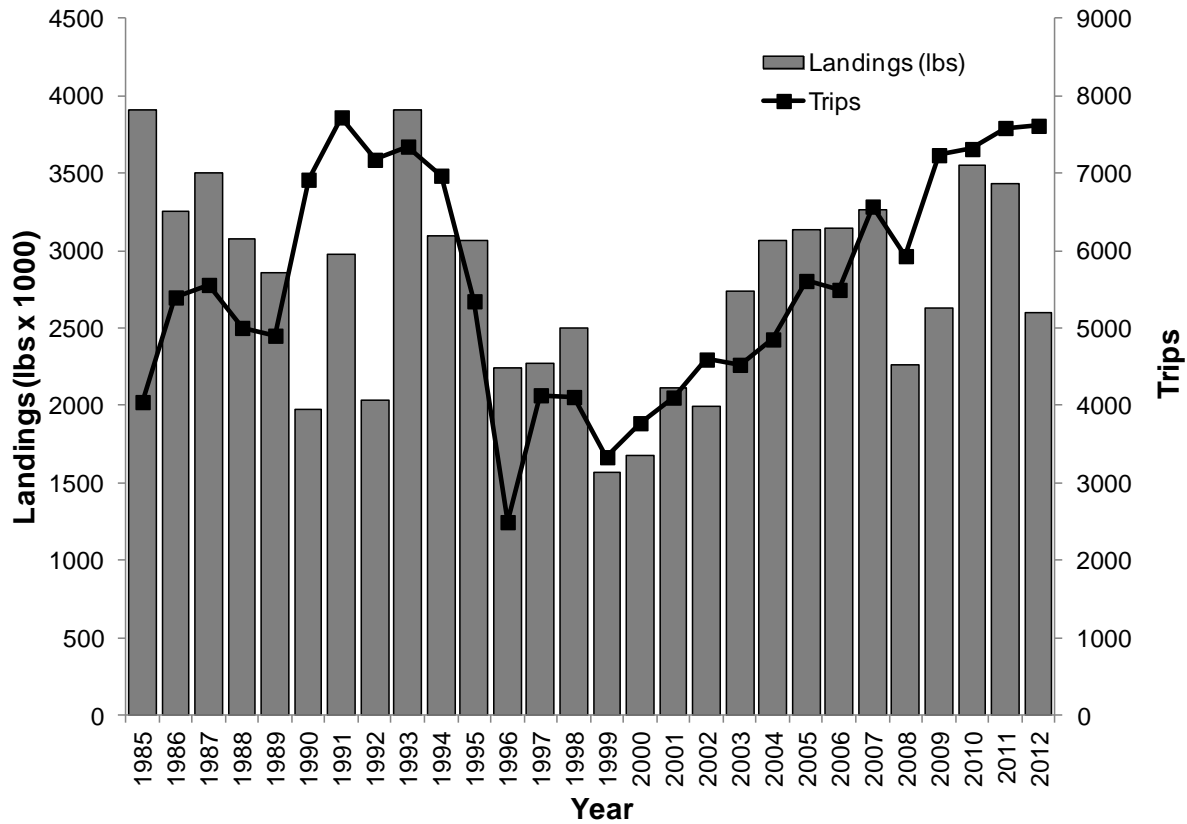


Figure 3. Commercial landings (pounds) of Spanish Mackerel and number of trips reporting Spanish mackerel landings on Florida's Atlantic coast, 1985-2012. 2012 estimates are preliminary.

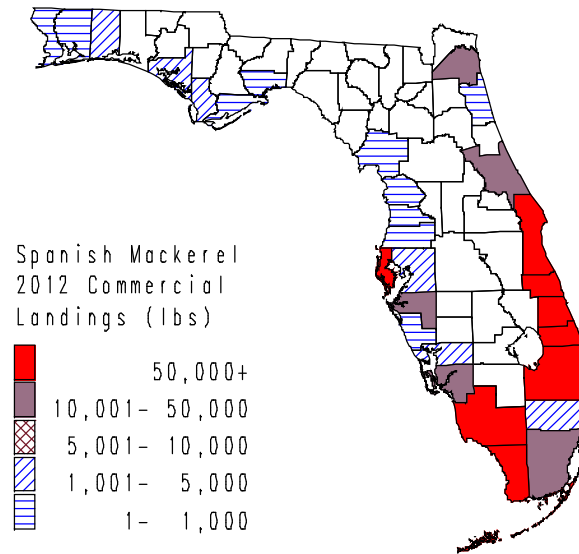


Figure 4. Geographic distribution of Spanish Mackerel landed commercially (pounds) by county during 2012.

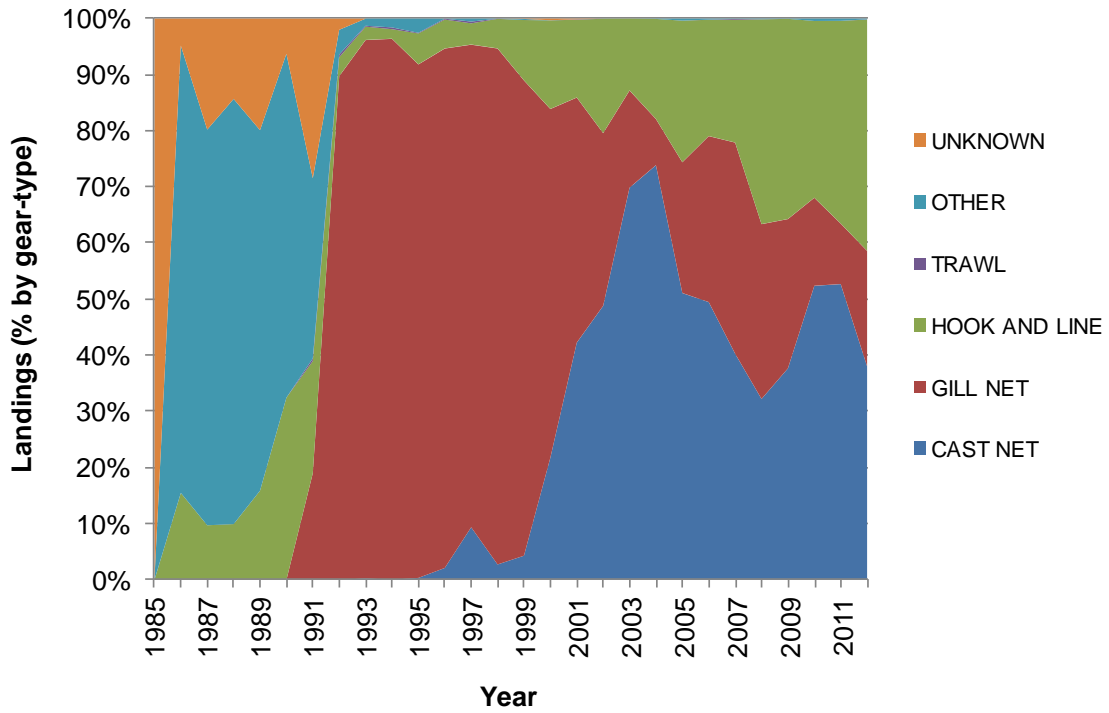


Figure 5. Relative commercial landings (%) of Spanish Mackerel by gear type on Florida's Atlantic coast, 1985-2012. 2012 landings are preliminary.

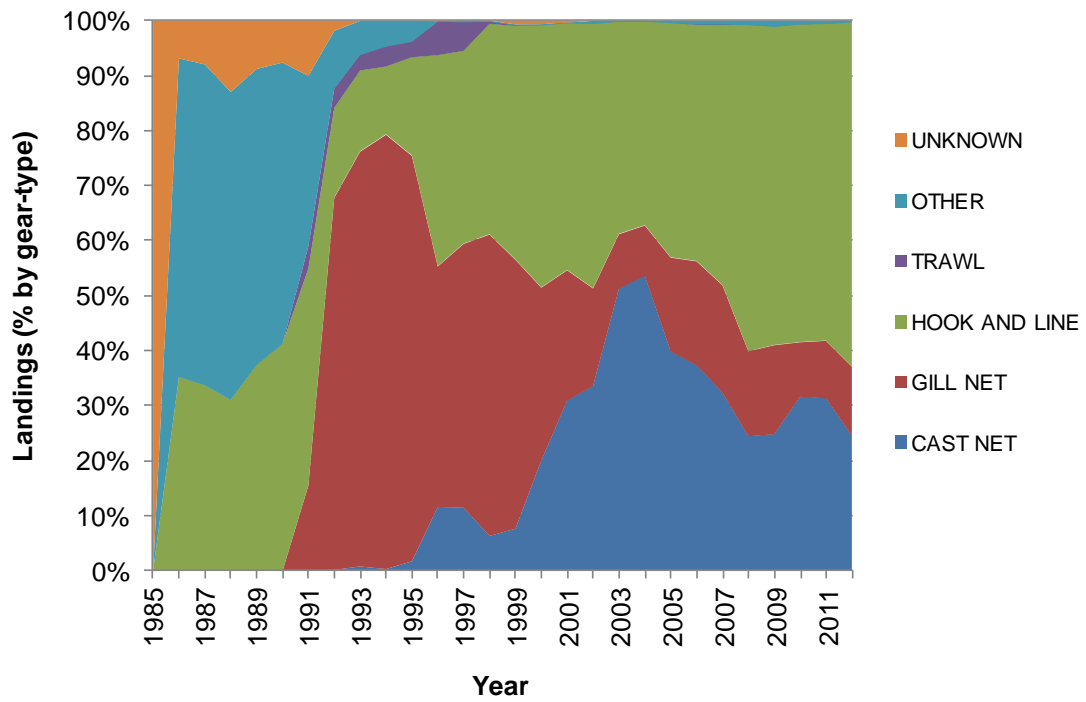


Figure 6. Relative numbers of commercial trips (%) by gear type targeting Spanish Mackerel on Florida's Atlantic coast, 1985-2012. 2012 trip estimates are preliminary.

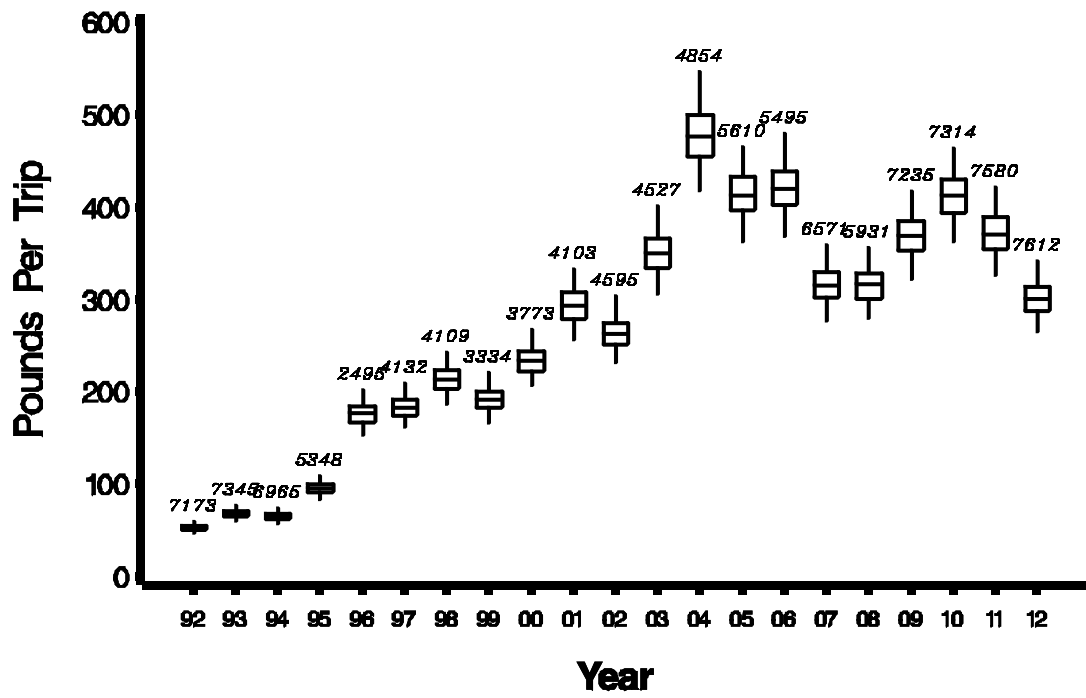


Figure 7. Annual standardized commercial catch rates (pounds/trip) for Spanish Mackerel on Florida's Atlantic coast, 1992-2012.

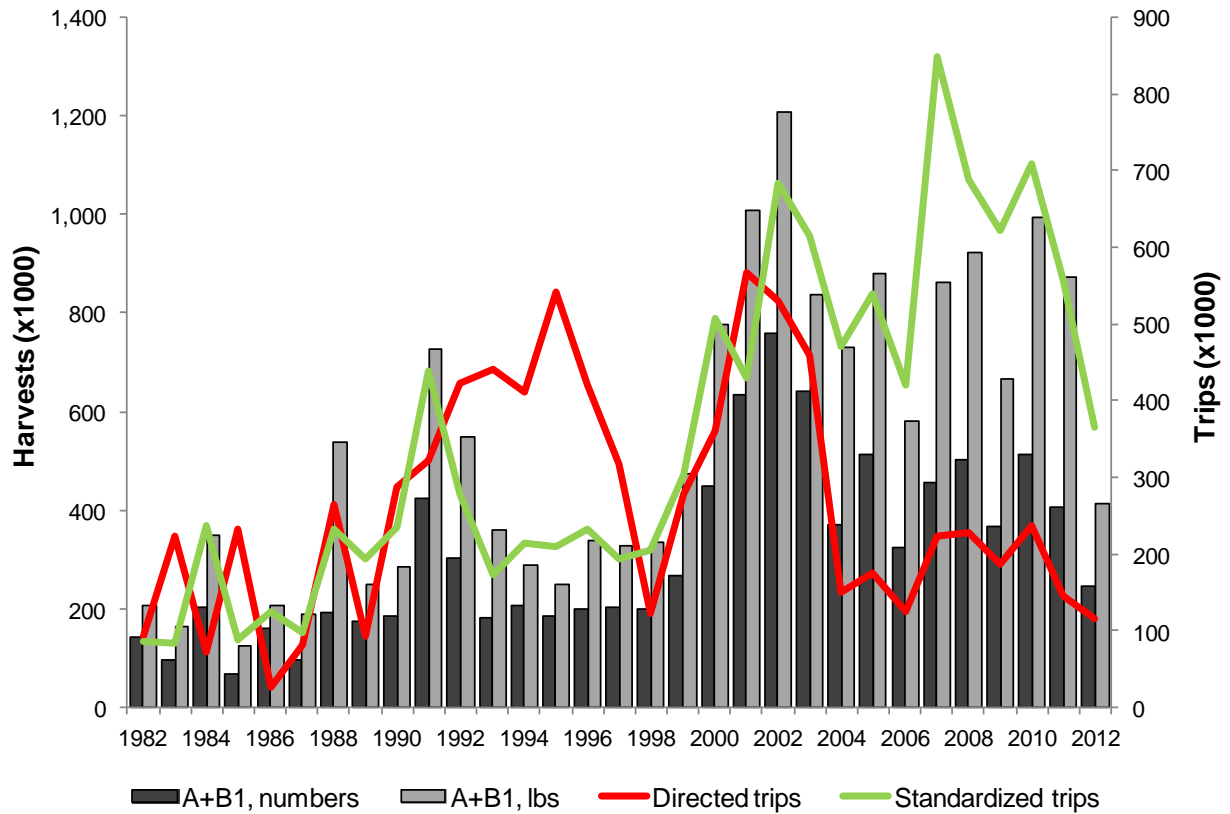


Figure 8. Recreational harvests (A+B1) in weight and number and numbers of standardized and directed angler trips made for Spanish Mackerel caught on Florida's Atlantic coast, 1982-2012. Harvest weights are MRFSS/MRIP calibrated numbers multiplied by average weights.

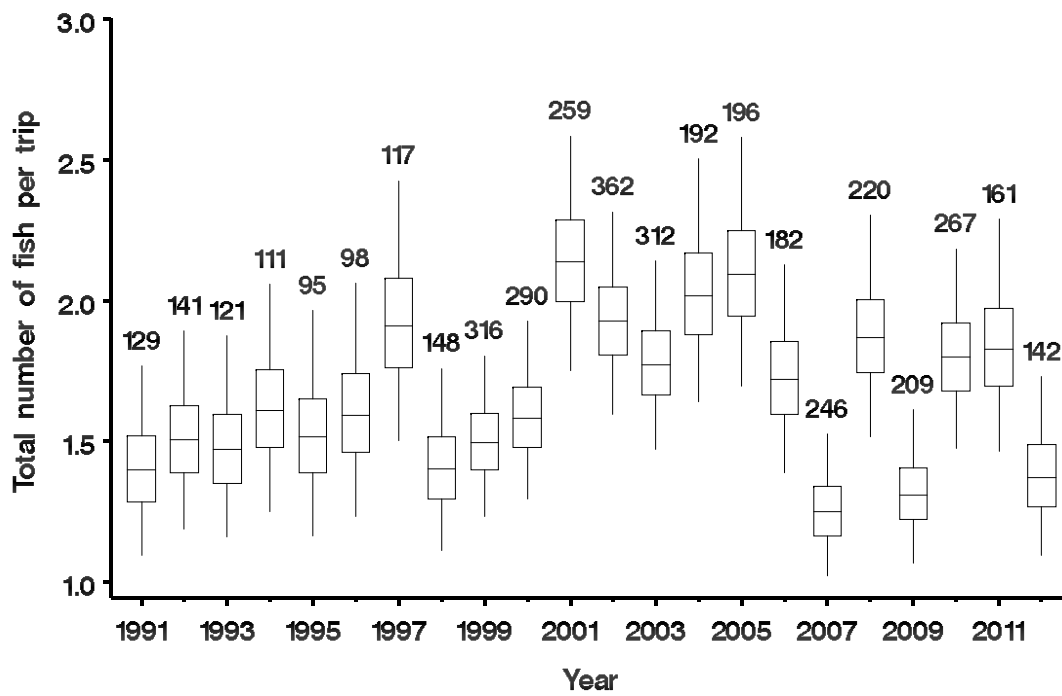


Figure 9. MRFSS/MRIP combined annual standardized recreational catch rates (numbers/trip) for Spanish Mackerel on Florida's Atlantic coast, 1991-2012. Sample size is shown above upper whiskers

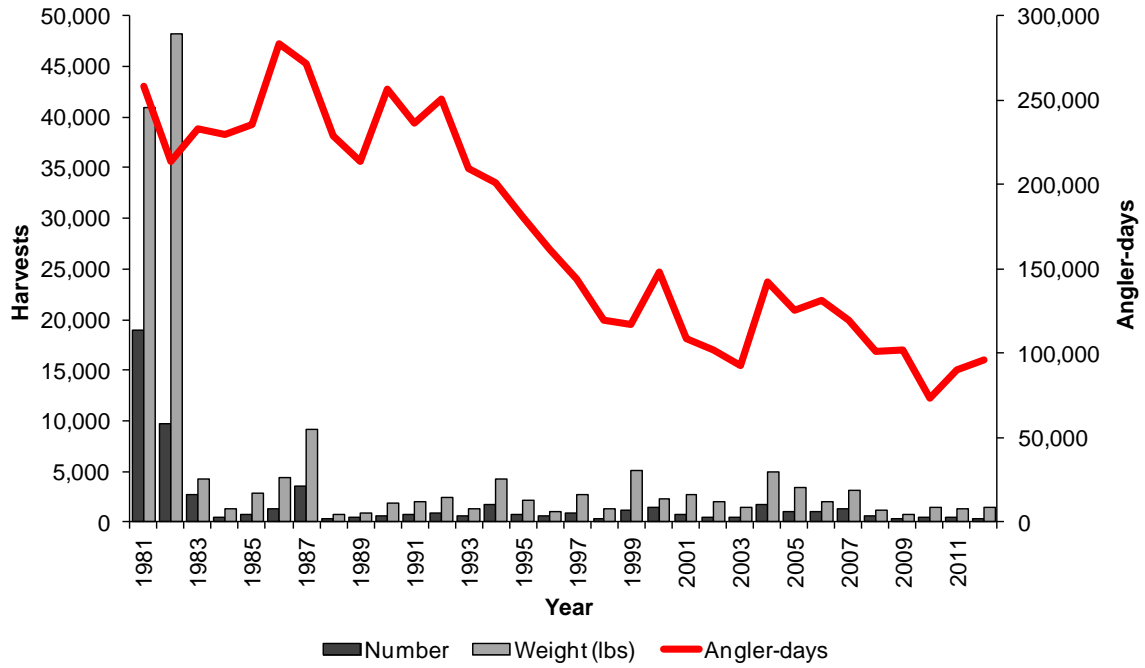


Figure 10. Headboat harvests (numbers and pounds) of Spanish mackerel and total number of headboat angler-days fished on Florida’s Atlantic coast, 1981-2012.

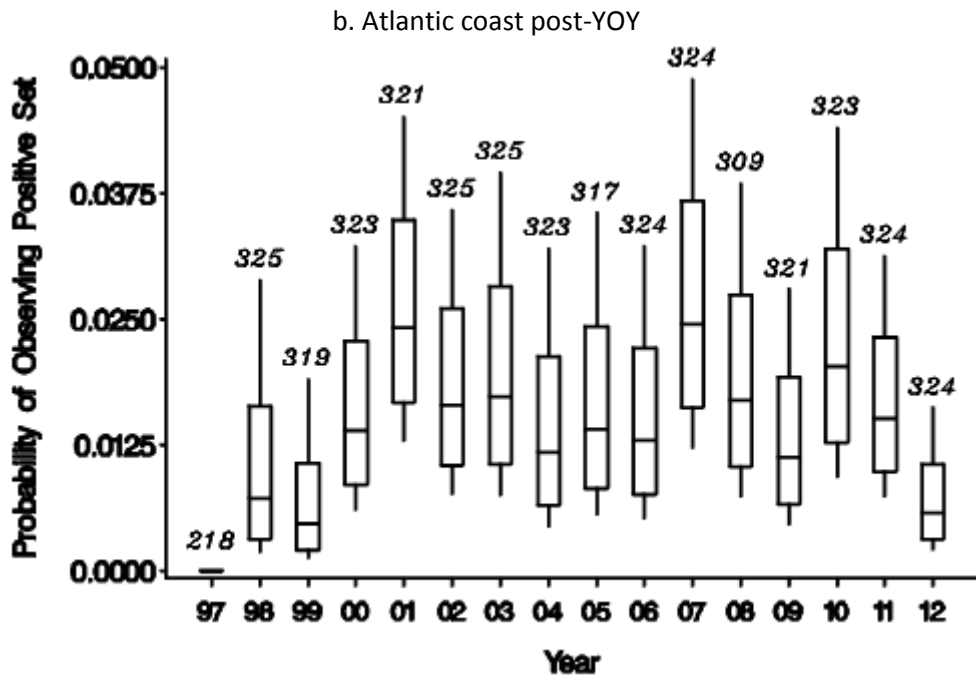
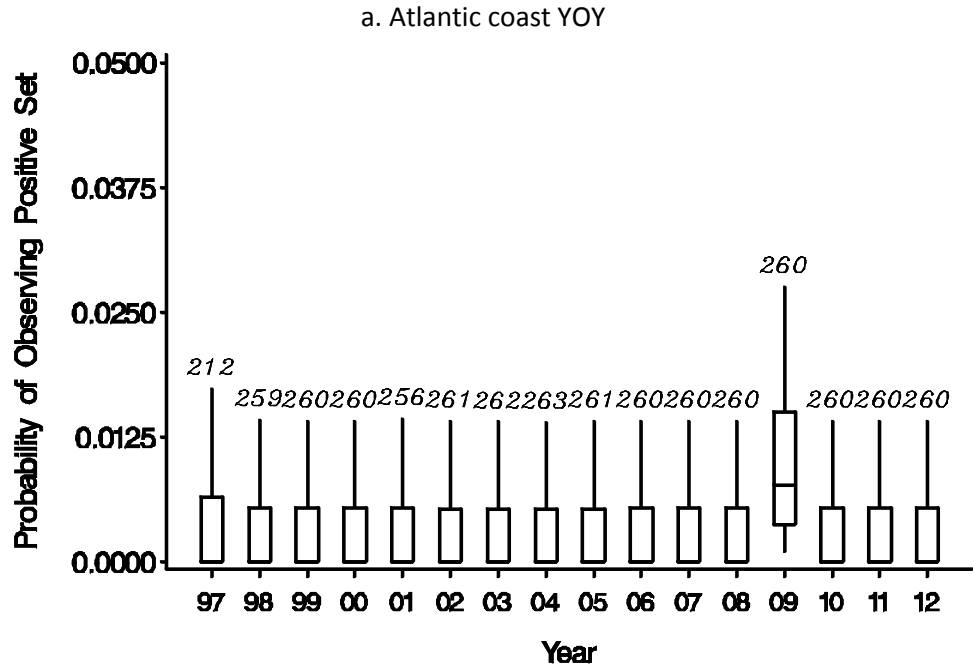
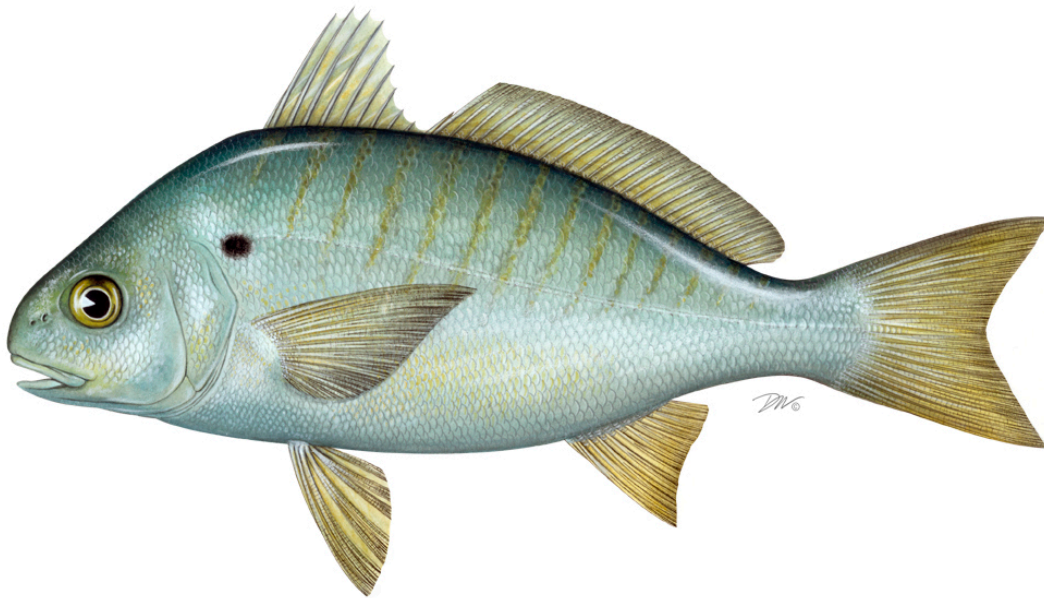


Figure 11(a)-(b). Proportion of fishery-independent-monitoring sets that captured Spanish Mackerel from 1997-2012. (a) Young-of-the-year (YOY, age-0) on Florida's Atlantic coast, (b) Post young-of-the-year on Florida's Atlantic coast. Sample sizes are shown above upper whiskers.

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

SPOT
(Leiostomus xanthurus)

2012 FISHING YEAR



The Spot Plan Review Team

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I. Status of the Fishery Management Plan

<u>Date of FMP Approval:</u>	October 1987; Omnibus Amendment August 2011
<u>Management Area:</u>	The Atlantic coast distribution of the resource from Delaware through Florida
<u>Active Boards/Committees:</u>	South Atlantic State/Federal Fisheries Management Board; Spot Plan Review Team; South Atlantic Species Advisory Panel; Omnibus Amendment Plan Development Team

The Fishery Management Plan (FMP) for Spot was adopted in 1987 and includes the states from Delaware through Florida (ASMFC 1987). In reviewing the early plans created under the Interstate Fisheries Management Plan process, the ASMFC found the Spot FMP to be in need of evaluation and possible revision. A Wallop-Breaux grant from the U.S. Fish and Wildlife Service was provided to conduct a comprehensive data collection workshop for spot. The October 1993 workshop at the Virginia Institute of Marine Science was attended by university and state agency representatives from six states. Presentations on fishery-dependent and fishery-independent data, population dynamics, and bycatch reduction devices were made and discussed. All state reports and a set of recommendations were included in the workshop report (Kline and Speir 1993).

Subsequent to the workshop and independent of it, the South Atlantic State/Federal Fisheries Management Board (Management Board) reviewed the status of several plans in order to define the compliance issues to be enforced under the Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA). The Management Board found recommendations in the plan to be vague and perhaps no longer valid, and recommended that an amendment be prepared to the Spot FMP to define the management measures necessary to achieve the goals of the FMP. In their final schedule for compliance under the ACFCMA, the ISFMP Policy Board adopted the finding that the FMP does not contain any management measures that states are required to implement. In August 2009, the Management Board expanded the initiated amendment to the Spanish Mackerel FMP to include Spot and Spotted Seatrout, creating the Omnibus Amendment for Spot, Spotted Seatrout and Spanish Mackerel. The goal of the Omnibus Amendment was to update all three plans with requirements specified under the Atlantic Coastal Fisheries Cooperative Management Act (1993) and the Interstate Fishery Management Program Charter (1995). In August 2011, the Management Board approved the Omnibus Amendment for Spot, Spotted Seatrout, and Spanish Mackerel.

II. Status of the Stock

No coastwide assessment has been performed for spot; however, spot are a target or component of multiple state surveys using trawl, gillnet, or seine net to sample. In addition to these surveys, commercial and recreational data can provide indices of relative spot abundance.

Omnibus Amendment/Annual Trigger Exercises

As part of the requirements for under the 2011 Omnibus Amendment, for years in-between benchmark stock assessments, the Spot PRT was tasked with conducting annual monitoring analysis, the results to be presented to the South Atlantic State/Federal Fisheries Management Board. This annual analysis has been known as the trigger exercises, where the following data sources are compared to the 10th percentile of the data sets' time series. These data sources are;

- Coastwide recreational landings (numbers), 1981-present
- Coastwide commercial landings (pounds), 1950-present
- SEAMAP-South Atlantic Trawl Survey catch-per-unit-effort (NC-FL data), 1989-present
- NMFS Bottom Trawl Survey catch-per-unit effort (NY-NC data), 1972-present
- Maryland DNR Chesapeake Bay Seine Survey catch-per-unit-effort, 1967-present

In conducting this annual review, if two terminal values of the five data sources- at least one of which must be fishery independent - fall below the 10th percentile, the Management Board will be prompted to consider management action. In 2012, the triggers did not trip though it was noted by the Spot PRT that commercial and recreational landings have fallen below their 10th percentile twice over the last 3 years, and once among the fishery independent indices (MD Bay Seine Program in 2011).

In 2013, for the sixth consecutive year, the Spot Plan Review Team (PRT) will compile and analyze available fishery-dependent and fishery-independent data from the following data sources: commercial harvest, effort, and biological sampling data from Maryland, Virginia and North Carolina; recreational harvest and effort data from Maryland, Virginia, North Carolina, and South Carolina; and fishery-independent survey data from New Jersey, Delaware, Maryland, Virginia, North Carolina, and South Carolina, as well as the Southeast Area Monitoring and Assessment Program (SEAMAP) survey covering North Carolina through Florida and the NMFS Trawl Survey for New York to North Carolina. The PRT developed indices of relative spot abundance from catch-per-unit effort and fishery characterization data.

III. Status of the Fishery

Total landings of spot in 2012 are estimated at 3.24 million pounds, a decrease of 59% from 2011 and a 60% decrease from the previous ten-year average (Tables 1 and 3). The commercial fishery harvested less than the recreational fishery (39.2% to 60.8% respectively, by pounds), which follows the fluctuating pattern over the last 7 years. This contrasts with 2011, during which commercial harvests exceeded recreational harvests by about 2:1.

Commercial spot landings have ranged between 1.27 and 14.52 million pounds from 1950-20012(Figure 1), with the 2012 landings (1.27 million pounds) marking the lowest landings during this time series. The estimated ex-vessel value of the 2012 harvest was \$1.4 million (Table 1). Coastwide, the majority of commercially harvested spot are taken in gillnets (78.2% in 2009, Table 2). Virginia landed over 48% of the commercial harvest (by pounds) in 2012, followed by North Carolina with 39% of the harvest. Although small spot have been known to be a bycatch component of the haul seine, shad gillnet, and pound net fisheries in the Chesapeake Bay and in North Carolina, these mesh sizes, especially for the shad gillnet and channel net fisheries, tend to be too large to catch even large spot. Further, the shad fishery is executed in mostly freshwater, where the number of adult spot is generally low. The largest bycatch component for spot comes from the South Atlantic shrimp trawl fishery. The fate of these spot can be discards or sale, depending upon market conditions and volume.

The recreational harvest of spot along the Atlantic coast from 1981 to 2012 has varied between 3.6 and 20.1 million fish (or 1.7 and 6.9 million pounds; Tables 3 and 4). There was an increasing trend in the recreational harvest from the low in 1999 to 15.9 million fish in 2007; however, harvest has declined since 2007, with the 2012 catch recording 4 million fish, down from 6 million fish in 2011 (Figure 2). Anglers in Virginia were responsible for 33% of the total number of fish harvested in 2012, followed by anglers in South Carolina (25%), North Carolina (19%), and Maryland (19%). Many anglers are known to catch spot to use as bait, as well as for other recreational purposes. The estimated number of spot

released annually by recreational anglers has varied between 2.0 and 6.6 million fish, with the exception of a few years (Table 5). The number of fish released alive in 2012, 3.8 million, falls within this range.

IV. Status of Assessment Advice

A formal stock assessment of spot has not been conducted. The 1987 FMP recognized the lack of biological and fisheries data necessary for stock assessment and effective management of the resource. Spot life history information and fisheries data have generally been localized and conducted at different levels of population abundance. Commercial and recreational catch and effort data have only recently begun to be analyzed to determine the relationship between landings and abundance. An additional and extremely problematic issue is the non-quantifiable incidental bycatch and discard mortality of small spot in non-directed fisheries.

The Spot Plan Review Team evaluated the adequacy of data for assessment purposes in 2012, and reported the following:

- Commercial landings data appear adequate for a spot assessment; however, discard data are limited. The level of commercial biological sampling is on par with other species having assessments performed.
- The adequacy of recreational harvest and harvest length data is comparable to other species which rely primarily on MRIP data. Limited discard length data are available and discard mortality rates are unknown; however, less recreational discarding of spot occurs than for many other species, potentially due to its use as a bait fish.
- The number, time series, and distribution of fishery-independent indices appear adequate for stock assessment purposes. Biological data appear ample from several surveys, although reproductive data are limited. Further, the amount and representativeness of samples from each survey has not been investigated in detail.
- Additional investigation into the quality and quantity of commercial, recreational, and indices data for a spot stock assessment would need to take place through a data workshop.

Given that there have been no significant increases in the monitoring of discard data, the Spot PRT's recommendations and observations from 2009, regarding the feasibility of Spot stock assessment, remain.

V. Status of Research and Monitoring

Catch and effort data are collected by the commercial and recreational statistics programs conducted by the states and the National Marine Fisheries Service (NMFS). Biological characterization data from fishery landings are also available from several states. Specifically, age data are now available from Maryland, Virginia, North Carolina, and South Carolina. North Carolina annually ages 400-500 spot across all fisheries. Virginia has aged more than 300 spot per year since 2001, except 2006 when 228 were aged. Maryland began an ageing program in 2008. South Carolina began collecting limited otolith samples in 2010 through the SC-State Finfish Survey. While the numbers collected have not been very many (<50 per year) the age range matches the range seen in the fishery independent surveys. Age validation study for spot in SC was completed in 2012 (J. Johnson, MS Thesis Project, College of Charleston)

Recruitment indices are available from surveys in Delaware, Maryland, Virginia, North Carolina, and South Carolina. Adult or aggregate (mix of juvenile and older spot) relative abundance indices are available from New Jersey, Delaware, North Carolina, South Carolina, and SEAMAP (covering North Carolina through Florida). These surveys, in addition to the Northeast Fisheries Science Center Bottom

Trawl Survey, the Northeast Area Monitoring and Assessment Program (NEAMAP), the Chesapeake Bay Multispecies Monitoring and Assessment Program (ChesMMAP), and the Chesapeake Bay Fishery-Independent Multispecies Survey (CHESFIMS) also collect a variety of biological data elements.

VI. Status of Management Measures and Issues

The FMP for Spot identified two management measures for implementation: 1) promote the development and use of bycatch reduction devices through demonstration and application in trawl fisheries, and 2) promote increases in yield per recruit through delaying entry to spot fisheries to age one and older.

Considerable progress has been made in developing bycatch reduction devices (BRDs) and evaluating their effectiveness. Proceedings from a 1993 spot and croaker workshop summarized much of the experimental work on bycatch reduction, and many states have conducted subsequent testing. For example, North Carolina Division of Marine Fisheries (NCDMF) conducted research on the four main gear types (shrimp trawl, flynet, long haul seine, and pound net) responsible for the bulk of the scrap fish landings in order to reduce the catch of small fish. State testing of shrimp trawl BRDs achieved finfish reductions of 50-70% with little loss of shrimp, although total bycatch numbers relative to shrimp fishery effort are still unknown. The Virginia Marine Resources Commission investigated the use of culling panels in pound nets and long haul seines to release small croaker, spot, and weakfish. The Potomac River Fisheries Commission (PRFC) also investigated the use of culling panels in pound nets, finding that the panels allowed the release of 28% of captured spot less than six inches in length.

Following favorable testing, devices have been made mandatory or recommended in several state fisheries. The use of BRDs is required in all penaeid shrimp trawl fisheries in the South Atlantic. The PRFC recommends the use of culling panels in pound nets and allows those nets with panels to keep one bushel of bycatch of flounder and weakfish. In North Carolina, escapement panels have been required in the bunt nets of long haul seines in an area south and west of Bluff Shoals in the Pamlico Sound since April 1999. However, evaluation of the beneficial effects of BRDs to spot stocks continues to need further study.

General gear restrictions, such as minimum mesh sizes or area trawling bans, have helped protect some age classes of spot. However, only Georgia has implemented a minimum size limit (8 inches total length, both recreational and commercial) aimed at protecting immature spot. Georgia is also the only state with a spot creel limit (25 fish, both recreational and commercial).

Omnibus Amendment (Interstate)

In August 2011, the Management Board approved the development of an amendment to the Spot FMP to address three issues: compliance measures, consistency with federal management in the exclusive economic zone, and alignment with Commission standards. The updated FMP's objectives are to: (1.) Increase the level of research and monitoring on spot bycatch in other fisheries, in order to complete a coastwide stock assessment (2.) Manage the Spot fishery stock to maintain the spawning stock biomass above the target biomass levels. (3.) Develop research priorities that will further refine the spot management program to maximize the biological, social, and economic benefits derived from the spot population. The Omnibus Amendment does not require specific fishery management measures in either the recreational or commercial fisheries for states within the management unit range.

De minimis Guidelines

A state qualifies for *de minimis* status if its past 3-years' average of the combined commercial and recreational catch is less than 1% of the past 3-years' average of the coastwide combined commercial and

recreational catch. Those states that qualify for *de minimis* are not required to implement any monitoring requirements, none of which are included in the plan.

De Minimis Requests

The states of South Carolina and Georgia request *de minimis* status. The PRT notes they meet the requirements of *de minimis*.

VII. Implementation of FMP Compliance Requirements for 2012

- All states within the management unit have submitted compliance reports for the 2012 fishing year. The PRT found no compliance issues.

VIII. Recommendations of the Plan Review Team

Management and Regulatory Recommendation

The Spot PRT recommends that the Board not initiate a stock assessment for spot, given the high uncertainties in the bycatch data which would have prevented the assessment from passing a peer review. The Spot PRT will continue to monitor the fishery through the trigger exercises and may present additional analysis for consideration in 2013.

Research and Monitoring Recommendations

High Priority

- State monitoring and reporting on the extent of unutilized bycatch and fishing mortality on fish less than age-1 in fisheries that take significant numbers of spot.
- Evaluate the effects of mandated bycatch reduction devices on spot catch in those states with significant commercial harvests.
- Develop fishery-dependent and fishery-independent size and sex specific relative abundance estimates.
- Cooperative coastwide spot juvenile indices should be developed to clarify stock status.
- Continue monitoring long-term changes in spot abundance, growth rates, and age structure.
- Continue monitoring of juvenile spot populations in major nursery areas.
- Improve spot catch and effort statistics from the commercial and recreational fisheries, along with size and age structure of the catch, in order to develop production models.
- Conduct age validation studies.
- Cooperatively develop criteria for aging spot otoliths and scales.
- Develop catch-at-age matrices for recreational and commercial fisheries.
- Determine the effect that anthropogenic perturbations may be having on growth, survival, and recruitment.

Medium Priority

- Develop stock assessment analyses appropriate to current data.
- Cooperatively develop a yield-per-recruit analysis.
- Develop stock identification methods and investigate the degree of mixing between state stocks during the annual fall migration.
- Determine migratory patterns through tagging studies.
- Determine the onshore vs. offshore components of the spot fishery.

IX. References

- Atlantic States Marine Fisheries Commission (ASMFC). 1987. Fishery Management Plan for Spot. Washington (DC): ASMFC. Fisheries Management Report #11. 90 p.
- Kline LL, Speir H (editors). 1993. Proceedings of a Workshop on Spot (*Leiostomus xanthurus*) and Atlantic Croaker (*Micropogonias undulatus*). Washington (DC): Atlantic States Marine Fisheries Commission. Special Report #25. 175 p.
- Spot Plan Review Team (PRT). 2012. Spot Data Availability and Stock Monitoring Report, 2009. Washington (DC): Atlantic States Marine Fisheries Commission. Report to the South Atlantic State-Federal Fisheries Management Board. 85 p.

X. Figures

Figure 1. Spot commercial and recreational landings (pounds), 1950-2012

(Recreational landings available from 1981-present; see Tables 1 and 3 for state-by-state values and data sources)

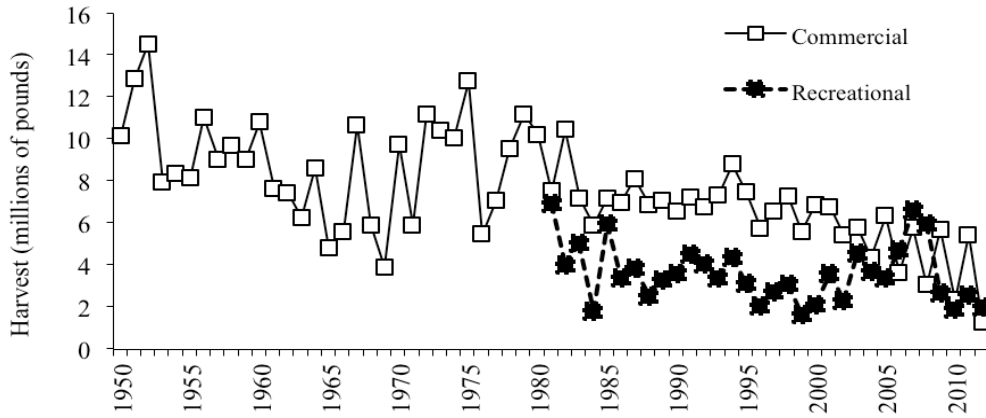
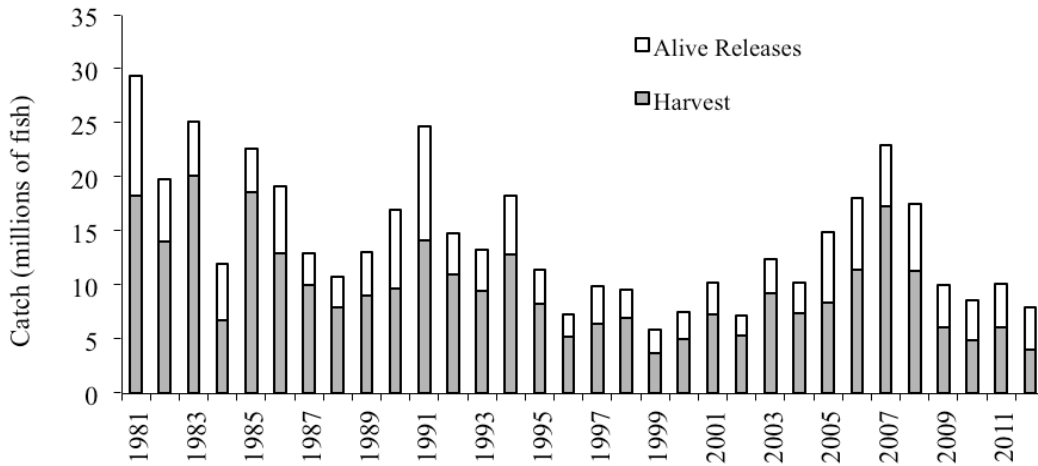


Figure 2. Spot recreational harvest and releases (numbers of fish), 1981-2012

(See Tables 4 and 5 for state-by-state values and data source)



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XI. Tables

Table 1. Commercial landings (pounds) by state, and estimated value (ex-vessel), 1981-2012

(Source: NMFS Fisheries Statistics Division & State Compliance Reports, 11/23/2013)

Year	NY	NJ	DE	MD	VA	NC	SC	GA	FL	Total	Value
1981		6,000	11,100	14,200	1,025,800	3,511,574	127,384	7,721	2,798,881	7,502,660	\$1,949,238
1982		1,800	2,500	6,200	1,017,100	4,918,763	62,562	292	4,431,239	10,440,456	\$2,629,992
1983		800		129,400	1,567,900	2,952,295	240,096		2,266,296	7,156,787	\$2,034,211
1984		100		43,200	735,200	3,481,920	130,265		1,508,552	5,899,237	\$1,709,041
1985		2,400	17,237	7,700	1,561,739	4,043,843	142,755		1,399,819	7,175,493	\$2,059,771
1986		6,600	86,455	104,400	1,839,500	3,354,191	655,378	124	918,875	6,965,523	\$2,008,712
1987		15,900	140,109	251,800	3,721,100	2,806,041	220,553	1,528	943,713	8,100,744	\$2,288,900
1988		1,600	37,722	58,000	1,985,500	3,080,258	376,221	644	1,344,276	6,884,221	\$2,103,710
1989		8,200	31,249	115,800	2,468,100	3,254,473	31,472	361	1,144,639	7,054,294	\$2,447,602
1990		9,039	23,864	127,882	1,630,735	3,455,460	39,957	43	1,275,729	6,562,709	\$2,280,712
1991		54,433	262,498	216,035	2,539,340	3,047,305	31,787		1,051,532	7,202,930	\$2,341,850
1992		102,213	112,967	331,837	2,497,622	2,826,138	171,959	261	740,048	6,783,045	\$1,903,514
1993	63	10,900	21,862	182,198	3,349,399	2,672,164	251,225	1,276	826,312	7,315,399	\$2,902,373
1994		31,408	100,435	166,246	4,269,402	2,937,355	288,241		1,002,887	8,795,974	\$3,326,892
1995	22	30,151	62,324		3,622,954	3,006,885	209,132	247	558,087	7,489,802	\$2,572,195
1996	318	1,149	80,930	256,711	2,982,083	2,290,040	60,574		56,423	5,728,228	\$2,237,567
1997	189	6,175	35,686	120,331	3,465,507	2,627,977	87,170		227,097	6,570,132	\$2,810,144
1998	579	27,582	140,363	225,937	4,277,256	2,397,025	63,912		161,205	7,293,859	\$2,838,921
1999		7,822	47,770	223,463	2,961,890	2,262,213	9,393		72,973	5,585,524	\$2,204,565
2000	939	13,852	32,288	176,946	3,764,679	2,829,818	8,519		57,946	6,884,987	\$3,562,693
2001	160	20,034	74,144	283,488	3,248,212	3,093,921	12,950		33,056	6,765,965	\$2,835,318
2002	5,737	1,326	13,099	138,640	3,062,211	2,184,076	23,151		20,586	5,448,826	\$2,297,333
2003	35	6,003	74,144	184,437	3,471,484	2,043,421	17,181		9,337	5,806,042	\$2,747,351
2004	98	1,652	56,029	43,729	1,931,454	2,317,215	1,876		12,792	4,364,845	\$3,350,472
2005	435	769	125,685	114,987	4,335,314	1,714,518	10,468		21,156	6,323,332	\$3,310,675
2006	2,959	3,646	62,824	35,082	2,137,586	1,364,797	5,691		22,502	3,635,087	\$2,843,714
2007	1,080	4,474	128,207	389,520	4,335,314	879,135	6,357	0	14,317	5,758,404	\$4,307,860
2008	0	1,942	32,649	123,718	2,137,586	737,293	1,492	0	9,181	3,043,861	\$1,821,412
2009	317	34,063	71,449	528,625	4,014,576	1,006,535	22,557	0	22,057	5,700,179	\$4,514,714
2010	37	6,048	60,416	561,217	1,104,667	572,345	3,957		13,446	2,322,133	\$1,823,273
2011	8	54,890	93,776	553,010	3,763,055	936,993	12,162		29,031	5,442,925	\$4,547,925
2012		9,935	18,103	100,347	615,726	489,708	541	0	36,744	1,271,104	\$1,142,878

Table 2. Commercial landings (pounds) by gear, 2012

(Source: NMFS Fisheries Statistics Division, 11/23/13)

Gear	Landings (lbs)	Percent of Total
Gill Nets	691,079	12.4%
Haul Seine	295,516	5.3%
Pound Net	37,973	0.7%
Trawl	47,842	0.9%
Other	225,465	4.0%
Total	1,297,875	23.2%

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Table 3. Recreational harvest (pounds) by state, 1981-2012

(Source: NMFS Fisheries Statistics Division, 11/23/13)

Year	NY	NJ	DE	MD	VA	NC	SC	GA	FL	Total
1981	20,348	6,175	8,047	554,986	4,625,985	1,193,537	144,600	50,734	311,406	6,915,818
1982		85,446	19,281	656,245	1,563,396	1,093,047	313,177	20,199	236,027	3,986,818
1983			4,017	354,788	2,520,125	1,630,882	293,161	28,023	167,294	4,998,290
1984		3,768	5,714	361,850	404,533	650,386	169,346	81,758	122,585	1,799,940
1985	3,415	4,255		193,266	1,955,039	3,120,532	441,808	13,071	213,042	5,944,428
1986	1,327	2,114	3,836	1,139,871	1,205,158	536,443	455,836	23,369	25,360	3,393,314
1987				1,545,691	1,336,387	690,653	226,701	14,601	32,835	3,846,868
1988		84,941	1,876	80,547	720,609	802,320	632,868	14,645	184,602	2,522,408
1989	132	606	10,368	633,150	1,400,728	929,188	288,591	7,798	23,254	3,293,815
1990		5,644	11,821	791,264	2,103,751	613,904	50,525	6,259	1,737	3,584,905
1991		19,528	48,100	634,894	2,729,698	727,463	245,661	1,786	107,256	4,514,386
1992		8,788	36,799	724,279	2,278,309	403,775	397,677	6,978	167,845	4,024,450
1993	315	2,264	844	636,032	951,766	812,810	461,447	109,317	396,632	3,371,427
1994	7,198	20,364	34,795	676,687	1,217,036	1,842,360	469,518	2,687	57,234	4,327,879
1995		1,186	22,919	485,682	1,067,637	1,247,995	242,973	7,701	42,851	3,118,944
1996		10,966	789	294,404	492,982	710,086	494,448	5,445	26,953	2,036,073
1997		8,609	50,781	401,275	1,263,447	722,868	254,794	2,072	13,962	2,717,808
1998			36,658	631,422	866,619	1,249,543	228,502	2,088	47,196	3,062,028
1999			10,886	272,292	244,499	646,662	391,402	2,275	84,511	1,652,527
2000	130,649	46,244	32,968	600,302	252,885	893,835	128,669	1,402	14,129	2,101,083
2001			20,110	629,861	523,202	1,773,671	346,878	1,720	284,706	3,580,148
2002			10,870	336,660	829,972	984,898	140,164	2,857	7,840	2,313,261
2003			14,386	1,690,502	875,729	1,714,158	227,821	5,710	26,504	4,554,810
2004			6,919	442,100	1,136,261	1,846,688	245,991	721	3,338	3,682,018
2005		14,546	68,075	658,077	1,375,629	1,103,830	158,407	917	12,751	3,392,232
2006		28,971	38,010	991,142	1,926,940	978,181	745,772	1,166	6,067	4,716,249
2007	952	0	74,531	1,282,803	3,237,069	1,378,993	605,024	2,346	12,899	6,594,617
2008	0	23,157	42,078	618,172	1,828,398	671,916	2,731,815	4,292	21,041	5,940,869
2009	0	1,882	48,465	802,395	829,245	354,375	589,027	2,493	22,169	2,650,051
2010		212,616	74,641	447,575	563,423	260,757	322,885	214	28,033	1,910,144
2011		755	52,120	314,032	1,101,847	411,243	596,679	171	62,657	2,539,504
2012		104,028	21,558	253,103	410,777	230,259	933,684	91	19,090	1,972,590

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Table 4. Recreational harvest (numbers) by state, 1981-2012

(Source: NMFS Fisheries Statistics Division, 11/23/13)

Year	NY	NJ	DE	MD	VA	NC	SC	GA	FL	Total
1981	44,278	28,006	17,508	948,931	11,662,684	4,023,934	562,750	124,057	799,226	18,211,374
1982		387,582	82,094	2,864,603	4,526,847	4,124,465	1,230,253	84,153	735,398	14,035,395
1983			14,464	1,600,362	12,059,247	4,880,268	970,747	112,123	488,029	20,125,240
1984		8,501	15,553	904,793	1,489,795	2,758,366	724,925	363,841	396,402	6,662,176
1985	15,494	12,692		1,028,391	5,491,918	8,789,391	2,355,044	62,338	861,700	18,616,968
1986	3,824	9,587	12,178	3,789,796	4,229,191	2,646,049	2,007,386	137,782	96,803	12,932,596
1987				3,180,704	3,864,151	2,129,146	599,807	79,487	73,833	9,927,128
1988		348,593	2,360	277,964	2,028,768	2,558,322	1,951,157	57,786	663,681	7,888,631
1989	602	1,128	45,853	1,154,314	3,714,855	2,924,299	1,078,570	34,977	67,506	9,022,104
1990		25,927	44,362	2,120,655	5,354,294	1,986,601	142,271	17,730	7,252	9,699,092
1991		88,393	138,113	1,841,555	8,820,075	2,317,095	598,290	10,281	269,628	14,083,430
1992		20,443	90,053	1,671,897	6,317,539	1,271,416	1,190,757	25,788	357,678	10,945,571
1993	1,168	7,788	3,263	1,880,043	2,836,534	2,057,440	1,437,809	228,606	946,757	9,399,408
1994	19,275	144,589	92,352	1,761,701	3,395,503	5,929,269	1,329,997	9,587	137,067	12,819,340
1995		2,949	51,695	1,099,658	2,731,242	3,329,981	875,189	27,842	140,231	8,258,787
1996		23,954	955	591,300	1,109,237	2,007,071	1,423,352	14,131	64,337	5,234,337
1997		20,148	126,089	713,657	3,328,144	1,440,661	680,842	5,471	31,987	6,346,999
1998			96,389	1,327,259	2,023,756	2,865,190	489,068	6,788	120,389	6,928,839
1999			19,911	655,289	569,250	1,308,167	801,785	5,578	264,233	3,624,213
2000	498,470	281,481	65,952	1,389,505	527,259	1,924,107	246,291	2,950	40,908	4,976,923
2001			51,096	1,088,997	1,056,365	3,650,711	735,551	3,681	652,975	7,239,376
2002			22,013	690,515	1,601,837	2,586,313	393,597	6,987	25,907	5,327,169
2003			30,165	3,300,594	1,441,002	3,796,557	524,513	11,524	84,685	9,189,040
2004			17,494	867,589	1,717,416	4,058,426	656,920	2,320	10,826	7,330,991
2005		41,324	150,772	1,788,679	2,781,973	3,125,897	464,510	2,999	41,671	8,397,825
2006		42,143	110,608	2,895,783	3,584,930	2,770,151	1,957,703	2,823	17,306	11,381,447
2007	2,756		176,997	3,615,346	8,203,377	4,268,838	911,960	8,516	36,775	17,224,565
2008		172,828	133,996	1,892,115	4,398,473	1,843,343	2,731,815	8,903	60,889	11,242,362
2009		16,651	128,799	2,064,326	2,146,607	1,056,346	589,027	7,169	58,226	6,067,151
2010		572,078	214,180	1,164,091	1,669,843	834,560	322,885	851	83,688	4,862,176
2011		568	150,650	912,704	2,967,030	1,207,335	596,680	968	221,705	6,057,640
2012			65,555	766,145	1,350,153	784,272	1,001,664	348	65,698	4,033,835

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Table 5. Recreational releases (numbers) by state, 1981-2012

(Source: NMFS Fisheries Statistics Division, 11/23/13)

Year	NY	NJ	DE	MD	VA	NC	SC	GA	FL	Total
1981		25,740	1,502	1,331,316	8,905,412	735,408	82,035	5,975	64,344	11,151,732
1982		974,847	5,061	1,677,415	1,618,065	806,851	366,650	44,091	205,387	5,698,367
1983		57,556		1,114,795	2,715,522	634,107	192,240	39,798	186,615	4,940,633
1984			13,260	1,150,599	2,607,693	952,816	346,003	17,897	130,493	5,218,761
1985	22,220	2,979		735,873	2,051,793	429,914	515,106	17,316	170,060	3,945,261
1986		79,712		2,720,343	2,250,794	816,204	331,290	20,863	10,351	6,229,557
1987			1,104	248,973	1,736,228	593,937	304,127	28,434	57,437	2,970,240
1988		110,698	4,501	716,258	762,504	995,806	110,498	16,951	110,003	2,827,219
1989		4,503	40,193	730,580	2,519,034	524,897	138,834	1,630	22,425	3,982,096
1990		14,504	10,120	1,811,434	4,441,195	921,849	13,709	4,079	30,937	7,247,827
1991		91,991	59,770	2,123,582	7,041,156	946,564	100,666	14,629	168,284	10,546,642
1992		1,324	12,553	493,597	2,091,001	841,163	279,044	16,791	64,738	3,800,211
1993			35,987	1,573,486	1,374,950	528,449	130,055	47,667	185,226	3,875,820
1994	8,140	160,380	53,078	1,037,498	2,142,198	1,363,884	320,921	22,434	335,647	5,444,180
1995		22,162	14,195	253,827	1,166,428	1,035,361	331,781	9,799	268,765	3,102,318
1996	7,178	39,448	1,128	208,897	577,847	924,204	212,920	5,329	65,083	2,042,034
1997		21,512	88,751	1,316,341	1,365,809	450,663	245,349	990	18,102	3,507,517
1998		12,542	75,985	633,914	900,352	650,157	307,480	12,286	58,264	2,650,980
1999			15,789	618,742	339,988	633,112	86,894	10,675	530,849	2,236,049
2000	157,991	16,633	30,522	1,080,310	502,923	481,995	115,682	17,376	54,388	2,457,820
2001		2,040	13,139	577,417	968,976	1,143,695	154,077	11,714	74,232	2,945,290
2002	2,127	3,331	27,220	501,111	481,765	671,669	103,914	20,038	44,584	1,855,759
2003		39,049	13,273	670,382	933,842	1,132,992	231,612	31,055	106,918	3,159,123
2004			39,998	383,292	882,136	1,237,386	252,384	12,545	20,167	2,827,908
2005		6,755	157,445	2,135,086	2,456,981	1,539,531	127,820	8,604	52,048	6,484,270
2006		42,558	92,864	1,335,280	1,371,751	3,147,254	645,379	7,233	51,929	6,694,248
2007	1,793	137,677	44,455	1,618,690	2,156,839	1,420,660	255,362	13,813	42,605	5,691,894
2008		1,166,532	98,304	1,737,665	1,487,665	1,322,408	188,746	24,979	176,570	6,202,869
2009		7,691	140,014	632,595	1,457,588	1,222,053	326,065	11,890	71,658	3,869,554
2010	1,187	191,745	72,216	1,155,003	1,155,882	871,054	166,679	651	43,242	3,657,659
2011		1,370	66,661	296,513	2,245,221	1,000,566	222,623	12,307	178,520	4,023,781
2012		477,938	60,334	919,896	1,145,960	759,081	142,093	3,968	373,916	3,883,186

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Table 6. PRT-recommended management triggers, with highlighted years indicating values below the 10th percentile based on data through 2012.

Year	ACCSP Commercial Landings (pounds)	NMFS Commercial Landings (pounds)	Recreational Landings (numbers)	Combined NMFS Survey Index	Combined SEAMAP Survey Index	MD Chesapeake Bay Seine Survey Index
1950	10,165,400	10,165,400				
1951	12,855,900	12,855,900				
1952	14,520,700	14,520,700				
1953	7,936,600	7,936,600				
1954	8,343,000	8,343,000				
1955	8,126,400	8,126,400				
1956	11,037,500	11,037,500				
1957	9,031,700	9,031,700				
1958	9,662,000	9,662,000				
1959	9,008,700	9,008,700				
1960	10,787,600	10,787,600				
1961	7,646,400	7,646,400				
1962	7,438,200	7,438,100				
1963	6,256,300	6,256,200				
1964	8,603,400	8,603,300				
1965	4,786,800	4,786,800				
1966	5,583,600	5,583,600				
1967	10,677,700	10,677,600				0.018
1968	5,895,800	5,895,800				0.596
1969	3,893,900	3,893,900				1.226
1970	9,749,100	9,749,100				0.084
1971	5,899,500	5,899,500				0.864
1972	11,169,500	11,169,500		7.70		1.160
1973	10,419,900	10,419,800		72.10		3.264
1974	10,028,000	10,028,000		92.00		2.297
1975	12,737,400	12,737,000		59.40		4.416
1976	5,461,700	5,461,600		196.70		3.195
1977	7,056,300	7,055,800		591.90		6.891
1978	9,541,925	9,541,925		183.60		3.360
1979	11,165,310	11,165,310		326.80		2.708
1980	10,215,973	10,215,973		126.20		2.529
1981	7,502,660	7,502,660	18,227,092	233.30		1.647
1982	10,440,456	10,440,456	14,119,411	45.60		2.254
1983	7,156,792	7,156,792	20,158,832	246.80		1.074
1984	5,899,725	5,899,725	6,678,762	322.90		3.428
1985	7,175,566	7,175,566	18,636,497	51.70		1.498
1986	6,965,468	6,965,468	13,097,985	256.40		1.766
1987	8,100,756	8,100,735	9,994,920	180.20		1.174
1988	6,885,199	6,885,465	7,913,748	180.20		4.495
1989	7,052,068	7,053,374	9,022,104	453.80	325.07	0.697
1990	6,561,635	6,561,641	9,712,267	102.40	538.52	1.046
1991	7,176,813	7,176,632	14,137,171	47.60	599.44	0.809
1992	6,781,052	6,765,078	11,023,214	10.10	243.39	0.441
1993	7,315,598	7,315,577	9,413,956	7.90	129.69	1.425
1994	8,795,908	8,795,939	12,871,694	411.70	218.43	1.486

2013 REVIEW OF THE ASMFC SPOT FMP

Year	ACCSP Commercial Landings (pounds)	NMFS Commercial Landings (pounds)	Recreational Landings (numbers)	Combined NMFS Survey Index	Combined SEAMAP Survey Index	MD Chesapeake Bay Seine Survey Index
1995	7,820,831	7,489,478	8,311,446	65.10	364.65	0.096
1996	5,728,189	5,647,298	5,270,362	77.40	141.63	0.283
1997	6,572,097	6,570,132	6,351,489	29.70	203.49	1.343
1998	7,293,875	7,293,919	6,989,184	17.40	105.15	0.437
1999	5,589,301	5,589,288	3,653,547	67.80	79.77	0.607
2000	6,884,987	6,884,989	4,976,923	59.00	124.53	0.828
2001	6,770,062	6,770,093	7,239,378	0.20	177.56	0.367
2002	5,449,586	5,449,507	5,327,170	60.40	76.34	0.357
2003	5,808,901	5,808,929	9,189,041	31.00	345.02	0.306
2004	6,774,521	6,730,217	7,166,471	85.00	226.22	0.805
2005	5,122,940	5,120,448	8,166,637	187.80	438.98	3.485
2006	3,193,544	3,187,897	10,818,356	144.90	276.99	0.342
2007	5,751,644	5,684,401	15,717,617	166.20	75.70	0.609
2008	2,883,533	2,883,286	11,199,849	225.20	183.92	0.867
2009	5,534,221	5,569,679	6,035,163	136.92	216.67	0.443
2010	2,235,030	2,275,959	4,951,340	635.30	317.30	2.890
2011	5,304,161	5,267,410	5,989,066	672.08	495.60	0.065
2012	1,315,141	1,315,141	4,523,375	436.13	247.00	0.827
Trigger (10th %ile)	5,159,184	5,149,840	5,270,362	17.40	87.38	0.294

State of New Jersey
Department of Environmental Protection

Division of Fish & Wildlife

**Annual State Report for Spot: 2012 and
Fishery Summary: 2013**

October 2013

Report By: Jennifer Pyle

**Submitted to the Atlantic States Marine Fisheries
Commission as a Requirement of the Omnibus
Amendment to the Interstate Fisheries Management Plan
for Spot**

I. SUMMARY OF SPOT FISHERY AND RESOURCE MONITORING IN NEW JERSEY

In accordance with the Omnibus Amendment to the Interstate Fishery Management Plans for Spanish Mackerel, Spot, and Spotted Seatrout, the State of New Jersey herein submits its annual report on spot fisheries conducted within state waters during 2012.

II. REQUEST FOR *DE MINIMUS* STATUS

New Jersey does not request *de minimus* status.

III. NEW JERSEY SPOT FISHERY AND MANAGEMENT PROGRAM: 2012

A. Fishery Dependent Monitoring

The Bureau of Marine Fisheries does not conduct any fishery dependent monitoring for spot.

B. Fishery Independent Monitoring

The New Jersey Bureau of Marine Fisheries conducts five nearshore (within 12 nautical miles) trawl surveys each year. This survey began in 1988, and samples in January/February, April, June, August, and October. All species taken during these surveys are weighed and measured. Catch per unit effort in number of fish per tow and biomass (kilograms) per tow is calculated each year. Indices of abundance for spot are calculated for the August and October trawls only.

Marine Fisheries also conducts two additional surveys in the Delaware Estuary. A near shore fixed station trawl survey has been conducted in Delaware Bay from April through November since 1991 at eleven stations using a 16 foot otter trawl. A seine survey utilizing a bagged, 100-foot long by 6-foot deep by ¼-inch mesh beach seine has been conducted for striped bass young-of-year in the Delaware River since 1980. The survey consists of seining 32 stations twice monthly from June through November. For the seine survey, the abundance index is calculated for the lower 24 stations within the Delaware River, for the months of August through October.

Abundance indices, geometric mean, for the three surveys can be found in Table 1 and Figure 1.

C. New Jersey Regulations on Spot in 2012

New Jersey had not enacted any size or possession limits through 2012 for spot's recreational or commercial fisheries.

D. New Jersey Spot Harvest

Commercial fishery landings for spot were obtained from the National Marine Fisheries Service statistics website and recreational catch data were obtained from the Marine Recreational Information Program. All landings are listed in Table 2.

E. Habitat Requirements

No mandatory measures related to habitat are implemented through this amendment.

IV. NEW JERSEY SPOT FISHERY AND MANAGEMENT PROGRAM: 2013

A. New Jersey Regulations on Spot in 2013

See III C above for New Jersey's 2013 spot regulations.

B. Spot Monitoring Programs for 2013

There will be no fishery dependent resource monitoring program for spot in 2013. The State's three fishery-independent surveys will continue in 2013 and any spot taken will be weighed and measured.

C. Significant Changes in Management and/or Monitoring of Spot in 2013

No changes from the previous year.

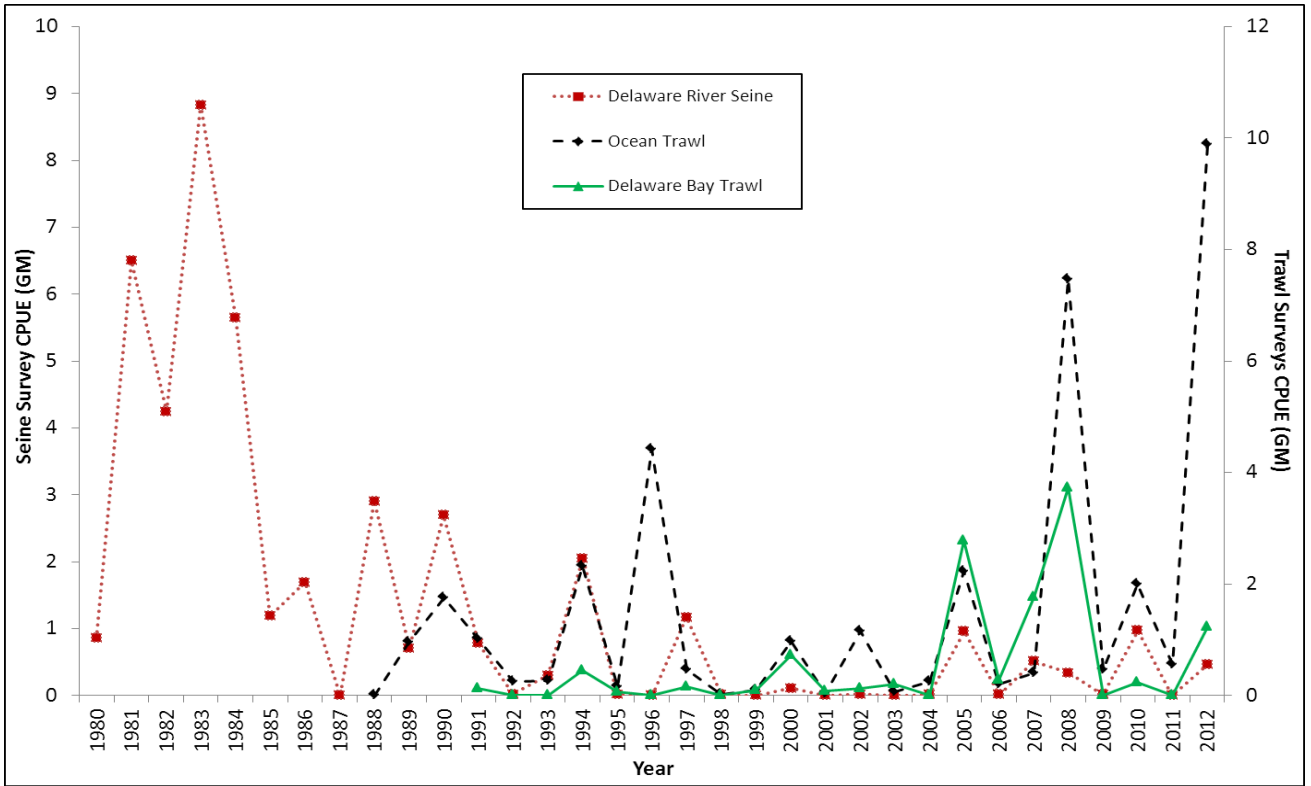
Table 1. New Jersey's Indices of Abundance, Geometric Mean, for Spot

Year	Ocean Trawl Survey	Delaware River Seine Survey	Delaware Bay Trawl Survey
1980	-	0.85	-
1981	-	6.50	-
1982	-	4.24	-
1983	-	8.83	-
1984	-	5.64	-
1985	-	1.19	-
1986	-	1.69	-
1987	-	0.00	-
1988	-	2.91	-
1989	0.95	0.71	-
1990	1.75	2.69	-
1991	1.01	0.78	0.13
1992	0.25	0.02	0.00
1993	0.27	0.30	0.01
1994	2.32	2.05	0.45
1995	0.15	0.01	0.07
1996	4.41	0.00	0.00
1997	0.46	1.17	0.15
1998	0.02	0.01	0.01
1999	0.10	0.00	0.09
2000	0.97	0.11	0.73
2001	0.04	0.00	0.08
2002	1.16	0.02	0.12
2003	0.06	0.00	0.21
2004	0.25	0.01	0.00
2005	2.23	0.96	2.77
2006	0.21	0.01	0.28
2007	0.40	0.51	1.77
2008	7.46	0.34	3.72
2009	0.47	0.01	0.01
2010	2.00	0.97	0.24
2011	0.56	0.00	0.00
2012	9.89	0.46	1.23

Table 2. New Jersey's Commercial and Recreational Spot Landings: 1950-2012

Year	Commercial (pounds)	Recreational (pounds)	Year	Commercial (pounds)	Recreational (pounds)
1950	1,400	-	1984	100	3,769
1951	126,900	-	1985	2,400	4,254
1952	310,000	-	1986	6,600	2,114
1953	86,000	-	1987	15,900	-
1954	176,200	-	1988	1,600	84,940
1955	49,200	-	1989	8,200	605
1956	46,100	-	1990	9,039	5,643
1957	172,400	-	1991	54,433	19,527
1958	1,200	-	1992	102,213	8,787
1959	11,300	-	1993	10,900	2,264
1960	300	-	1994	31,408	20,365
1962	200	-	1995	30,151	1,186
1964	100	-	1996	1,149	10,965
1967	100	-	1997	6,175	8,608
1969	6,400	-	1998	27,582	-
1970	200	-	1999	7,822	-
1971	3,100	-	2000	13,852	46,244
1972	1,200	-	2001	20,034	-
1973	9,500	-	2002	1,326	-
1974	10,500	-	2003	6,003	-
1975	58,500	-	2004	1,652	-
1976	2,400	-	2005	769	14,546
1977	20,400	-	2006	3,646	28,971
1978	10,900	-	2007	4,474	-
1979	1,800	-	2008	1,942	23,157
1980	2,400	-	2009	34,063	1,882
1981	6,000	6,174	2010	6,048	212,616
1982	1,800	85,446	2011	54,890	755
1983	800	-	2012	9,935	104,028

Figure 1. New Jersey's Indices of Abundance, Geometric Mean, for Spot



**Annual Spot Report for the State of Delaware:
Harvest, Monitoring and Conservation for 2012
and Management Program for 2013**



Report to the
Atlantic States Marine Fisheries Commission.

Compiled by Michael Greco
Delaware Division of Fish and Wildlife
Dover DE
October 2013



I. Introduction

Both recreational and commercial spot landings declined in 2012 relative to 2011. The Marine Recreational Information Program (MRIP) estimate of the number of spot harvested by the Delaware recreational fishery was 65,555 fish with an estimated total weight of 21,558 lbs. The MRIP estimate of the total number caught, including those released, was 125,889 fish. Delaware Commercial landings decreased to 18,103 lbs., the lowest level since 2002.

Average weight of spot caught by the recreational fishery was estimated to be 0.33 lbs., a slight decrease from the 2011 estimate of 0.35 lbs.

The number of spot caught per nautical mile in Delaware's adult fish research trawl survey in Delaware Bay increased in 2012 relative to the previous year and was the highest relative abundance since 1991. The young-of-year recruitment indices from the juvenile fish research trawl survey in both the Delaware Estuary and Delaware's Inland Bays (Indian River and Rehoboth Bay) increased in 2012, and were above the time series means.

II. Request for *de minimus*, where applicable

The State of Delaware does not request *de minimus* status.

III. Previous calendar year's fishery and management program

A. Activity and results of fishery dependent monitoring.

Delaware monitored the commercial fishery through mandatory monthly logbook reporting. Trip based data collected from these reports included pounds landed by species, area fished, and gear type. No additional fishery dependent monitoring of the spot commercial fishery was conducted in 2012. Delaware's 2012 reported spot landings were 18,103 lbs. (Table 1; Figure 1).

Delaware relied on the MRIP online data query for estimated recreational spot landings in 2012. An estimated 125,889 spot were harvested in Delaware in 2012 (Table 2; Figure 2).

B. Activity and result of fishery independent monitoring.

Annual relative abundance estimates (number/nautical mile) of spot in Delaware were monitored through the Division's adult ground fish bottom trawl survey. This survey was conducted annually since 1990; prior surveys were conducted from 1966-1971 and 1979-1984. Spot ranked third in abundance by number and fourth by weight of all species collected in the 2012 sampling (Greco 2013). The relative abundance of spot increased to 88.61, a 351% increase from the 2011 index, and remained above the time-series mean in 2012 (Table 3; Figure 3).

The Division monitored juvenile fish relative abundance through a 16-ft bottom trawl survey which was conducted annually since 1980. Separate spot young of

the year (YOY) indices were generated for the Delaware Estuary (Bay and River) and Delaware's Inland Bays. YOY spot recruitment in 2012 increased relative to 2011 to 7.56 spot per tow (geometric mean) for the Delaware Estuary and was above the time series mean and median (Table 4 and Figure 4). The Inland Bays YOY index increased to 18.49 per tow, and was the highest level since 1994 (Table 4, Figure 5).

C. Copy of regulations that were in effect.

1. Commercial Fishery

Delaware does not have any species specific regulations that pertain to spot.

2. Recreational Fishery

Delaware does not have any species specific regulations that pertain to spot.

D. Harvest broken down by commercial and recreational.

Commercial Fishery

Spot reported commercial landings declined approximately 81% relative to 2011 to 18,103 lbs., the lowest level since 2002 (Table 1, Figure 1). As in previous years, gill net gear dominated landings, accounting for 97.9% of commercial landings (Table 5). Commercial hook and line gear comprised 1.9% of the commercial landings. Landings peaked in August, accounting for 55% of the total harvest (Table 6).

Recreational Fishery

The 2012 recreational harvest was estimated at 65,555 fish and 21,558 lbs. by the MRIP. This harvest was the lowest estimated since 2004 (Table 2; Figure 2). The estimated total number caught (including those released) was 125,889 fish, the lowest since 2004 (Table 2). The mean weight of harvested spot was 0.33 lbs, based on MRIP estimates (Table 2, Figure 6).

E. Review of progress in implementing habitat recommendations.

N/A

IV. Planned management programs for the current calendar year

A. Summary of regulations for current year (Attachment – 1).

3. Commercial Fishery

There are no changes in regulations pertaining to spot in effect or anticipated for the current year.

4. Recreational Fishery

There are no changes in regulations pertaining to spot in effect or anticipated for the current year.

B. Summary of monitoring programs.

1. Commercial Fishery

The Division will continue to monitor commercial landings through mandatory commercial logbook reports.

2. Recreational Fishery

Delaware will rely on the Marine Recreational Information Program for the collection and characterization of spot caught recreationally in Delaware waters.

3. Research Trawl Survey Samples

Delaware will continue to monitor spot relative abundance and young of the year recruitment through the Division's research trawl surveys.

REFERENCE CITED

Greco, M. J. 2013. Coastal Finfish Assessment Survey, Federal Aid in Fisheries Restoration Project F-42-R-24. Annual Report. Delaware Division of Fish and Wildlife, Dover.

Table 1. Reported commercial landings for spot caught in Delaware waters, 1985-2012.

Year	Pounds
1985	17,237
1986	86,455
1987	140,109
1988	37,722
1989	31,249
1990	23,864
1991	262,498
1992	112,967
1993	21,862
1994	100,435
1995	62,324
1996	80,930
1997	35,686
1998	140,363
1999	47,770
2000	32,288
2001	74,144
2002	13,099
2003	66,509
2004	56,029
2005	125,685
2006	62,824
2007	128,207
2008	32,649
2009	71,449
2010	60,416
2011	93,776
2012	18,103

Table 2. Recreational harvest, total catch and hook and release mortality for Delaware 1981-2012.
 Source: MRFSS, NMFS. Catch includes both landed and released fish.

Year	Harvest Number	PSE (%)	Harvest Pounds	PSE (%)	Mean Weight (lbs)	Total Catch	PSE (%)	Number Released	Estimated Catch & Release Mortality	Total Loss
1981	17,508	93.9	8,046	97.2	0.46	19,010	86.8	1,502	150	17,658
1982	82,094	48.2	19,281	48.7	0.23	87,155	45.7	5,061	506	82,600
1983	14,464	44.1	4,017	44	0.28	14,464	44.1	0	0	14,464
1984	15,553	66.3	5,715	67	0.37	28,813	44.1	13,260	1,326	16,879
1985	-	-	-	-	-	-	-	-	-	-
1986	12,178	77.2	3,835	77.7	0.31	12,178	77.2	0	0	0
1987	0	-	-	-	-	1,104	100	1,104	110	2,470
1988	2,360	47.5	1,876	46.8	0.79	6,862	38.1	4,501	450	46,303
1989	45,853	41.5	10,367	42.7	0.23	86,046	28.5	40,193	4,019	48,381
1990	44,362	30	11,821	31.3	0.27	54,482	25.1	10,120	1,012	139,125
1991	138,113	30.8	48,099	28.1	0.35	197,884	22.8	59,770	5,977	96,030
1992	90,053	18.4	36,799	19.3	0.41	102,606	16.5	12,553	1,255	4,518
1993	3,263	38	844	50.9	0.26	38,250	55.1	35,987	3,599	95,951
1994	92,352	21.1	34,795	21.7	0.38	145,430	17.2	53,078	5,308	57,003
1995	51,695	41	22,919	43.8	0.44	65,890	33.2	14,195	1,420	2,375
1996	955	75.1	789	81.2	0.83	2,082	47	1,128	113	126,202
1997	126,089	27.3	50,781	29.5	0.40	214,841	20	88,751	8,875	105,264
1998	96,389	32.5	36,659	32.2	0.38	172,374	21.4	75,985	7,599	27,510
1999	19,911	58.7	10,886	17	0.55	35,700	36.6	15,789	1,579	67,531
2000	65,952	35.2	32,968	36.9	0.50	96,474	25.8	30,522	3,052	69,004
2001	51,096	34.7	20,110	34.6	0.39	64,235	28.2	13,139	1,314	52,410
2002	22,013	38.6	10,870	39.5	0.49	49,234	25	27,220	2,722	24,735
2003	30,165	33.1	14,386	37.8	0.48	43,438	25.2	13,273	1,327	31,492
2004	17,494	43.4	6,919	43.2	0.40	57,492	34.3	39,998	4,000	21,494
2005	150,772	30.1	68,075	30.5	0.45	308,218	21	157,445	15,745	166,517
2006	110,608	38.6	38,010	43	0.34	203,472	24.7	92,864	9,286	119,894
2007	176,997	35.6	74,531	36	0.42	221,451	29.3	44,455	4,446	181,443
2008	133,996	24.8	42,078	27.8	0.31	232,300	19.8	98,304	9,830	143,826
2009	128,799	59.1	48,465	59	0.38	268,396	40.5	140,014	14,001	142,800
2010	214,180	44.9	74,641	44.2	0.35	286,396	34.8	72,216	7,222	221,402
2011	150,650	56	52,120	54.8	0.35	217,311	41.2	66,661	6,666	157,316
2012	65,555	37.2	21,558	36.7	0.33	125,889	25.7	60,334	6,033	71,588
Average	70,047	43	27,075	43	0	111,596	37	41,594	4,159	75,941

Table 3. Spot relative abundance from 30-foot trawl sampling in the Delaware Bay, 1966-2012.

Year	# of Tows	# / NM	Kg / NM	Kg / Tow	# / Tow
1966	56	25.50	0.00	0.00	30.91
1967	75	0.05	0.00	0.00	0.05
1968	40	0.00	0.00	0.00	0.00
1969	42	22.07	0.00	0.00	21.87
1970	35	1.83	0.00	0.00	2.17
1971	39	56.80	0.00	0.00	99.36
1979	99	3.72	0.20	0.21	3.71
1980	93	7.29	0.53	0.49	6.82
1981	98	17.07	0.69	0.76	18.82
1982	40	28.95	1.34	1.42	30.85
1983	38	9.11	0.81	0.57	6.43
1984	45	64.90	4.34	3.79	55.84
1990	61	117.20	8.42	8.68	121.90
1991	71	116.64	12.57	13.97	128.72
1992	89	18.57	2.02	2.24	20.51
1993	83	22.56	2.09	2.23	24.07
1994	71	20.14	1.19	1.29	21.87
1995	88	9.04	1.50	1.59	9.57
1996	76	1.90	0.15	0.17	2.09
1997	89	48.18	3.37	3.98	56.74
1998	80	5.55	0.73	0.79	5.91
1999	87	5.42	0.79	0.88	6.00
2000	90	21.95	2.13	2.17	22.51
2001	90	1.09	0.08	0.08	1.19
2002	68	6.77	0.55	0.67	8.27
2003	63	0.34	0.04	0.04	0.33
2004	90	1.27	0.13	0.14	1.31
2005	90	14.85	1.38	1.47	15.50
2006	90	33.00	3.05	3.08	33.26
2007	90	32.06	2.81	3.45	38.38
2008	90	48.46	2.74	2.72	47.96
2009	90	12.55	1.18	1.18	12.58
2010	90	44.57	3.59	3.60	44.78
2011	90	19.64	1.97	1.90	19.07
2012	90	88.61	4.30	4.34	89.56

Table 4. Annual YOY indices, expressed as the geometric mean of the catch per tow, for spot collected in Delaware Division of Fish & Wildlife 16 ft. trawl surveys, 1980-2012.

Year	YOY Indices	
	Delaware Bay	Inland Bays
1980	0.81	-
1981	4.34	-
1982	10.9	-
1983	1.98	-
1984	4.06	-
1985	0.57	-
1986	1.55	3.39
1987	0.03	0.12
1988	17.82	42.93
1989	6.4	23.12
1990	5.37	6.27
1991	4.2	12.08
1992	0.09	0.06
1993	0.97	2.23
1994	10.19	42.87
1995	0.06	1.11
1996	0.11	0.34
1997	2.04	10.11
1998	0.22	0.29
1999	0.68	1.85
2000	1.87	2.23
2001	0.07	0.19
2002	0.62	3.59
2003	0.22	0.65
2004	0.38	4.63
2005	8.86	7.27
2006	0.54	0.98
2007	2.42	0.85
2008	6.02	11.67
2009	0.25	0.21
2010	4.46	4.34
2011	0.11	0.12
2012	7.56	18.49
Mean 1980-2011	2.26	7.06
Median 1980-2011	0.65	2.23

Table 5. Reported commercial landings, by gear, for spot caught in Delaware waters, 2012.

Gear	Landings (Lbs.)	Percent
Fixed Gill Net	10	0.06%
Drift Gill Net	17,713	97.85%
Hook & Line	350	1.93%
Fish Pot / Trap	30	0.17%
Total	18,103	100%

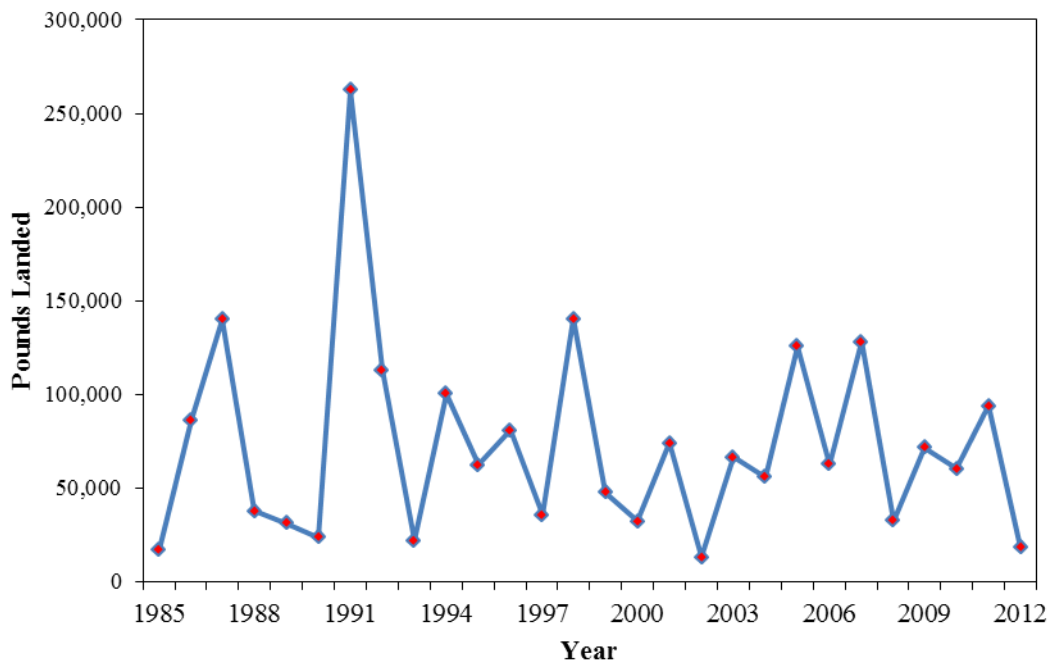


Figure 1. Delaware's commercial spot landings, 1985-2012.

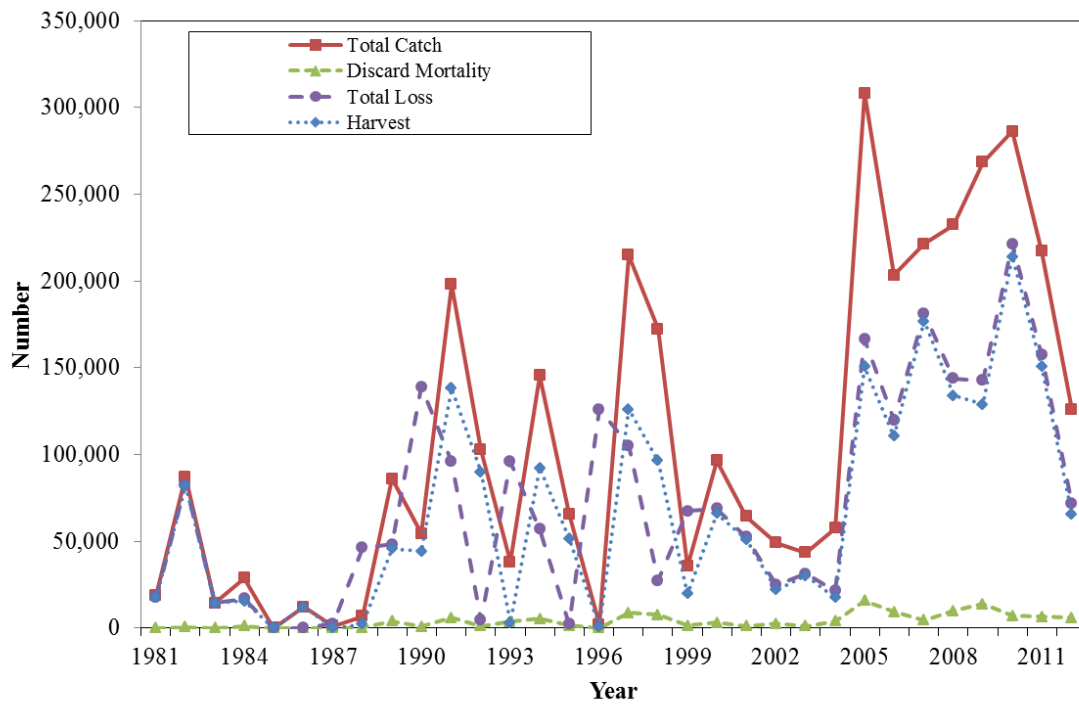


Figure 2. Delaware recreational spot estimates, 1990-2012.

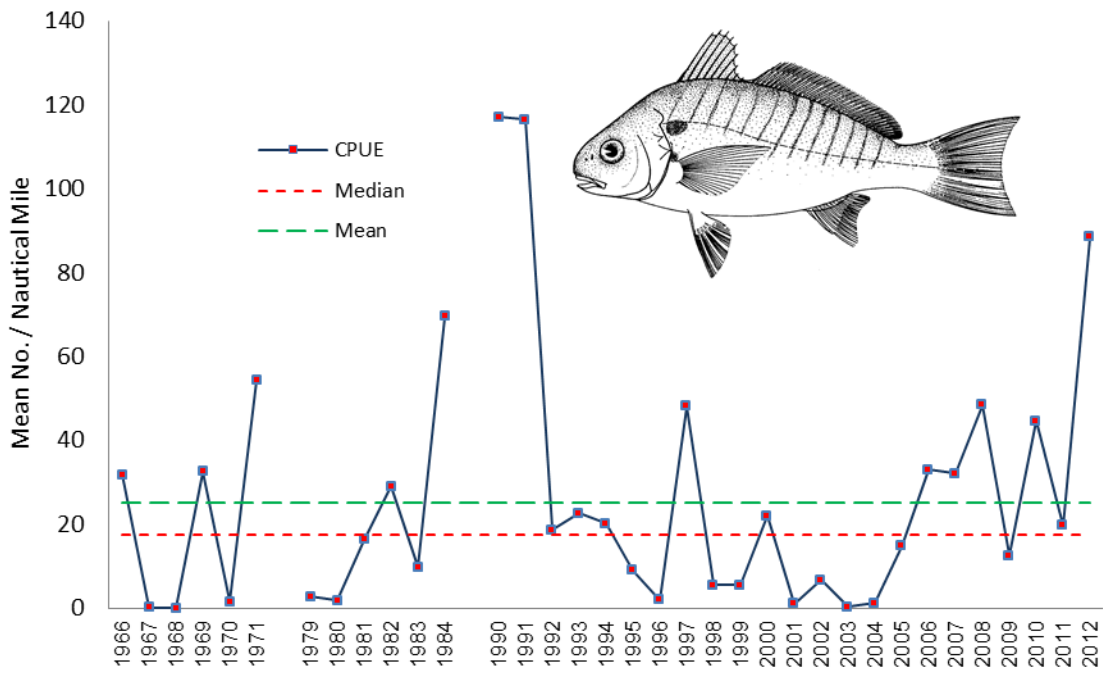


Figure 3. Spot relative abundance (mean number per nautical mile), time series (1966 – 2011) mean and median as measured in 30-foot trawl sampling in the Delaware Bay.

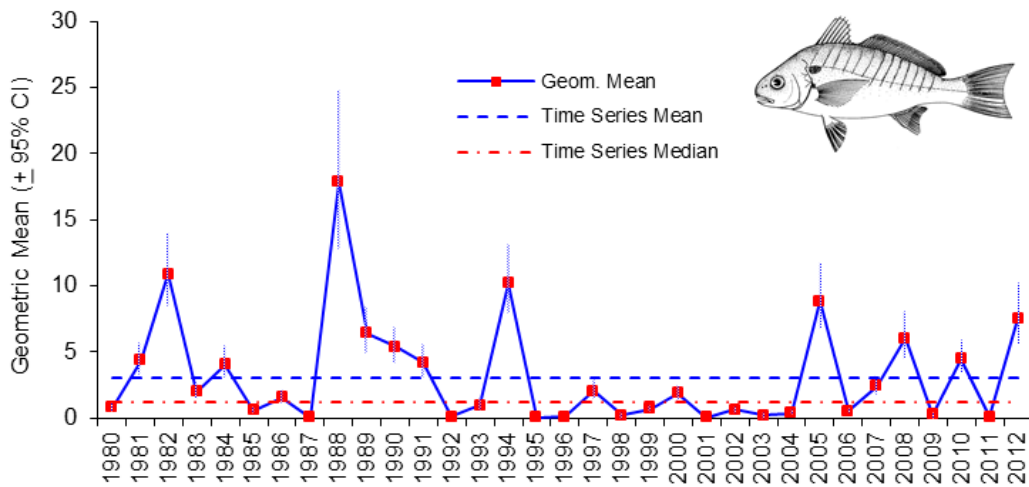


Figure 4. Index of young-of-the-year spot abundance, time series mean (1980 – 2011) and time series median as measured by 16-foot trawl sampling in the Delaware estuary.

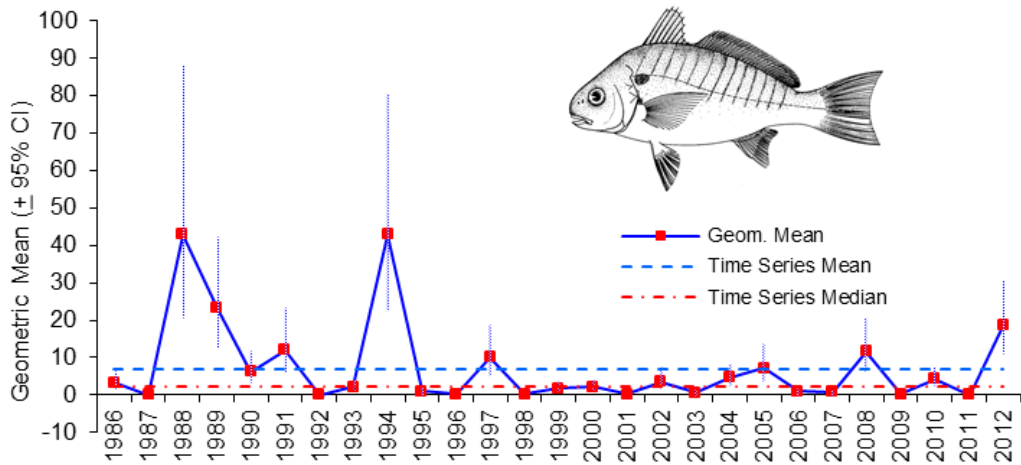


Figure 5. Index of young-of-the-year spot abundance, time series mean (1986 – 2011) and time series median as measured by 16-foot trawl sampling in Delaware’s Inland Bays.

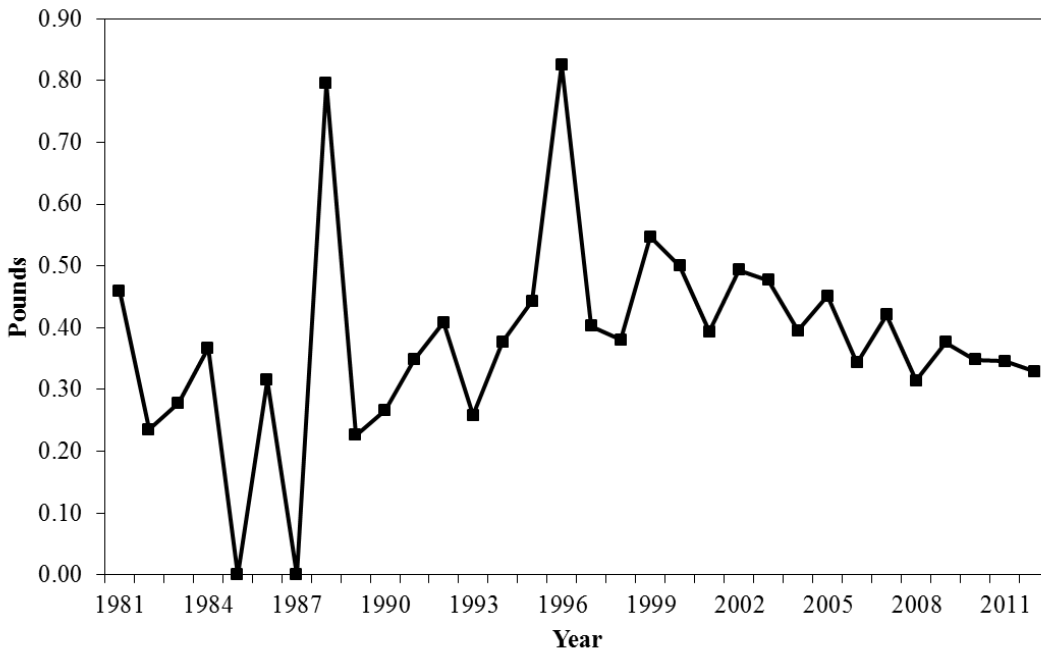


Figure 6. Average weight of spot harvested in the Delaware recreational fishery, 1990-2012.



Martin O'Malley, Governor
Anthony G. Brown, Lt. Governor
Joseph P. Gill, Secretary
Frank W. Dawson III, Deputy Secretary

Maryland Spot (*Leiostomus xanthurus*) Compliance Report to the Atlantic States Marine Fisheries Commission - 2012

Prepared by

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**Maryland Department of Natural Resources
Fisheries Service**

October 2013

I. Introduction

Spot (*Leiostomus xanthurus*) are found in Maryland's Chesapeake Bay, offshore waters and coastal bays from late spring through late fall or early winter. Spot support important recreational and commercial fisheries in Maryland. They are part of a mixed species fishery, with commercial catch historically dominated by pound nets, and recreational harvest primarily from bottom fishing boat anglers. Spot is a popular live bait, primarily being used to target striped bass. Maryland waters also provide extensive juvenile spot habitat.

Maryland has a no minimum size limit, season, creel limit or quota for either commercial or recreational fishermen. Preliminary 2012 commercial harvest of 100,347 pounds decreased five fold compared to the 2011 harvest of 553,010 pounds. The recreational harvest estimate decreased 16% to 766,147 fish in 2012, and 2012 release estimates increased over threefold from 2012 levels to 919,896 fish.

II. Request for *de minimis* status

Maryland does not qualify for *de minimis* status.

III. 2012 Fishery and Management Programs.

a. Fishery dependent monitoring

MD DNR fisheries biologists sampled commercial pound nets bi-weekly in Maryland's portion of the Chesapeake Bay from May 22 through September 11, 2012. Spot mean length from the onboard sampling decreased in 2012 to 179 mm TL (n=1,508), the lowest value of the 18 year time series (Table 1). The onboard sampling length frequency distribution in 2012 shifted to smaller length fish (Figure 1). The 150 and 160 mm TL groups accounted for 64 % of sampled spot. One jumbo spot (>254 mm TL) was present in the 2012 onboard sampling accounting for less than 0.1% of the sample. Abundance of jumbo spot in the survey has been low for the past several years (0-3% of sample, 2005-2011). This followed good catches in the early part of the decade (10% in 2003, 13% in 2004).

Ages derived from pound net caught spot otoliths in 2012 ranged from 0 to 2 (n=226). The number of spot sampled for length in 2012 (n=1,408) was applied to the age-length key for 2012 (Table 2). This application indicated that 39% of the fish were age zero, 60% were age one and 1% were age two. Otoliths and lengths were taken from all size groups of spot encountered prior to the fishermen deciding what they would keep for the day. Therefore the age structure is for all spot captured in pound nets and not of the actual harvest. Age one spot dominated the pound net catch from 2007 to 2011, accounting for 75% to 99% of sampled fish. During this same time period, age zero and age two fish were present every year, with age zero accounting for 0.4% to 24.3% of sampled spot and age two accounting for 0.2% to 3.3%. Since the majority of recent landings are from gill nets, this age structure likely does not reflect what is being landed in Maryland. Gill net caught fish will be larger and most likely older (age 1-3). The second most common gear currently is fish pots, which are targeting small spot to use as bait.

b. Fishery independent monitoring

Four juvenile indices were calculated, two from the Maryland portion of Chesapeake Bay and two from the Maryland coastal bays. Finfish collected by Maryland's Chesapeake Bay Blue Crab Trawl Survey have been enumerated since 1980, (Davis et al.1995). However, since some data entry inconsistencies make electronic data files prior to 1989 incomplete for all species, only data from 1989 through 2010 were used to generate a Chesapeake Bay spot juvenile index. The Chester River, Eastern Bay, Choptank River, and Patuxent River each contain six fixed sampling locations, while Tangier Sound has five stations and Pocomoke Sound, eight. Each site is sampled once a month from May thru October. A 4.9 m semi-balloon otter trawl with a body and cod end of 25-mm-stretch-mesh and a 13-mm-stretch-mesh cod end liner is towed for 6 min at 4.0-4.8 km/h. A Chesapeake Bay juvenile trawl index was calculated as the geometric mean catch per tow. The spot Chesapeake Bay juvenile index has been variable throughout the time series. The index increased to 16.4 in 2012, which is near the 24 year time series mean of 18.3 fish per tow (Figure 2, Table 3).

The second JI was derived from the Striped Bass Juvenile Seine Survey (JSS). This survey uses a 100ft long by 4 foot deep beach seine at fixed stations in five areas of Maryland's Chesapeake Bay. Durell and Weedon (2005) describe the survey methods and index calculation in detail. The JSS index is calculated as a geometric mean catch per haul from 1959 -2012. The JSS has permanent and auxiliary sites, only permanent sites were used in index calculations for this report, and sampling frequency was standardized in1967, so that is the first year of the JI time series. The 2012 GM catch per haul was 0.827, which was bellow the 46 year time series mean of 1.54 (Figure 3, Table 3).

A 4.9-m semi-balloon otter trawl has been used to sample Maryland's Atlantic coastal bays since 1972 (Bolinger *et al* 2007). Since 1989, 20 fixed stations have been trawled for six minutes at monthly intervals during April-October. Prior to 1989, monthly effort, tow time and locations sampled varied considerably. Consequently, index values for juvenile spot prior to 1989 are not as reliable and, therefore, were not computed. The geometric mean catch per hectare (GM) of juvenile spot was used as a standardized index of abundance (Bolinger *et al* 2007). The 2012 GM of 242.7 was the highest value of the 24 year time series and well above the mean of 16.9 (Figure 4, Table 3).

The final juvenile index is derived from the coastal bays seine survey, which utilized a seine similar to the JSS, except for depth (6 ft vs. 4 ft) and the addition of a single central bag. Nineteen fixed stations were sampled once a month in June and September, and the corresponding Coastal Seine Index was calculated using all sites to derive an annual geometric mean catch per haul. Both Atlantic Program sampling efforts have been conducted since 1972, but sites and frequency were not standardized until 1989 (Angel Willey personal communication, 2007). Therefore, only 1989-2012 data was used for this analysis. The 2012 GM catch per haul was 74.9 the second highest value of the 24 year time series and well above the time series mean of 16.9 (Figure 5, Table 3). Both coastal bay indices indicate a very strong 2012 year class in Maryland's coastal bays.

c. Spot Regulations

Maryland has no regulations specific to spot. Neither commercial nor recreational fishermen are subject to any season, size limit, creel limit or quota. All general licensing and gear regulations do apply to spot.

d. Commercial and Recreational Harvest

Commercial Harvest

The following 2012 landings are considered preliminary and may change slightly. The 2012 commercial harvest of 100,347 pounds decreased 82% compared to the 2011 harvest of 553,010 pounds (Table 4, Figure 6), and was below the 1950-2012 mean of 171,539 pounds. Gill nets accounted for 60% of the harvest followed by fish pots 22%, hook and line 9% and pound net 7% (Table 5). It is likely most of the spot from fish pots were small individuals sold live as bait. Spot landings were approximately 550,000 pounds from 2009-2011, well above the long term mean. Over 99% of the preliminary MD harvest in 2012 was from the Chesapeake Bay and the remaining catch occurred in Atlantic coastal waters and Maryland's coastal bays.

Recreational Harvest

Recreational harvest estimates from the Marine Recreational Information Program (MRIP) for Maryland decreased 16% from 912,704 fish (PSE = 18.6) in 2011 to 766,147 fish (PSE = 30.4) in 2012 (Table 4, Figure 7; MRIP 2013, personnel communication). Estimated spot harvest in 2012 was the 6th lowest of the 1981-2012 time series, and well below the mean of 1,620,289 fish harvested per year. Recreational release estimates for spot in Maryland increased over threefold from 296,513 fish (PSE = 31.4) in 2011 to 919,896 fish (PSE = 23.9) in 2012 (Table 4, Figure 7; MRIP 2013, personnel communication). The 2012 release estimate was slightly below the long term average of 1,098,722 fish per year.

Maryland charter boat captains are required to maintain daily logs of where they fish, how many fish of each species they harvest, how many they release and how many anglers participated. No indication of target species is recorded, so the catch per unit effort (CPUE) includes only trips in which spot were captured. The number of anglers was used as effort and the number of spot harvested was used as catch. The annual geometric mean number of spot per angler was calculated for 1993-2012. The 2012 data is preliminary but should not change significantly. Reported charter boat harvest and effort peaked in 2000, and both have generally declined since 2007 (Figure 8). Geometric Mean CPUE increased from 5.9 fish per angler in 2001 to 10.6 fish per angler in 2007 and has been more variable in recent years. (Figure 9). The 2012 value of 6.3 is below the long term mean of 8.0 fish per angler. Over 99% of spot caught by charter boat anglers were harvested. Spot are used as live bait for striped bass by some charter captains. It is not uncommon to have clients catch spot for bait before, or after, fishing for striped bass. There is no way to discern which trips were targeting spot as a bait fish as opposed to a food fish.

e. Habitat Recommendations

There were no habitat requirements for spot in the Omnibus Amendment.

IV. Planned Mangement Programs for 2013

- a.** No regulation changes are planned for 2013

- b. Maryland will continue to monitor commercial pound nets and collect otoliths for aging. All fishery independent sampling will continue in 2013.

V. Plan Specific Requirements

The Omnibus Amendment contains no plan specific requirements for spot.

References

- Bolinger, A., S. Doctor, A. Luettel, M. Luisi, and G. Tyler. 2007. Investigation of Maryland's Coastal Bays and Atlantic Ocean Finfish Stocks. Federal Aid Project Report No. F-50-R-15. Maryland Department of Natural Resources. Annapolis, Maryland.
- Davis, G. R., B. K. Daugherty, and J. F. Casey. 1995. Analysis of blue crab, *Callinectes sapidus*, stocks in the Maryland portion of the Chesapeake Bay from summer trawl data. Maryland Department of Natural Resources, Annapolis, Maryland.

Table 1. Spot mean total length in mm, standard deviation and number sampled from the onboard pound net survey, 1993 – 2012.

Year	Mean Length mm	Std. Deviation	n
1993	184	28	309
1994	207	21	451
1995	206	28	158
1996	235	28	275
1997	190	35	924
1998	230	16	60
1999	213	25	572
2000	230	21	510
2001	239	33	126
2002	184	36	681
2003	216	30	1,354
2004	208	36	882
2005	197	37	2,818
2006	191	29	2,195
2007	208	23	519
2008	198	21	1,195
2009	185	21	33
2010	201	22	51
2011	193	18	582
2012	179	24	1,508

Table 2. Proportion at age, number of length samples and number of age samples for spot captured in commercial pound nets, 2007-2012.

Year	Age 0	Age 1	Age 2	Age 3	Age 4	Ages	Lengths
2007	21.26	75.03	3.32	0.00	0.39	98	519
2008	20.77	78.62	0.61	0.00	0.00	206	1,201
2009	7.75	90.70	1.55	0.00	0.00	232	614
2010	5.87	90.12	4.01	0.00	0.00	91	300
2011	0.37	99.39	0.23	0.01	0.00	173	582
2012	39.46	59.80	0.74	0.00	0.00	230	1,408

Table 3. Maryland juvenile spot geometric mean indices. Both seines and the Chesapeake trawl are per haul and the coastal bays trawl is per hectare.

Year	Chesapeake Bay		Coastal Bay	
	Trawl Geometric Mean	Seine Geometric Mean	Trawl Geometric Mean	Seine Geometric Mean
1967		0.02		
1968		0.60		
1969		1.23		
1970		0.08		
1971		0.86		
1972		1.16		
1973		3.26		
1974		2.30		
1975		4.42		
1976		3.19		
1977		6.89		
1978		3.36		
1979		2.71		
1980		2.53		
1981		1.65		
1982		2.25		
1983		1.07		
1984		3.43		
1985		1.50		
1986		1.77		
1987		1.17		
1988		4.50		
1989	41.61	0.70	24.31	15.26
1990	46.33	1.05	18.73	16.90
1991	19.52	0.81	13.30	8.36
1992	1.72	0.44	0.90	1.33
1993	10.53	1.42	4.10	5.06
1994	53.00	1.49	145.74	96.33
1995	0.36	0.10	2.01	3.33
1996	2.71	0.28	1.20	1.91
1997	15.32	1.34	57.61	46.51
1998	2.43	0.44	2.86	2.39
1999	2.86	0.61	7.13	8.05
2000	7.21	0.83	26.90	14.08
2001	2.02	0.37	1.84	1.71
2002	1.35	0.36	58.19	19.69
2003	1.77	0.31	2.39	2.99
2004	4.03	0.80	4.20	4.60
2005	52.96	3.49	35.00	16.90
2006	7.50	0.34	5.29	4.17
2007	14.09	0.61	19.37	12.98
2008	25.27	0.87	140.36	33.38
2009	1.23	0.44	2.07	2.47
2010	104.45	2.89	13.66	10.58
2011	0.57	0.07	0.92	1.52
2012	16.39	0.83	242.69	74.93

Table 4. Maryland spot commercial harvest in pounds and MRIP recreational estimated harvest in numbers.

Commercial				Recreational		
Year	Pounds	Year	Pounds	Year	Number Harvested	Number Released
1929	117,557	1971	20300	1981	948,931	1,331,316
1930	126,295	1972	73700	1982	2,864,603	1,677,415
1931	100,526	1973	27,100	1983	1,600,362	1,114,795
1932	47,877	1974	37,000	1984	904,793	1,150,599
1933	30,527	1975	102,900	1985	1,028,391	735,873
1934	62,100	1976	16,400	1986	3,789,796	2,720,343
1935	18,000	1977	16,400	1987	3,180,704	248,973
1936	36,700	1978	31,300	1988	277,964	716,258
1937	27,600	1979	10,600	1989	1,154,314	730,580
1938	59,900	1980	6,265	1990	2,120,655	1,811,434
1939	171,200	1981	14,214	1991	1,841,555	2,123,582
1940	141,000	1982	6,154	1992	1,671,897	493,597
1941	141,000	1983	129377	1993	1,880,043	1,573,486
1942	138,000	1984	43,318	1994	1,761,701	1,037,498
1943	186803	1985	7,640	1995	1,099,658	253,827
1944		1986	104,373	1996	591,300	208,897
1945	208,827	1987	252,152	1997	713,657	1,316,341
1946	129,328	1988	57,975	1998	1,327,259	633,914
1947	120,630	1989	116,043	1999	655,289	618,742
1948	111,950	1990	103,991	2000	1,389,505	1,080,310
1949	248,713	1991	216,035	2001	1,088,997	577,417
1950	100,725	1992	255,010	2002	690,515	501,111
1951	128,554	1993	183,357	2003	3,300,594	670,382
1952	420,098	1994	149,889	2004	867,589	383,292
1953	283,817	1995	330,021	2005	1,788,679	2,135,086
1954	258,178	1996	89,149	2006	2,895,783	1,355,280
1955	407,699	1997	76,193	2007	3,615,346	1,618,690
1956	300,502	1998	261,523	2008	1,892,115	1,737,665
1957	589,001	1999	214,656	2009	2,064,326	632,595
1958	593,120	2000	137,438	2010	1,164,091	1,155,003
1959	84,904	2001	220,072	2011	912,704	296,513
1960	498,376	2002	127,914	2012	766,145	919,896
1961	10,519	2003	169,298			
1962	26,900	2004	177,914			
1963	15,200	2005	84,254			
1964	33,900	2006	37,774			
1965	600	2007	380,648			
1966	4100	2008	120,994			
1967	248300	2009	520,152			
1968	45,600	2010	580,694			
1969	20700	2011	553,010			
1970	572600	2012	100,347			

Table 5. Maryland 2012 preliminary commercial spot harvest by gear.

Gear	Pounds	%
Gill Nets	59,964	59.76%
Fish Pots	21,954	21.88%
Hook and Line	8,732	8.70%
Pound Nets	6,533	6.51%
Eel Poots	1,764	1.76%
Bank Traps - blue crab	1,349	1.34%
Fyke Nets	46	0.05%
Otter Trawl	5	0.00%
Total	100,347	

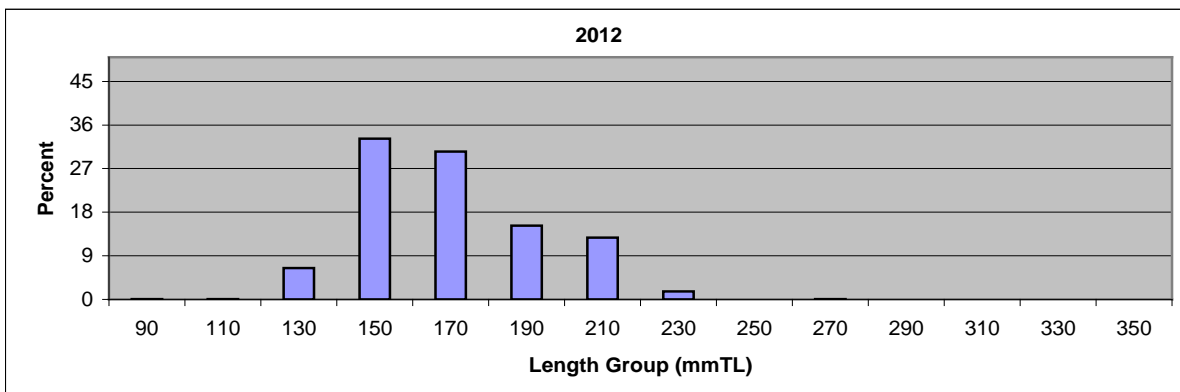
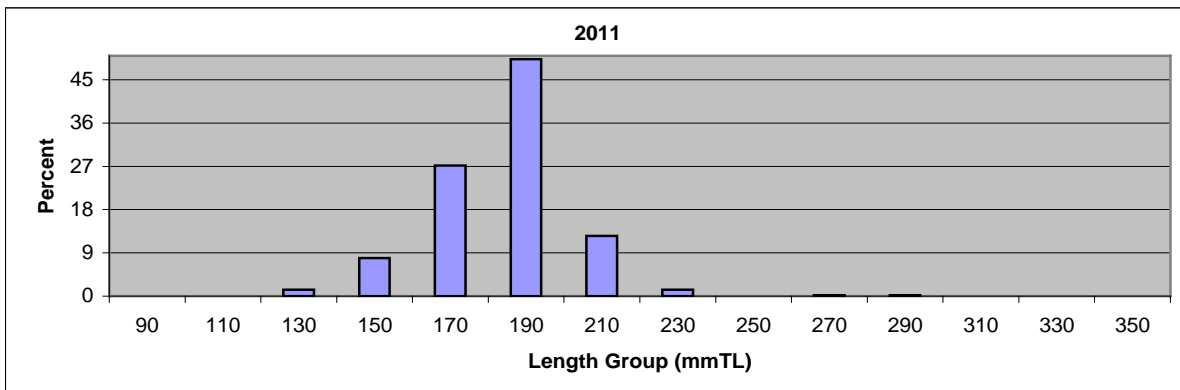
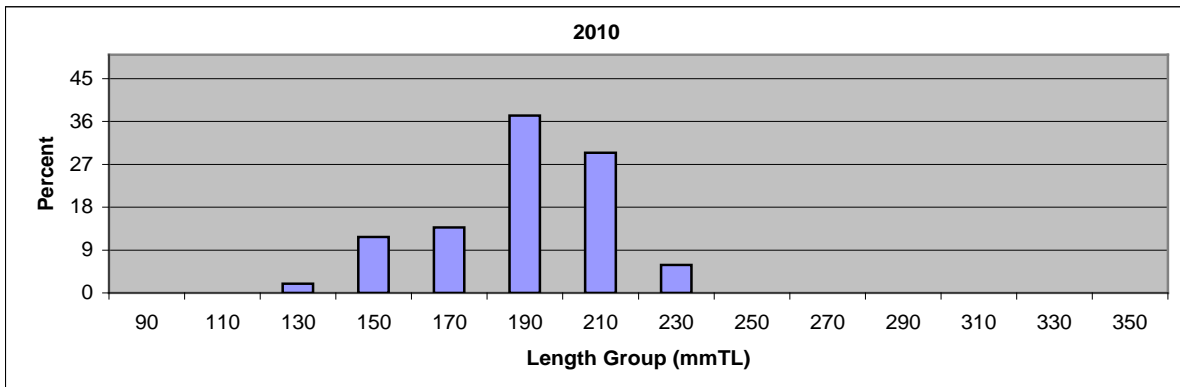
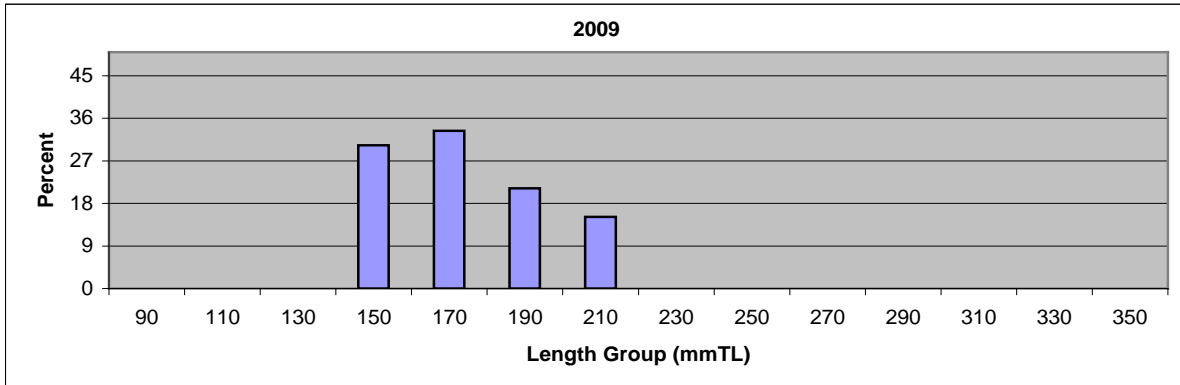


Figure 1. Spot length frequency distributions from onboard pound net sampling, 2009-2012.

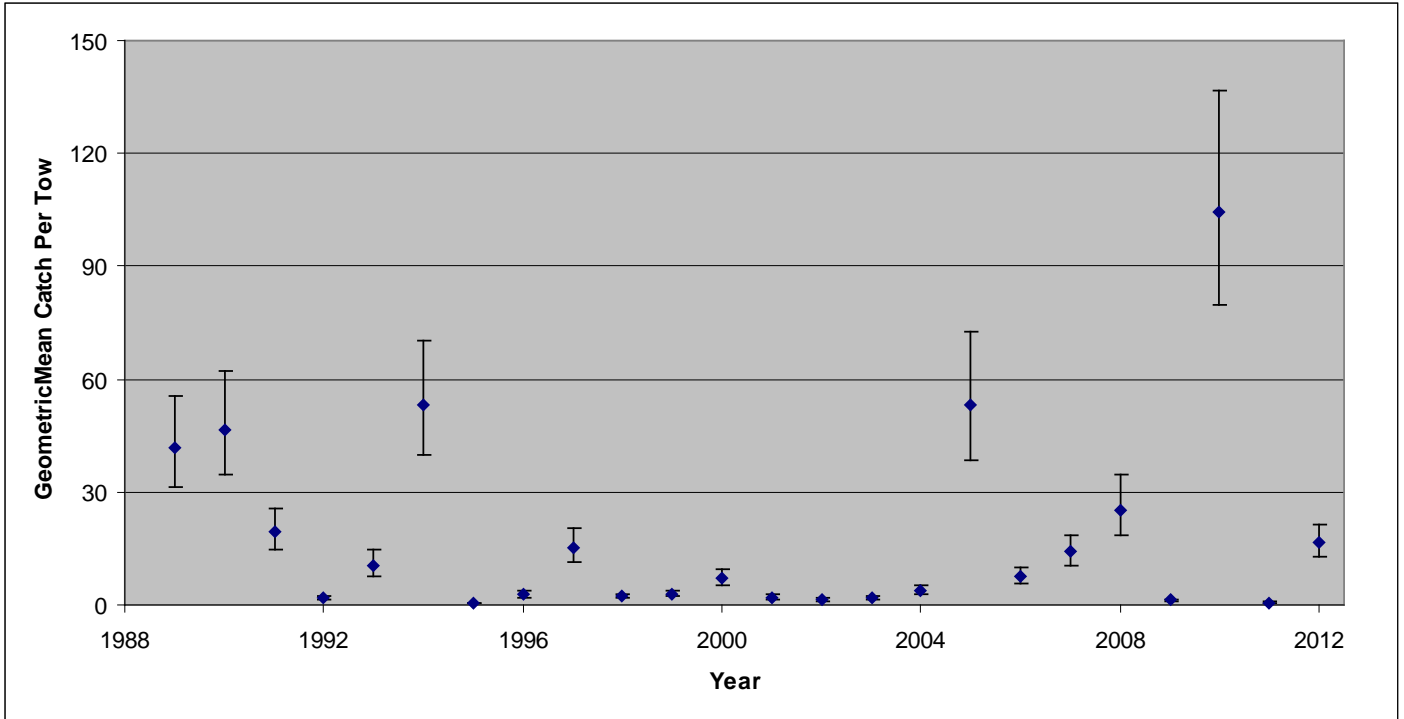


Figure 2. Chesapeake Bay Blue Crab Trawl juvenile spot annual geometric mean catch per tow and upper and lower 95% confidence limits, 1989-2012.

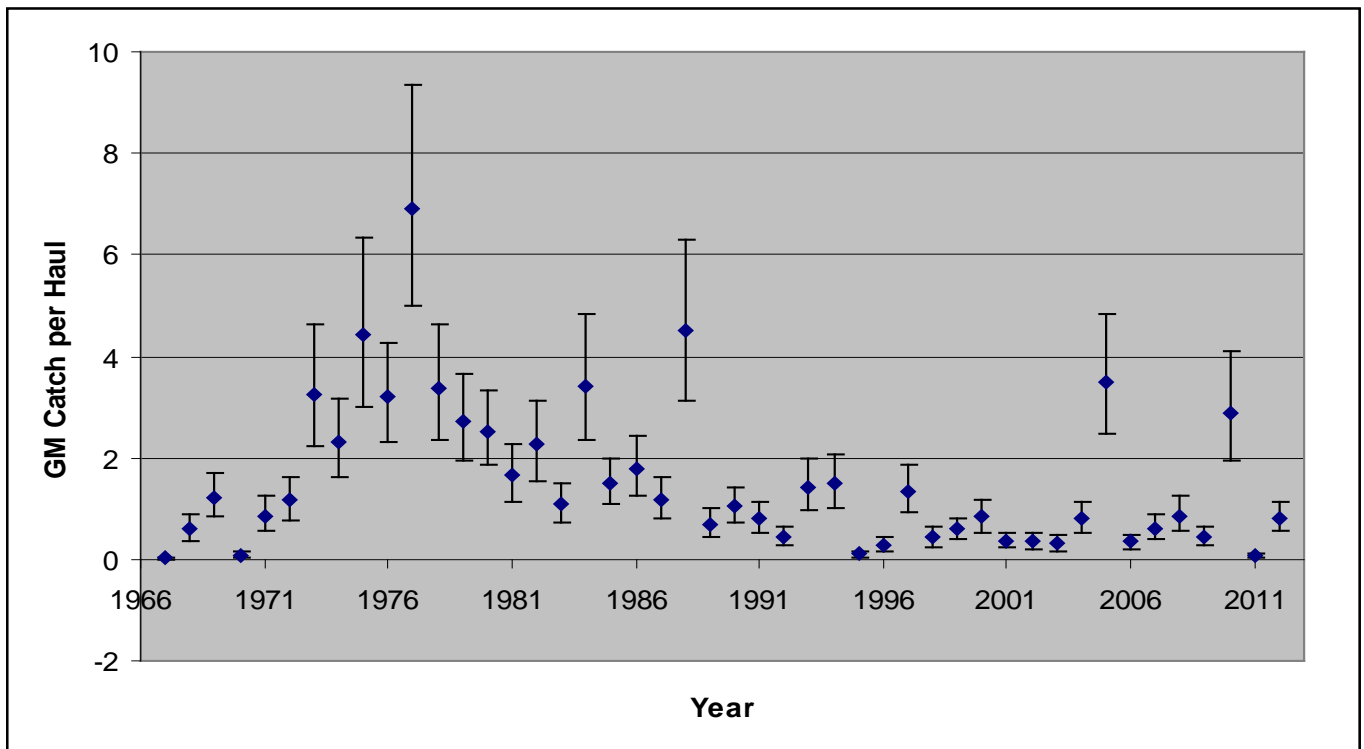


Figure 3. Chesapeake Bay juvenile seine survey juvenile spot annual geometric mean catch per haul and upper and lower 95% confidence limits, 1989-2012.

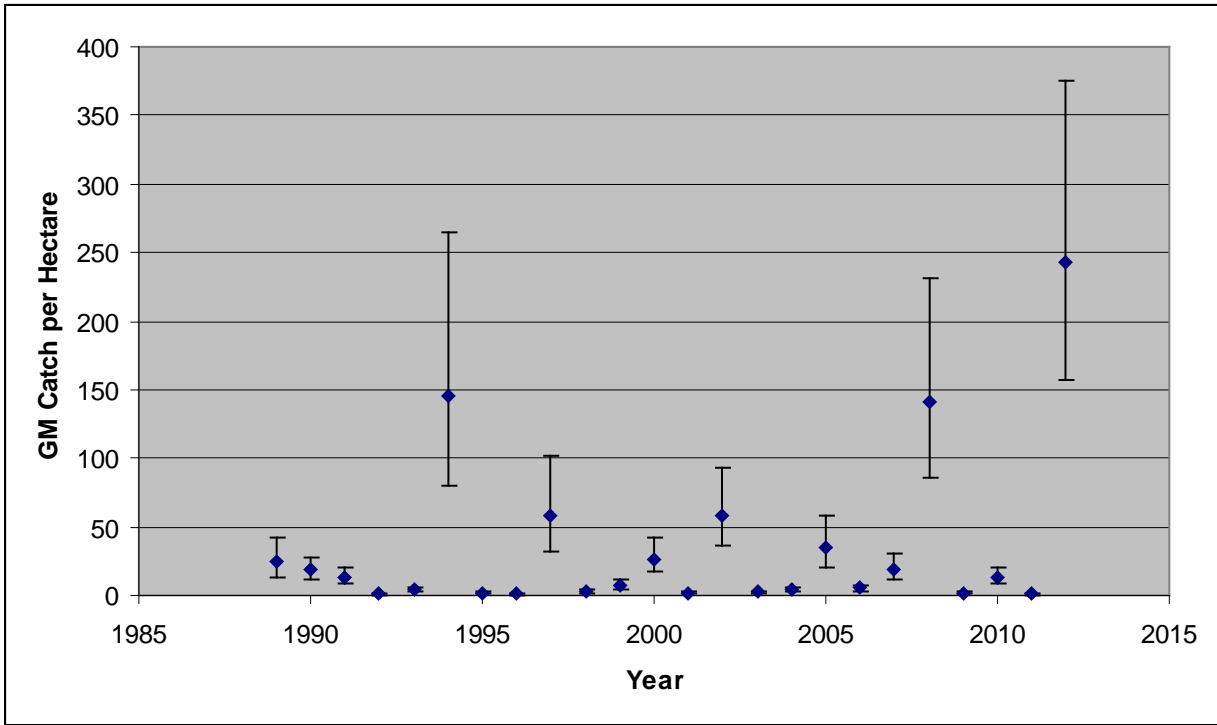


Figure 4. Coastal Bay Trawl Survey juvenile spot annual geometric mean catch per hectare and upper and lower 95% confidence limits, 1989-2012.

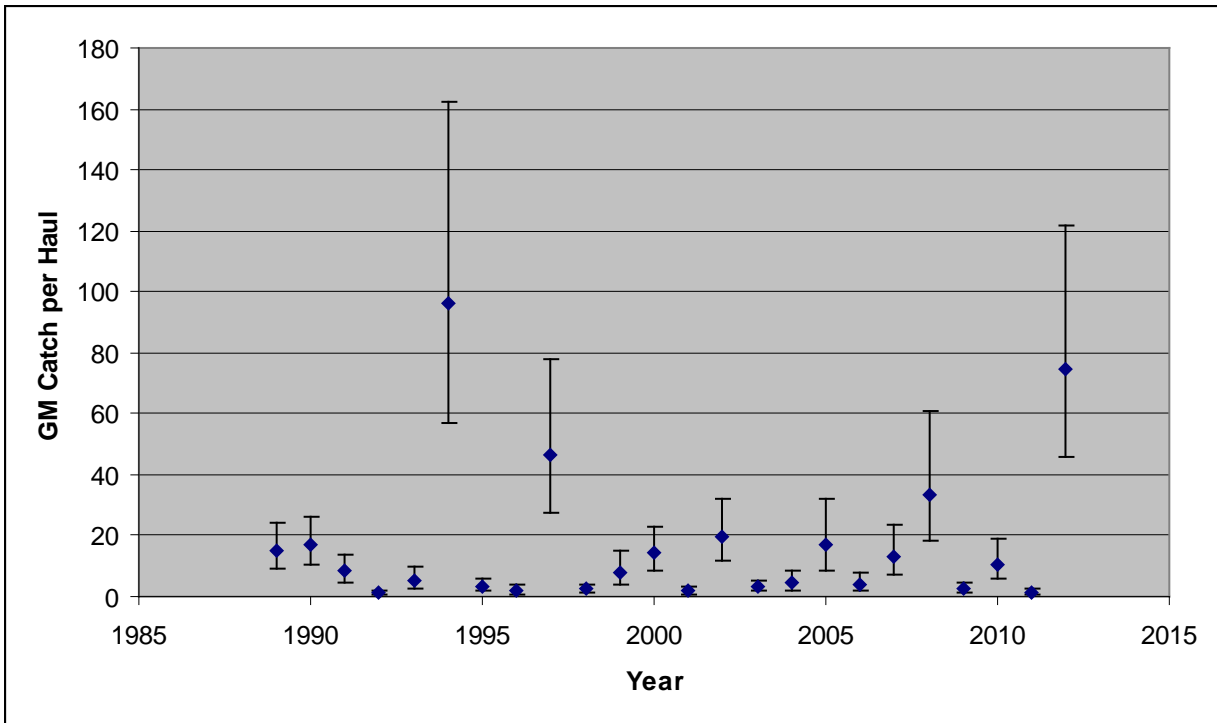


Figure 5. Coastal Bay Seine Survey juvenile spot annual geometric mean catch per haul and upper and lower 95% confidence limits, 1989-2012

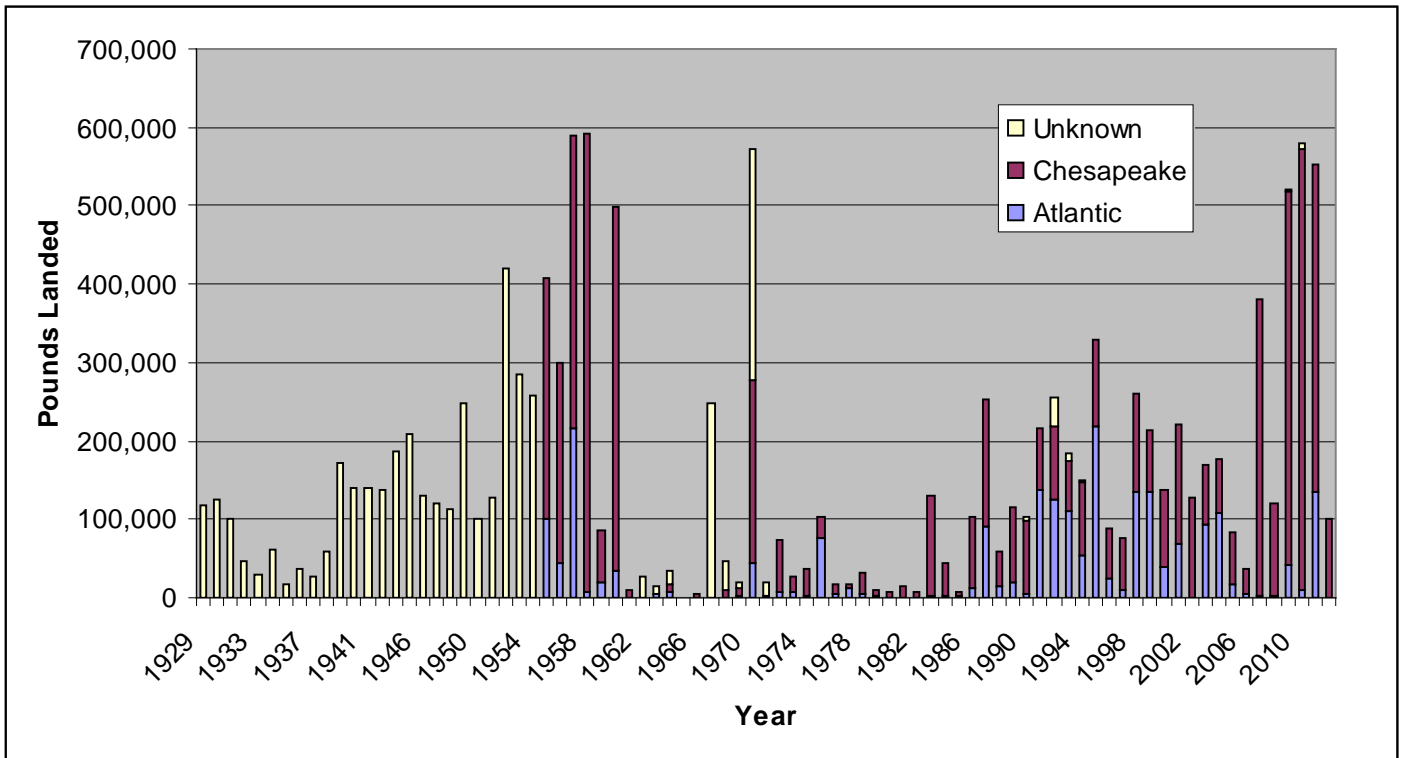


Figure 6. Maryland commercial spot landings from 1929 – 2012 (2012 landings preliminary).

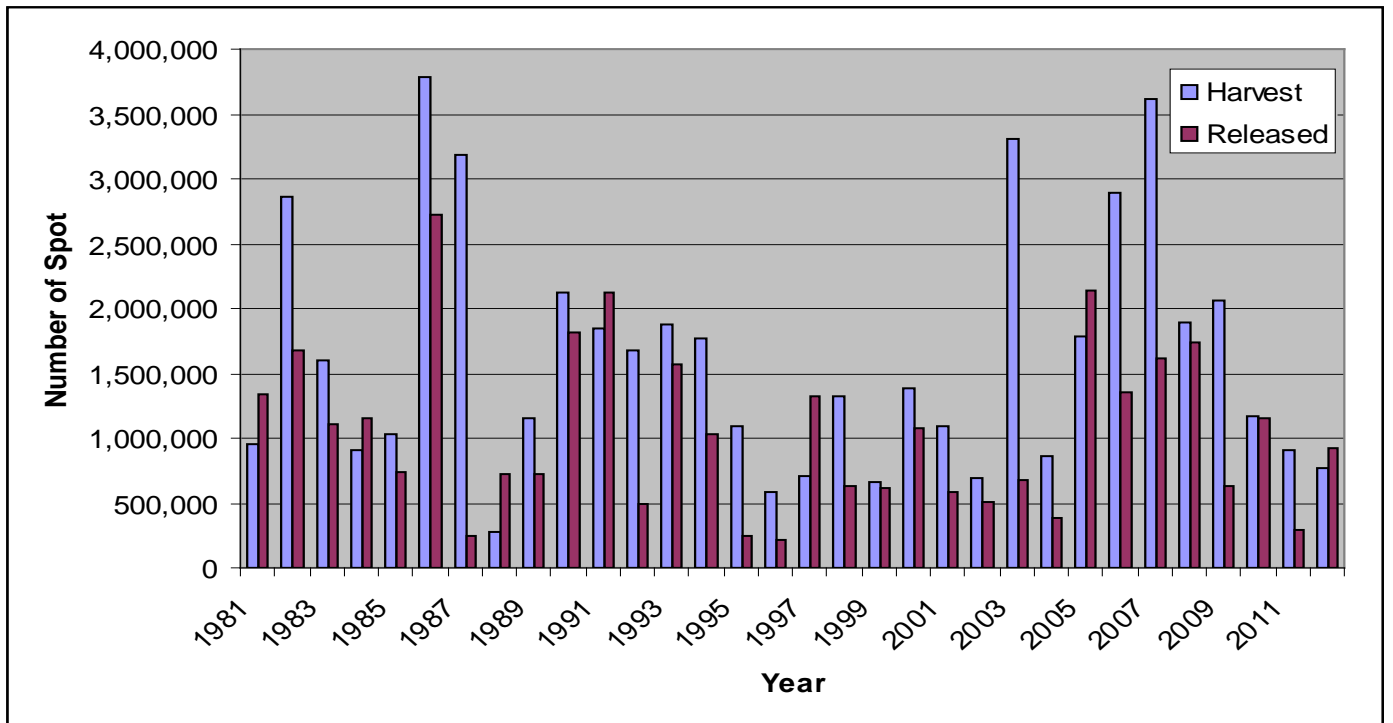


Figure 7. Recreational MRIP spot harvest and release estimates for Maryland waters, 1981-2012.

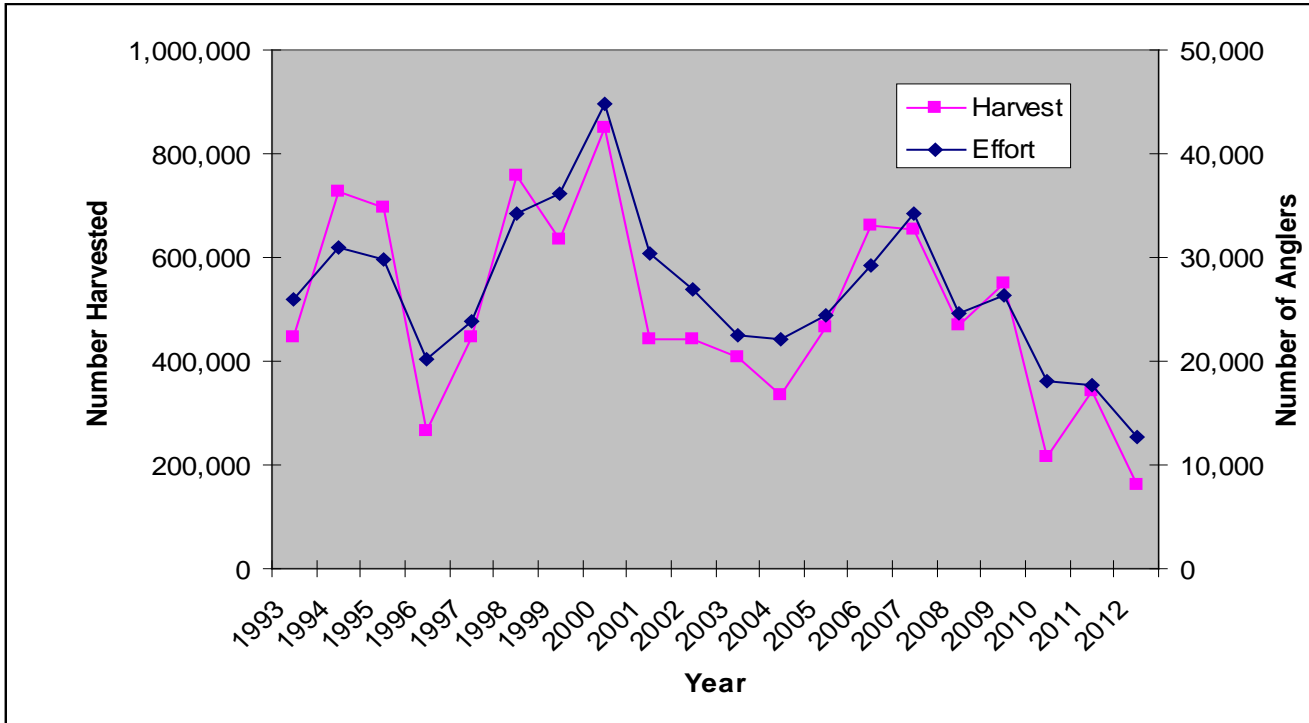


Figure 8. Maryland charter boat spot harvest and number of anglers, 1993-2012.

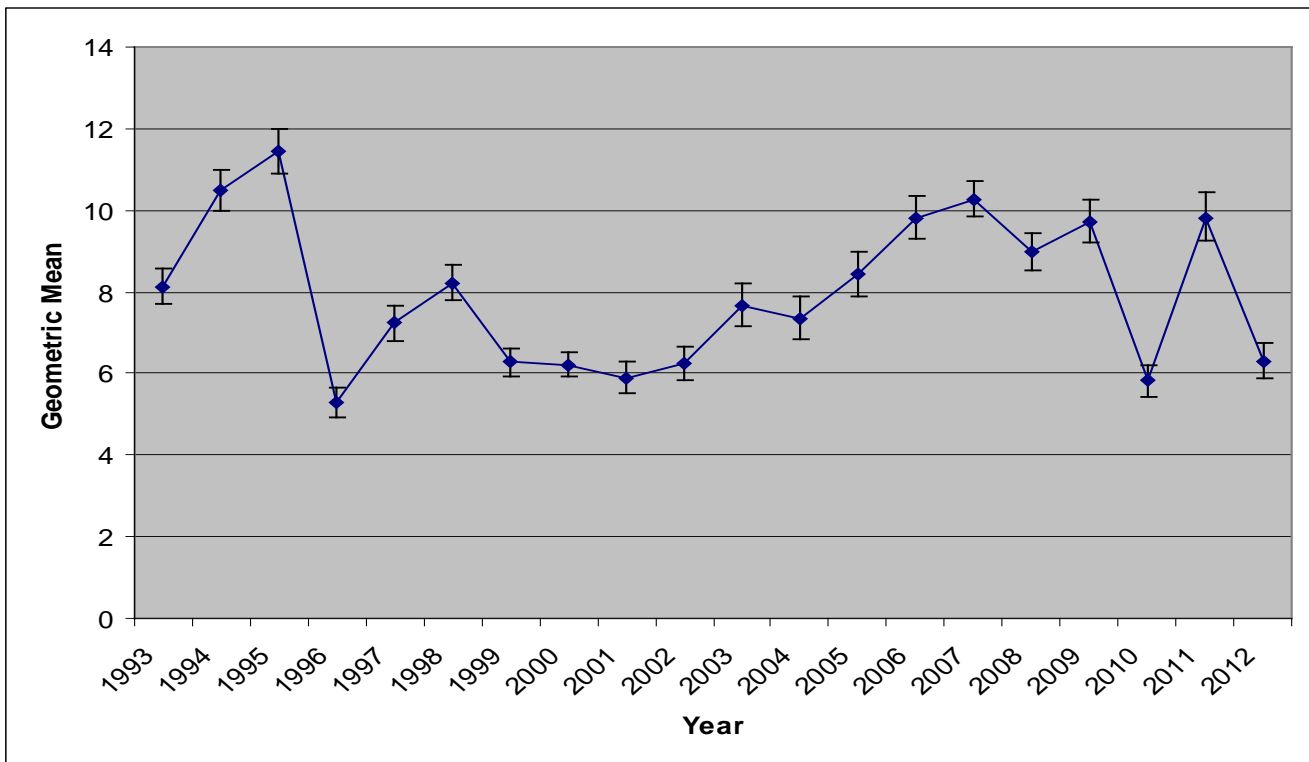


Figure 9. Maryland charter boat spot harvest geometric mean catch per angler and 95% confidence intervals, 1993-2012.



COMMONWEALTH of VIRGINIA

*Marine Resources Commission
2600 Washington Avenue
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Douglas W. Domenech
Secretary of Natural Resources

Jack G. Travelstead
Commissioner

November 1, 2013

MEMORANDUM

TO: Kirby Rootes-Murdy, FMP Coordinator
Atlantic States Marine Fisheries Commission

FROM: Adam Kenyon, Fisheries Management Specialist Senior,
Fisheries Management Division

SUBJECT: Virginia's 2013 Compliance Report for Spot

The attached document describes Virginia's spot landings and management program for the 2012 calendar year. Confidential data have been excluded.

ABK

attachment

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I. Introduction

Commercial landings in 2012 (615,726 pounds) were lower than in 2011 (3,763,055 pounds) and lower than the long-term average of 3,126,537 pounds (1994 through 2012) (Table 1). The 2012 Marine Recreational Information Program (MRIP) estimate for Virginia recreational landings (A+B1) is 410,777 pounds, which is below the 2004 through 2012 MRIP average landings estimate of 1,378,843 pounds (Table 2).

Virginia continued its collection of biological data from commercial fisheries. A sample of 3,169 total lengths was collected in 2012. For age determination, 248 spot were sampled in 2012, and an average of 301 spot has been sampled, for age, per year, since 1998 (Table 3).

Delta random stratified index values for spot young-of-year relative abundance estimates, based on the spring recruitment window of April through June, are provided by the Virginia Institute of Marine Science (VIMS). The 2012 spot index value was 17.18 which was higher than the 2011 value (5.29) and higher than the long-term average from 1988 through 2012 (14.83)(Figure 1).

No direct changes in management measures or regulatory requirements occurred in 2012 or are planned for 2013.

II. Request for *de minimis* Status

The VMRC does not request *de minimis* status for this fishery.

III. Previous Calendar Year's Fishery and Management Program

a. Activity and results of fishery dependent monitoring

Table 3 provides a summary of the numbers of spot measured for length and weight, the number of fish sexed, and the number of fish that were aged based on otoliths. Please note that age data collections began in 1998, under a cooperative agreement between the Old Dominion University (ODU) Center for Quantitative Fisheries Ecology and the VMRC. Table 4 provides catch-at-age information on Virginia's commercial spot fishery.

b. Activity and results of fishery independent monitoring

VIMS Juvenile Fish and Blue Crab Trawl Survey

The VIMS Juvenile Fish and Blue Crab Trawl Survey was implemented in 1955 to monitor the seasonal distribution and abundance of important finfish and invertebrate species occurring in the Chesapeake Bay and its tributaries.

The VIMS develops annual indices of abundance for age-0 spot to provide a measure of relative year-class strength. The Random-Stratified Index (RSI) is a weighted geometric average based on data collected from stations in the tributaries (fixed and random) and in the bay (random) and is considered the most spatially comprehensive (M. Fabrizio, VIMS, pers. comm.) (Figure 1). The following length cut-offs, by month, were used to

restrict the index to age-0 spot: July (0–160 mm total length); August (0–180 mm total length); September (0–200 mm); and October (0–200 mm total length).

c. Copy of regulations in effect for 2012

At this time, there is no regulation in effect or required by the ASMFC. Trawling within Virginia waters has been banned since July 1, 1989.

d. Harvest for commercial and recreational fisheries

Gill net, pound net, and haul seine harvests accounted for 70.0%, 12.4%, and 6.7% of the 2012 commercial landings, respectively (Table 1). In 2012, 91.4% of the landings occurred during the months of August through September.

Fishery-dependent indices of commercial harvest-per-unit-effort (HPUE) were developed for Virginia's commercial inshore gill-net and haul-seine fisheries. Directed trips for the commercial inshore gill-net fishery were defined as those trips that harvested greater than or equal to 100 pounds of spot. The 2013 inshore gill-net HPUE (383.9) is the lowest on record, and was 50% below the long term average (771.1) from 1994 through 2012. The 2013 haul-seine HPUE (395.0) is also the lowest on record and 47% below the long term average (847.3) during the time series. The haul-seine HPUE for spot has declined since the peak observed in 2007(Figure 2).

The 2012 estimate of Virginia's recreational landings (A+B1) for spot in terms of weight was 410,777 pounds or 1,350,153 fish. Recreational landings have declined over the last six years from a high of 3,237,069 pounds in 2007 to a low of 410,777 pounds in 2012. The 2012 MRIP recreational landings estimate of spot is the lowest since 2004 (Table 2).

Non-harvest losses from the commercial fishery are not monitored by the VMRC. However, the gill net fishery utilizes mesh sizes that select for marketable fish. The number of spot released alive by the recreational fishery in 2012 was 1,145,960 fish (Table 2).

e. Review of progress in implementing habitat recommendations

Locations of juvenile spot are known from the monthly trawl surveys performed by the VIMS. Both the VIMS Juvenile Fish and Blue Crab Trawl Survey and the VIMS CHESMMAP Trawl Survey of adult fishes, along with the VMRC field collection program, have compiled data, concerning the locations (habitats) of adult spot.

The VMRC collaborates with other state agencies (VIMS, Department of Environmental Quality, ODU, Division of Shellfish Sanitation, and the Department of Health), as part of a Harmful Algal Bloom Response Team Network (HAB) that monitors and assesses hypoxic and other water quality events. The Department of Environmental Quality is the lead agency for fish kill events and, collaborates with the HAB.

All permit applications for dredging undergo a joint permit application process involving federal and state agencies, including the VMRC, and are gauged against habitat requirements for fisheries resources.

IV. Planned management programs for 2013

- . Summarize regulations that will be in effect (copy of current regulations if different from 3c).

No change.

- b. Summarize monitoring programs that will be performed.

No change.

- c. Highlight any changes from the previous year.

No change.

Table 1. Commercial landings (pounds) of spot in Virginia, by major gear type, 1994 through 2012.

Year	Gill Net*	Haul Seine	Pound Net	Other	Total
1994	3,548,883	299,903	416,708	3,926	4,269,420
1995	2,857,071	176,098	584,644	4,841	3,622,654
1996	2,350,280	339,417	294,640	749	2,985,086
1997	2,904,222	271,308	336,165	11,879	3,523,574
1998	3,513,315	463,791	391,241	39,623	4,407,970
1999	2,393,520	327,497	221,152	32,567	2,974,736
2000	3,206,816	337,626	252,563	8,962	3,805,967
2001	2,882,929	222,431	363,703	8,633	3,477,696
2002	2,493,718	227,978	354,392	4,454	3,080,542
2003	2,609,708	350,586	525,254	6,881	3,492,429
2004	2,680,927	246,556	324,514	134,860	3,386,857
2005	1,896,155	248,244	237,879	92,624	2,474,902
2006	1,551,944	275,694	98,664	5,152	1,931,454
2007	3,158,201	734,203	309,576	133,333	4,335,314
2008	1,507,006	441,099	164,823	24,658	2,137,586
2009	3,423,682	304,690	255,073	31,131	4,014,576
2010	842,062	105,131	132,049	25,425	1,104,667
2011	3,270,294	176,970	277,594	38,197	3,763,055
2012	461,922	76,241	41,551	36,013	615,726

*Gill Net includes anchor, drift, and staked gill nets

Table 2. Estimated amount of spot landed (Type A+B1) and released alive (Type B2) in Virginia, 2004 through 2012.

Year	Harvest (Type A + B1)				Released Alive (Type B2)	
	Number	PSE[Number]	Weight (lb)	PSE[Weight]	Number	PSE[Number]
2004	1,717,416	18.6	1,136,261	21.2	882,136	23.1
2005	2,781,973	28.2	1,375,629	27.5	2,456,981	41.8
2006	3,584,930	31	1,926,940	34.2	1,371,751	33.2
2007	8,203,377	22.6	3,237,069	22.6	2,156,839	13.5
2008	4,398,473	36.9	1,828,398	40.5	1,487,665	19.7
2009	2,146,607	18.5	829,245	19.2	1,457,588	18.2
2010	1,669,843	26.7	563,423	28.6	1,155,882	15.3
2011	2,967,030	20.4	1,101,847	20.8	2,245,221	22.3
2012	1,350,153	38.2	410,777	37.6	1,145,960	26

Table 3. Number of spot sampled by the VMRC, for total length, weight, sex and age information, 1989 through 2012

Year	Length Measurements	Weight Measurements	Sex Determined	Age Determined
1989	6,554	6,682	1,508	-
1990	11,497	8,414	2,747	-
1991	12,285	9,542	1,540	-
1992	15,552	10,662	362	-
1993	6,846	5,873	447	-
1994	10,213	8,842	384	-
1995	10,136	6,732	37	-
1996	13,234	9,845	1,028	-
1997	10,345	6,918	36	-
1998*	8,438	4,851	222	173
1999	3,102	1,132	349	327
2000	3,143	860	400	341
2001	3,799	677	417	383
2002	8,208	4,566	758	405
2003	6,847	6,854	558	348
2004	10,068	9,252	464	458
2005	8,936	8,945	489	400
2006	10,762	10,560	377	263
2007	4,003	3,877	342	246
2008	2,651	2,588	204	198
2009	3,151	3,139	336	262
2010	1,667	1,667	334	277
2011	4,143	4,143	270	225
2012	3,169	3,169	243	248
Average	7,431	5,813	576	301

*Note: The agency program was not initiated until 1998.

Table 4. Weight-at-age (pounds) of spot landed by Virginia’s commercial fisheries, 1998 through 2012.

Year	Age						
	0	1	2	3	4	5	6
1998	215,821	4,097,202	94,947	-	-	-	-
1999	53,970	2,468,008	452,758	-	-	-	-
2000	3,190	3,178,686	464,359	138,729	21,002	-	-
2001	124,701	1,370,931	1,477,049	446,103	58,913	-	-
2002	41,856	1,780,806	594,447	455,415	194,624	13,394	-
2003	-	2,020,581	866,773	345,948	238,719	20,407	-
2004	-	377,292	2,730,523	235,994	20,063	21,807	1,178
2005	745	660,380	840,344	913,193	38,285	11,956	9,998
2006	18,235	1,135,464	549,518	147,779	80,459	-	-
2007	976	1,821,867	2,301,099	195,631	8,173	7,570	-
2008	1,653	1,241,721	772,154	114,894	7,164	-	-
2009	-	2,309,641	1,653,312	51,624	-	-	-
2010	919	415,362	669,748	17,436	1,203	-	-
2011	-	3,470,776	192,058	98,310	-	-	-
2012	65	326,196	280,118	8,892	454	-	-

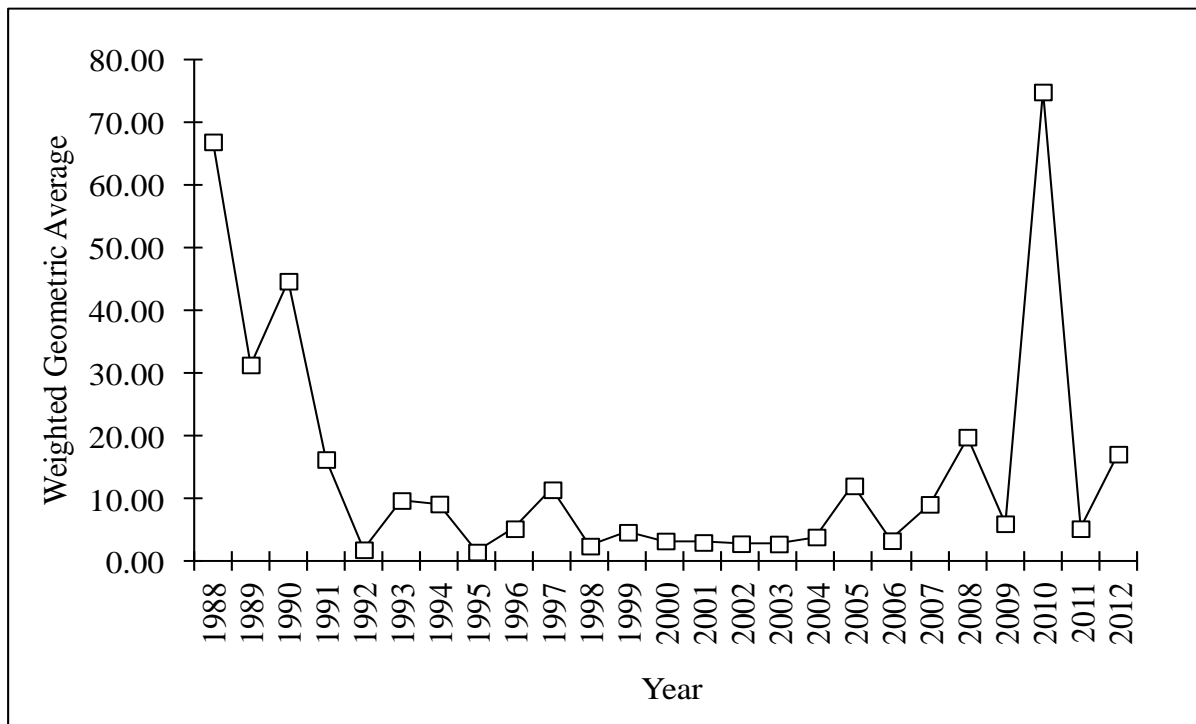


Figure 1. Random-Stratified Index of age-0 spot relative abundance based on the VIMS Juvenile Fish and Blue Crab Trawl Survey, 1988 through 2012.

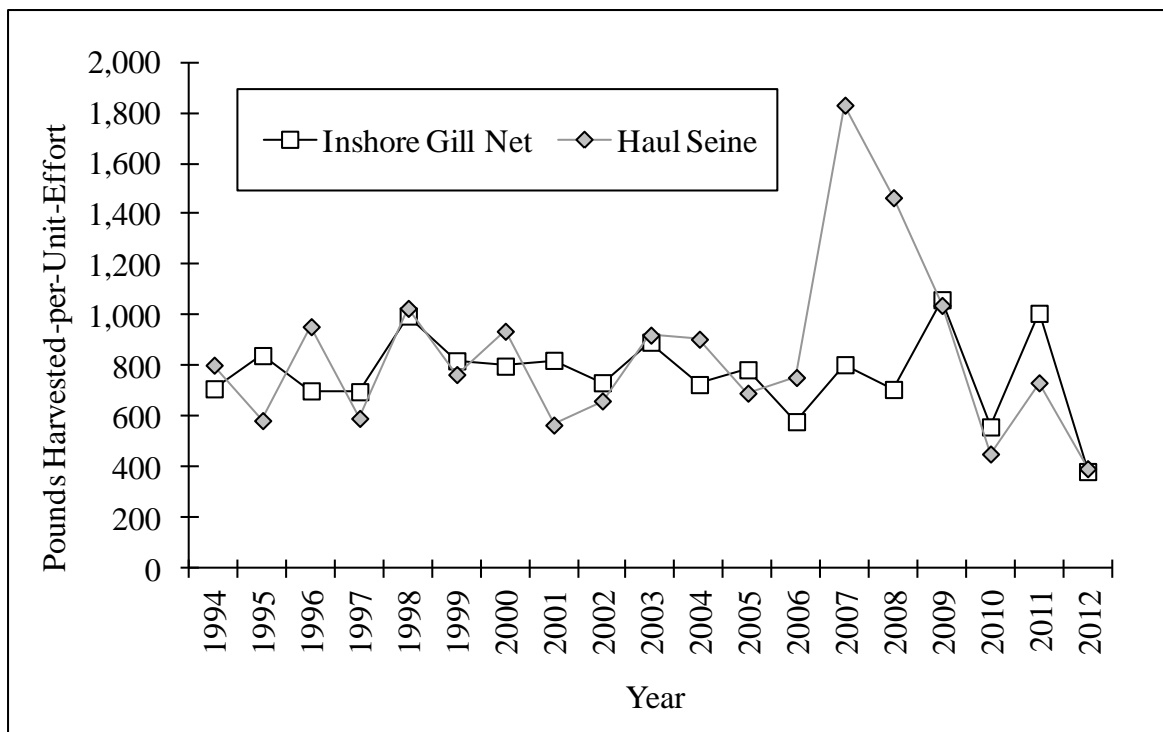


Figure 2. Harvest-per-unit-effort (HPUE) of spot in Virginia's recreational fishery, 1994 through 2012.

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SPOT COMPLIANCE REPORT FOR NORTH CAROLINA

A Report to the Atlantic States Marine Fisheries Commission

September 11, 2013
North Carolina Division of Marine Fisheries

Recent (1994-2012) Trends in the North Carolina Commercial and Recreational Spot Fisheries

I. Introduction:

The following represents North Carolina's commercial and recreational harvest and biological information for 2012. No changes in management are proposed for the upcoming year.

II. Request for *de minimis*

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).
 - i. Commercial Harvest (North Carolina Trip Ticket Program (NCTTP)):
 1. Commercial landings since 1994 have averaged 3.1 million pounds (Figure 1).
 2. Three major fisheries accounted for an average of 89.6% of landings, inshore gill net, ocean gill net and long haul (Figure 2) since 1994, and 97.4 for 2012.
 3. Since 1994 declines greater than 20% year to year occurred 7 of the 18 years, most recently in 2012 when harvest decreased by 48%.
 4. Since 1994, effort decreased in the ocean gill net fishery to a historic low in 2012. There was a 53% decrease from 2011 to 2012. Effort decreased by 65% in the inshore gill net fishery and decreased by 59% in the long haul fishery (Figure 3).
 5. The number of long haul trips has consistently decreased since 1994, declining from 615 trips in 1994 to 159 trips in 2012, a decrease of 74%.
 6. Ocean gill net trips catching at least 100 lb steadily decreased from 952 trips in 1994 to 161 trips in 2010, an 83% decrease(Figure 3).
 7. 2012 inshore gill net trips decreased 65.3% year to year, long haul trips decreased 50% year to year, and ocean gill net trips decreased 53% while total commercial landings decreased 47.7% to historical low in 2012.
 8. CPUEs in the long haul fishery increased significantly from 2011. The CPUEs for the inshore gill net fishery decreased from 2011. The ocean gill net CPUEs have fluctuated the most, with CPUE values in 2012 decreasing significantly from 2011 (Figures 4 and 5).
 - ii. Recreational Angler Harvest (Marine Recreational Information Program (MRIP)):
Landings and Mean Catch Per Angler Trip – The mean catch per angler trip was examined from 1989 until 2012. It was calculated by summing the Type A and Type B1 catch and dividing by the number of contributing fishermen at the interview level. Mean catch is the mean of A + B1 at the interview/trip level.
 1. Landings in the recreational fishery have average 1.0 million lb (Figure 1).

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2. Landings in 2012 were 77% below the 1997-2012 mean; decreasing 44% year to year from 2011, which is a historic low.
 3. Fluctuations have been common, landing up > 98% in 2001 relative to 2000, down 45% in 2002.
 4. Mean catch per angler trip increased from 4.3 fish per trip in 2012 to 5.9 fish per trip in 2012. The average catch per angler trip from 1989-2102 was 6.3 fish per trip (Figure 6).
- iii. Recreational Commercial Gear License (RCGL) Harvest (NC Marine Fisheries License and Statistics Section):
The RCGL allows recreational fishermen to use limited amounts of commercial gear to harvest seafood for their personal consumption. Seafood harvested under this license cannot be sold. Fishermen using this license are held to recreational size and possession limits.
1. NCDMF began to gather data in 2002 on RCGL license holders and spot landings have averaged 203,383 lb since 2002.
 2. Due to budget constraints the RCGL surveys were suspended in 2009.
 3. Landings increased 7.8% from 2007 to 2008 (Figure 7), while trips increased 3.6%. CPUE (lb/trip) also increased slightly in 2008, from the lowest on record in 2007.
 4. CPUE (lb/trip) were consistent 2002-2005 but significantly decreased in 2006 and 2007 (Figure 8).
- iv. North Carolina Citation Program
North Carolina awards a citation to applicants for any spot caught by hook and line if weight exceeds 1 lb.
1. Low citation years, 1994-1999, year with the highest number of citations was 1999 with ten.
 2. Beginning in 2000, many more citation sized fish applications were received, 19 in 2000, 249 in 2001, and 81 in 2005 but there were only two citations received in 2007 and none in 2008 through 2012 (Figure 9).
- b. Activity and results of fishery independent monitoring (provide general results and references to technical documentation).
- i. Pamlico Sound Survey – Program 195:
Fifty-two randomly selected stations (grids) are sampled in June and again in September. Stations are randomly selected from strata based upon depth and geographic location. Randomly selected stations are optimally allocated among the strata based upon all previous sampling in order to provide the most accurate abundance estimates (PSE < 20). Tow duration is 20 minutes; using double rigged demersal mongoose trawls (9.1m headrope, 1.0m X 0.6m doors, 2.2cm bar mesh body, 1.9cm bar mesh cod end and a 100-mesh tailbag extension).
 1. Data from this survey were used to produce juvenile abundance indices for spot from 1994 to 2012 (Figure 10).
 2. CPUEs have been extremely variable with no clear trend.
 3. Most recent year (2012) showed a decrease from 2011. - ii. Estuarine Trawl Survey – Program 120:
One hundred five estuarine core stations along the coast are sampled each year without deviation to produce the JAI. Used is a two-seam 10.5 foot headrope trawl with a ¼ inch mesh in the body and 1/8 inch mesh in the tailbag. Tow duration is calibrated for 1 minute and a span of 75 yards.
 1. Data from this survey were used to produce JAIs for spot from 1994 to 2012 (Figure 12).
 2. These data also show wide fluctuations with no clear trend.

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iii. Independent Gill Net Survey: Pamlico Sound – Program 915:

This study that began in 2001 employs a stratified-random sampling design based on area and water depth. An array of nets consisting of 30-yard segments of 3, 3½, 4, 4½, 5, 5½, 6, and 6½ inch stretched mesh webbing is set. Catches from an array of gill nets comprise a single sample and two samples (one shallow, one deep), totaling 480 yards of gill nets fished, were completed in a trip. Within a month, 32 core samples were completed (8 areas x twice a month x 2 samples). Data are used to calculate annual indices of abundance for Pamlico Sound for the following target species: Atlantic croaker (*Micropogonias undulatus*), bluefish (*Pomatomus saltatrix*), red drum (*Sciaenops ocellatus*), southern flounder (*Paralichthys lethostigma*), spot (*Leiostomus xanthurus*), weakfish (*Cynoscion regalis*), spotted seatrout (*Cynoscion nebulosus*), and striped bass (*Morone saxatilis*).

1. Adult spot CPUEs have a generally decreasing trend (Figure 12).

2. CPUE highest in 2001 and hit a historic low in 2012.

iv. Aging Data:

Data has not been completed for 2007 to 2012 and are unavailable at this time.

Catch at Age for the three major commercial fisheries;

1. The dominant age classes in the ocean gill net, inshore gill net and the long haul fisheries are age 1 and age 2 (Figures 13, 14, and 15).

2. Very few age 0 fish are landed in these fisheries.

3. Proportion of older fish (3 and 4) showed little change.

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

i. Not applicable

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

e. Review of progress in implementing habitat recommendations.

i. Not applicable

IV. Planned management programs for the calendar year

a. Summarize regulations that will be in effect. (Copy of current regulations if different than III c.).

i. Not applicable

b. Summarize monitoring programs that will be performed.

c. Highlight any changes from the previous year.

V. Plan specific requirements

a. No plan-specific requirements

VI. Law Enforcement Reporting Requirements

a. Not applicable

VII. Discussion

Spot commercial landings in North Carolina's major fisheries (long haul, ocean gill net and inshore gill net) have declined significantly since 2004, reaching a historic low in 2012. Effort, measured by trips has decreased in the ocean gill net, inshore gill net, and

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long haul fisheries (-53%, -65%, and -59% respectively). CPUEs in the ocean gill net and inshore gill net fisheries both decreased in 2012 from 2011, with the CPUE in the ocean gill net fishery reaching a historic low. The CPUEs in the long haul fishery increased in 2013 from a historic low in 2011.

Preliminary data indicate that landings and CPUEs (mean catch/angler) increased in the recreational hook and line fishery in 2012. This same data indicates the spot hook and line catch decreased 44% in 2012 to a historic low. The mean catch per angler trip increased in 2012 to 5.9 fish per trip.

Juvenile abundance indices fluctuated much over the study period, a trend that is not remarkable for short-lived species such as spot. CPUEs in the Pamlico Sound Survey and the Estuarine Trawl Survey increased in 2012.

The CPUE values for the Pamlico Sound adult gill net survey have trended down since the highest value in the first year of the study (2001). The CPUE value in 2012 was a historic low since the survey began. This survey was expanded to the southern portion of the state in 2008 and these additional data will be used in the future to generate a more comprehensive adult index once a time series is established.

The life history of spot suggests that year class strength is often determined by environmental conditions that prevail on spawning grounds and nursery areas and fluctuations in year class strengths are to be expected. The catch at age in the major commercial fisheries indicate that landings in most years consist largely of only two age classes (Age 1 and 2). The strength of a given year class is most likely dependent on recruitment which is based on environmental factors. Since spot are such an estuarine dependent species, water quality/habitat degradation issues may be significantly impacting year class strengths. Coastwide development has placed many anthropogenic perturbations on their nursery areas including water quality stresses from both pollutants and freshwater runoff.

Data indicate that spot are a large component in the total biomass of south Atlantic shrimp trawlers. Studies need to be conducted to determine what effect, if any these bycatch mortalities may be having on these short-lived, high natural mortality fish. Currently, the effect of spawning stock size on recruitment is unknown.

The decreasing catches in both the commercial and recreational fisheries are discouraging. Both of these fisheries experienced historical lows in 2012. The CPUEs in all fisheries decreased, with the exception of a increase in the long haul fishery. However, there were increases in the juvenile indices for 2012.

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Commercial and Rec Spot Landings by Year

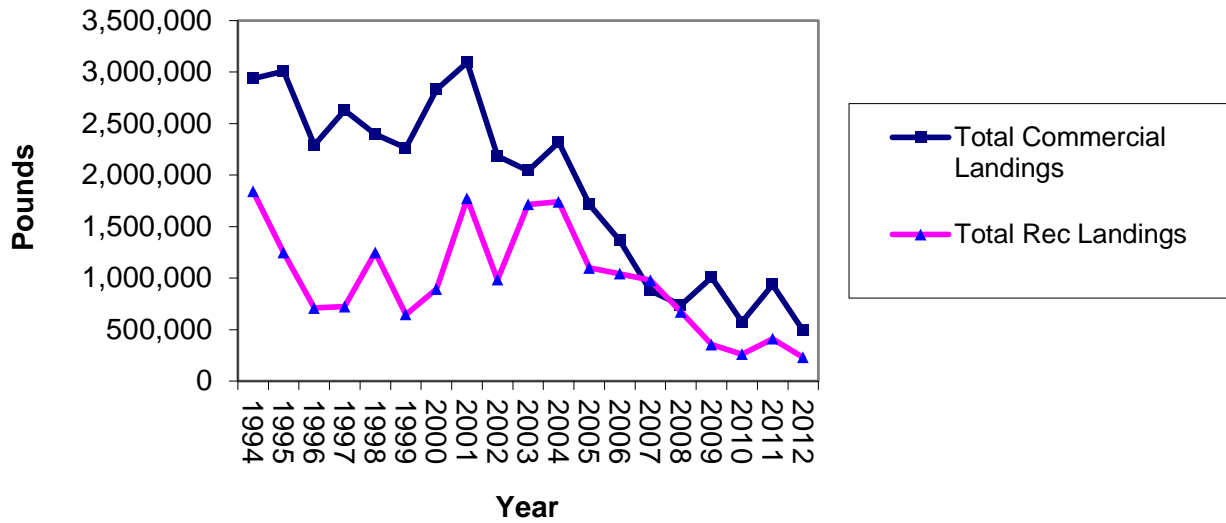


Figure 1. North Carolina commercial and recreational landings, 1994-2012.

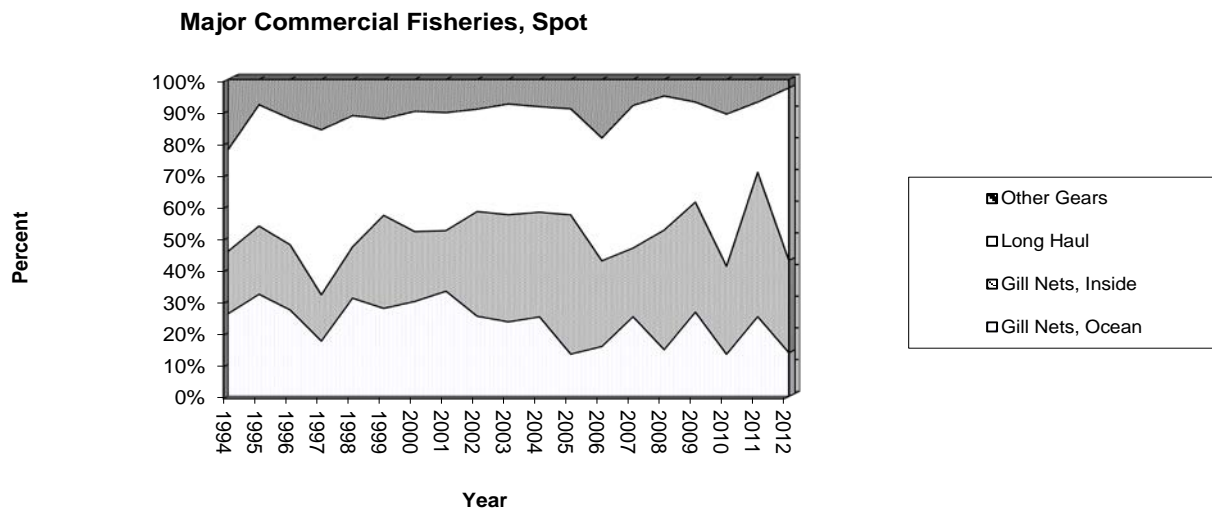


Figure 2. Major commercial gears capturing spot, 1994-2012.

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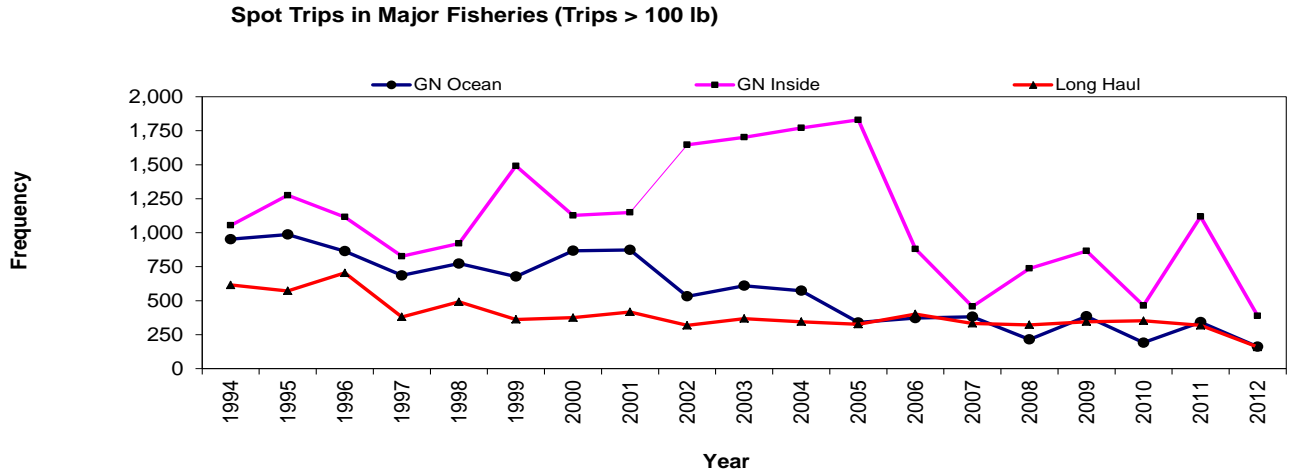


Figure 3. Spot trips in major North Carolina commercial fisheries, 1994-2012.

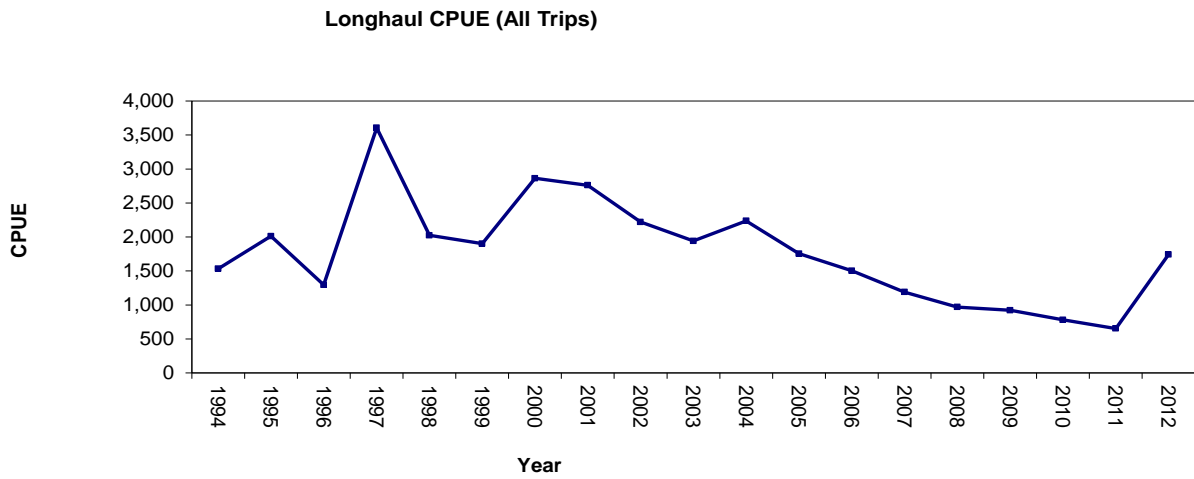


Figure 4. CPUE of long haul fishery based on NCTTP trips and landings, 1994-2012.

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CPUEs of Spot Inside & Ocean (Trips > 100 lb)

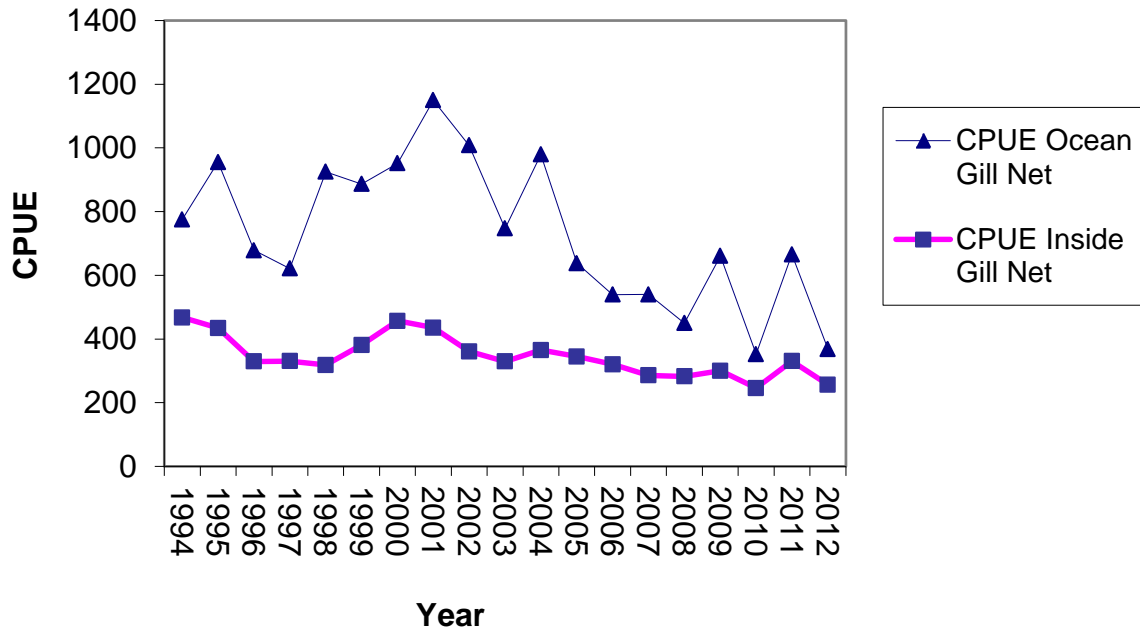


Figure 5. North Carolina ocean and inshore gill net spot CPUEs based on NCTTP, 1994–2012.

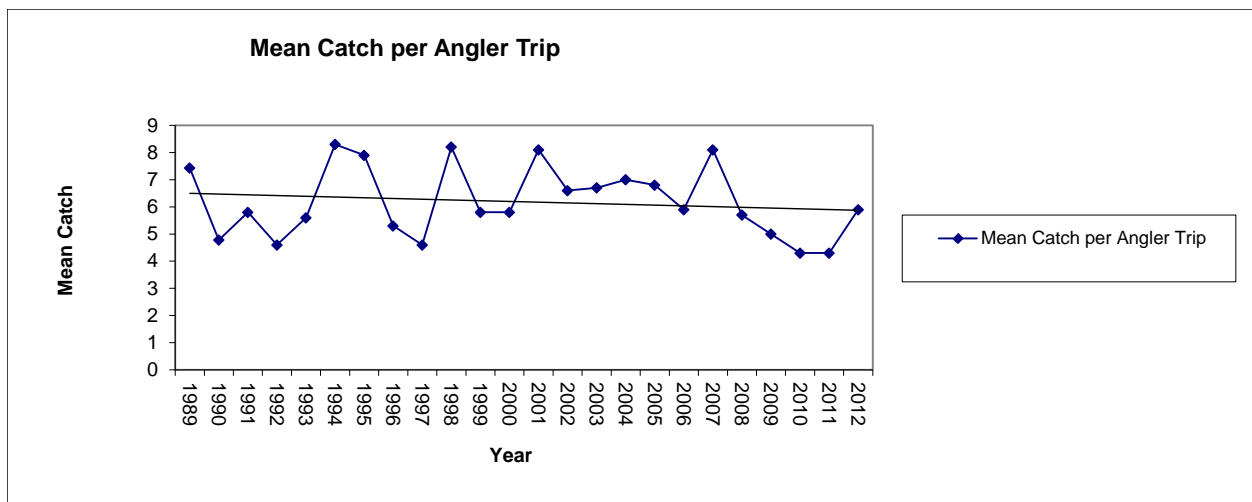


Figure 6. Spot mean catch per angler trip, 1989–2012 (from MRFSS/MRIP).

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RCGL Landings and Trips, Spot 2002-2008

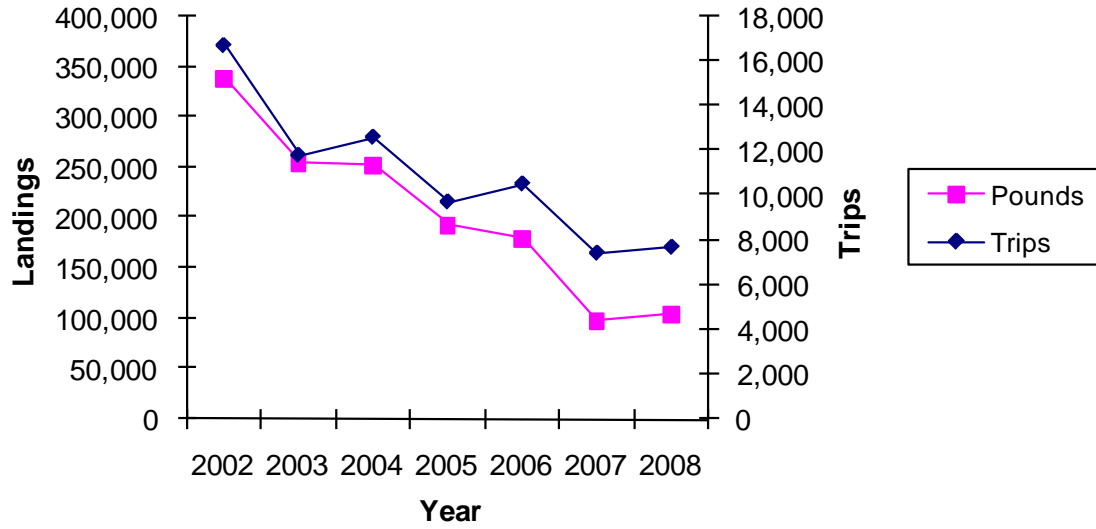


Figure 7. North Carolina spot landings and trips from RCGL license holders, 2002-2008.

CPUE of Spot with RCGL

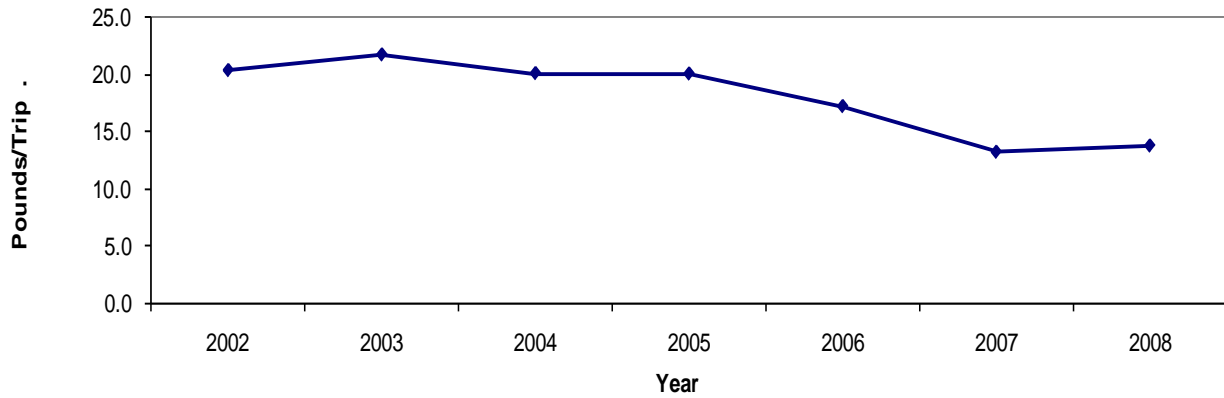


Figure 8. North Carolina spot CPUEs from RCGL license holders, 2002-2008.

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North Carolina Spot Citations (1 lb)

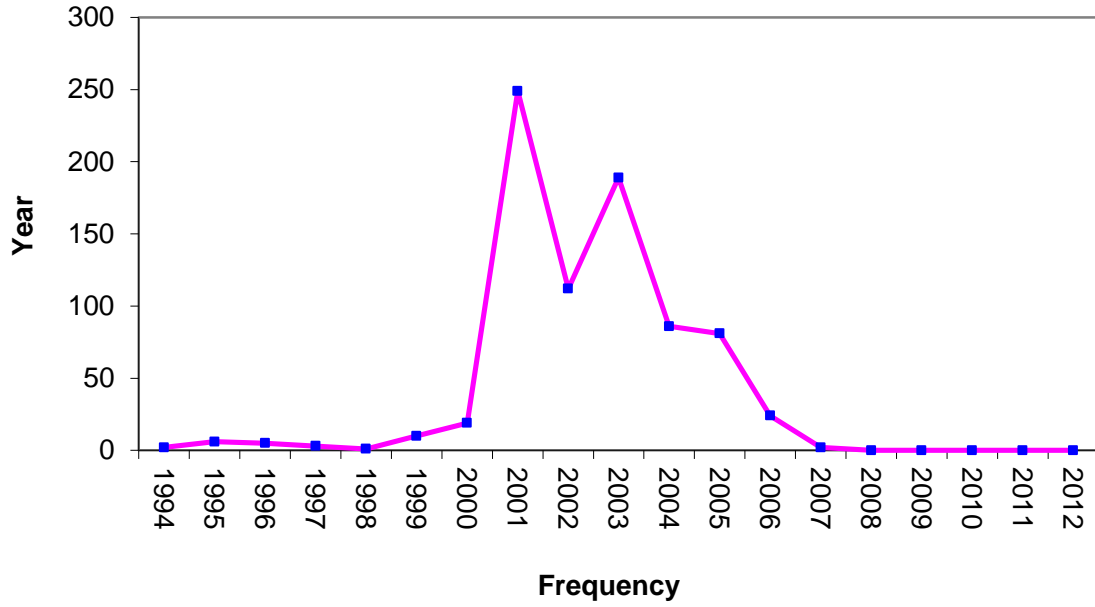


Figure 9. Number of spot citations (issued for hook and line catches > 1 lb) issued 1994-2012.

Spot JAI, Pamlico Sound Survey

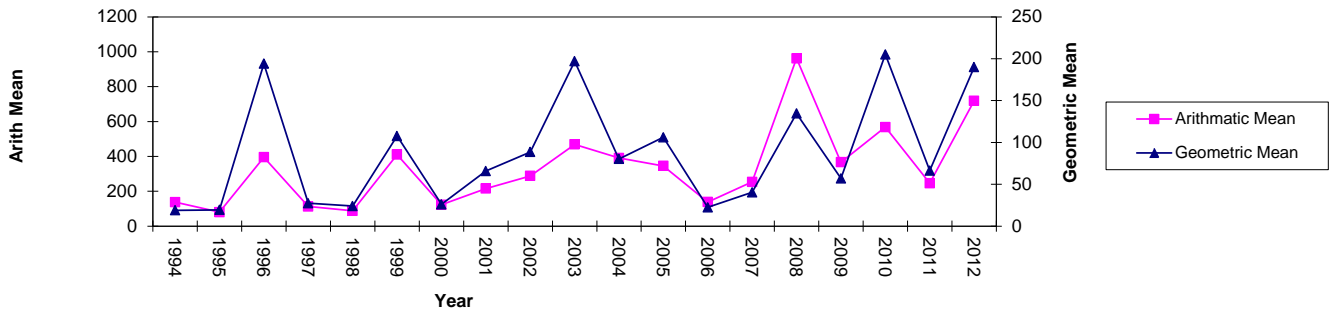


Figure 10. North Carolina Pamlico Sound Survey juvenile indices for spot 1994-2012.

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Spot JAI, Estuarine Monitoring Program

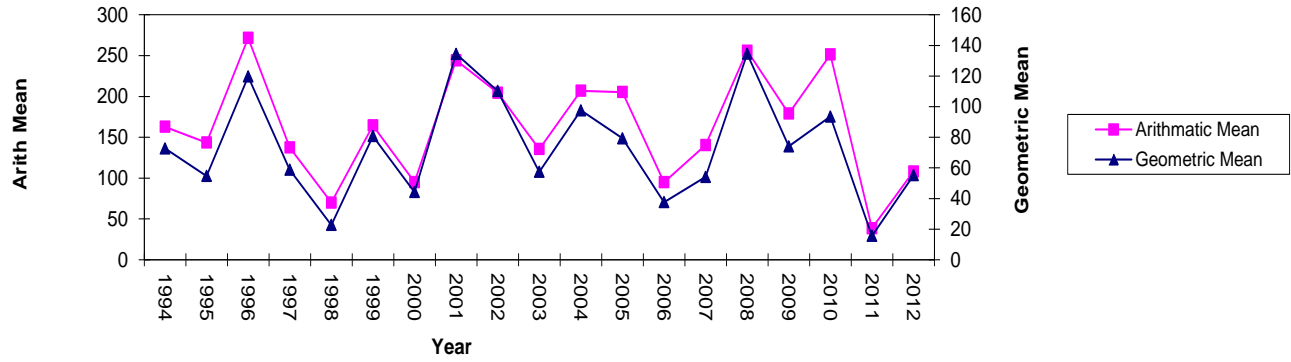


Figure 11. North Carolina Estuarine Trawl Survey juvenile indices for spot, 1994-2012.

NC Spot CPUEs, Pamlico Sound, Adults

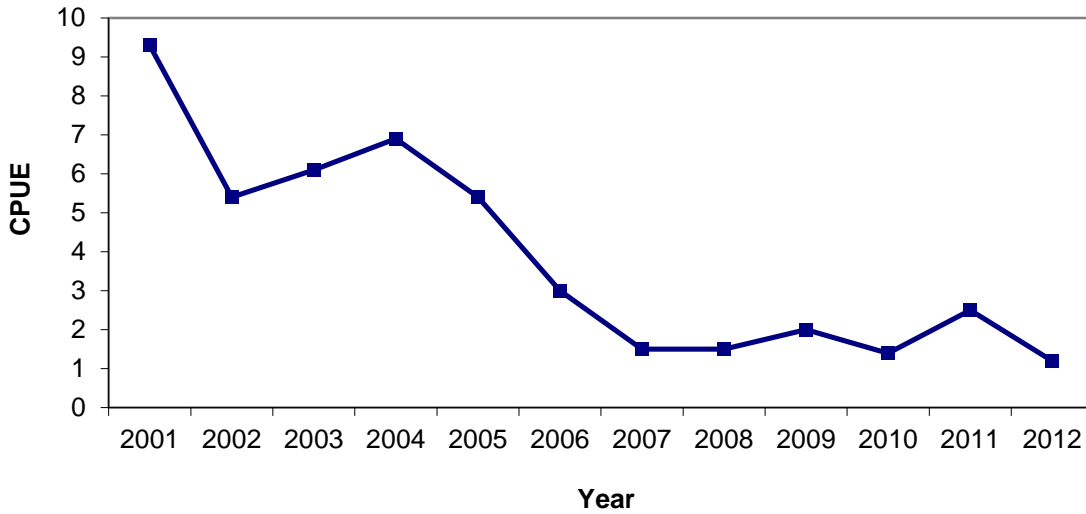


Figure 12. North Carolina spot annual weighted CPUE from Pamlico Sound Independent Gill Net Survey, 2001-2012.

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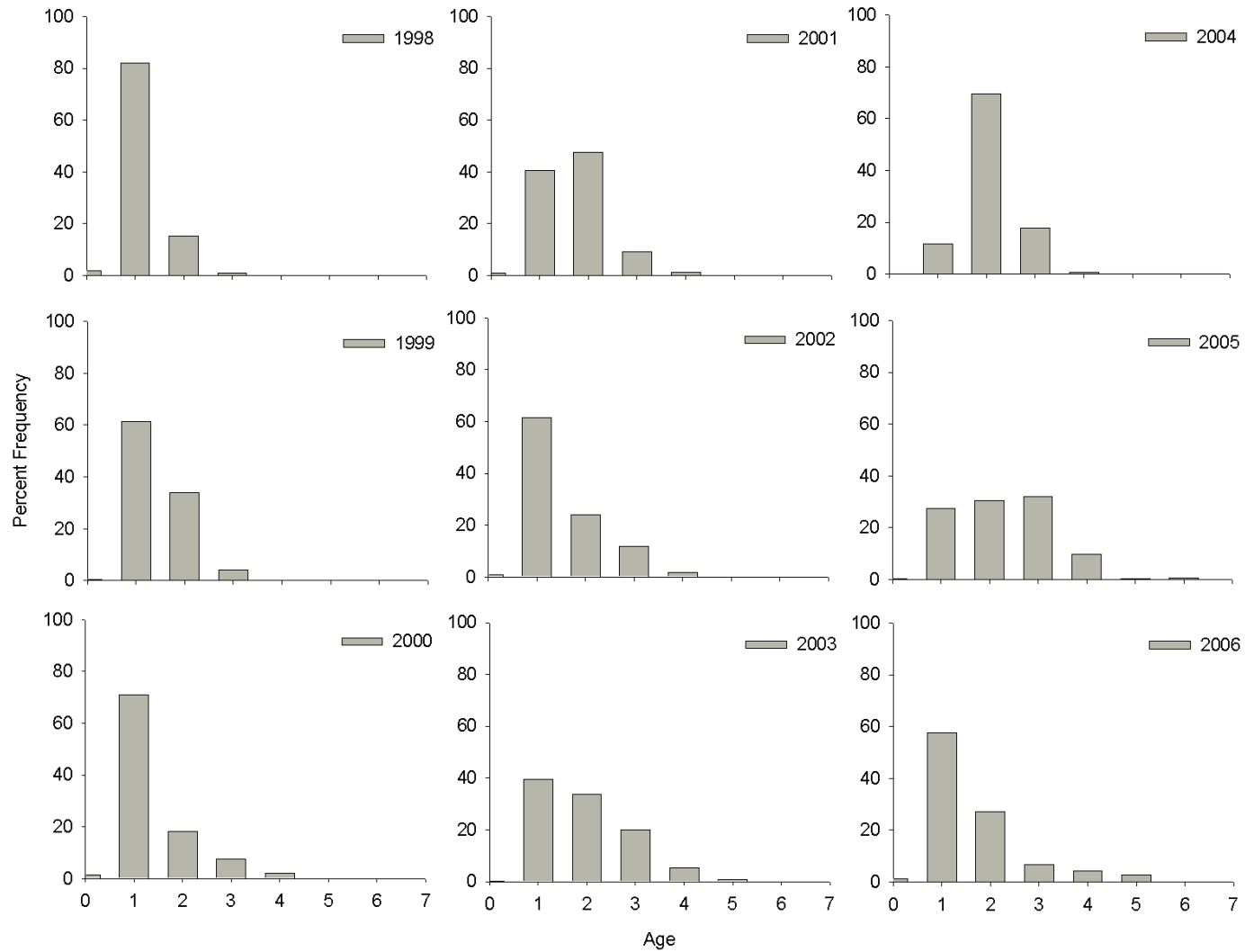


Figure 13. Age distribution of spot landed and sold in North Carolina inshore gill net fishery, 1998-2006.

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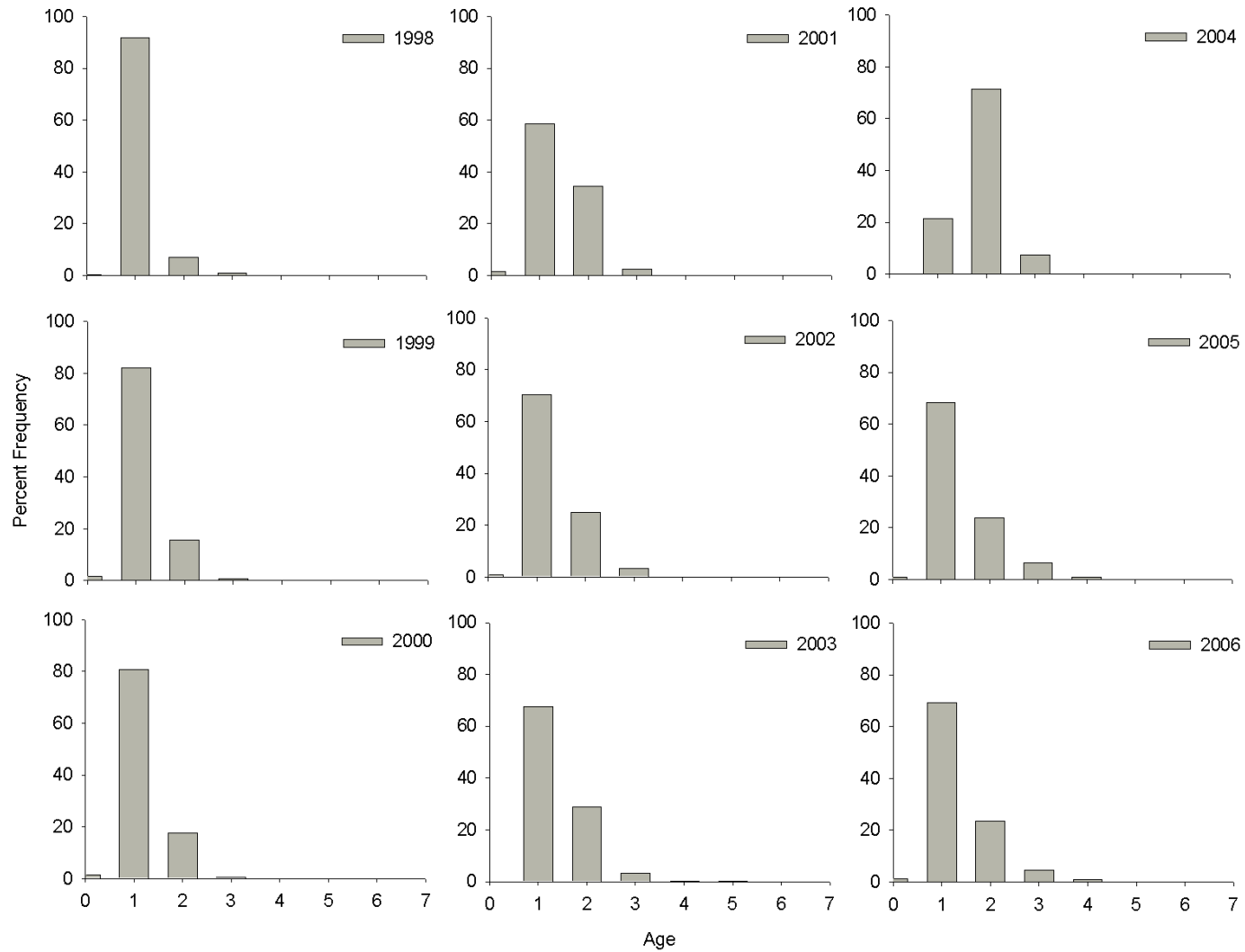


Figure 14. Age distribution of spot landed and sold in the North Carolina ocean gill net fishery, 1998-2006.

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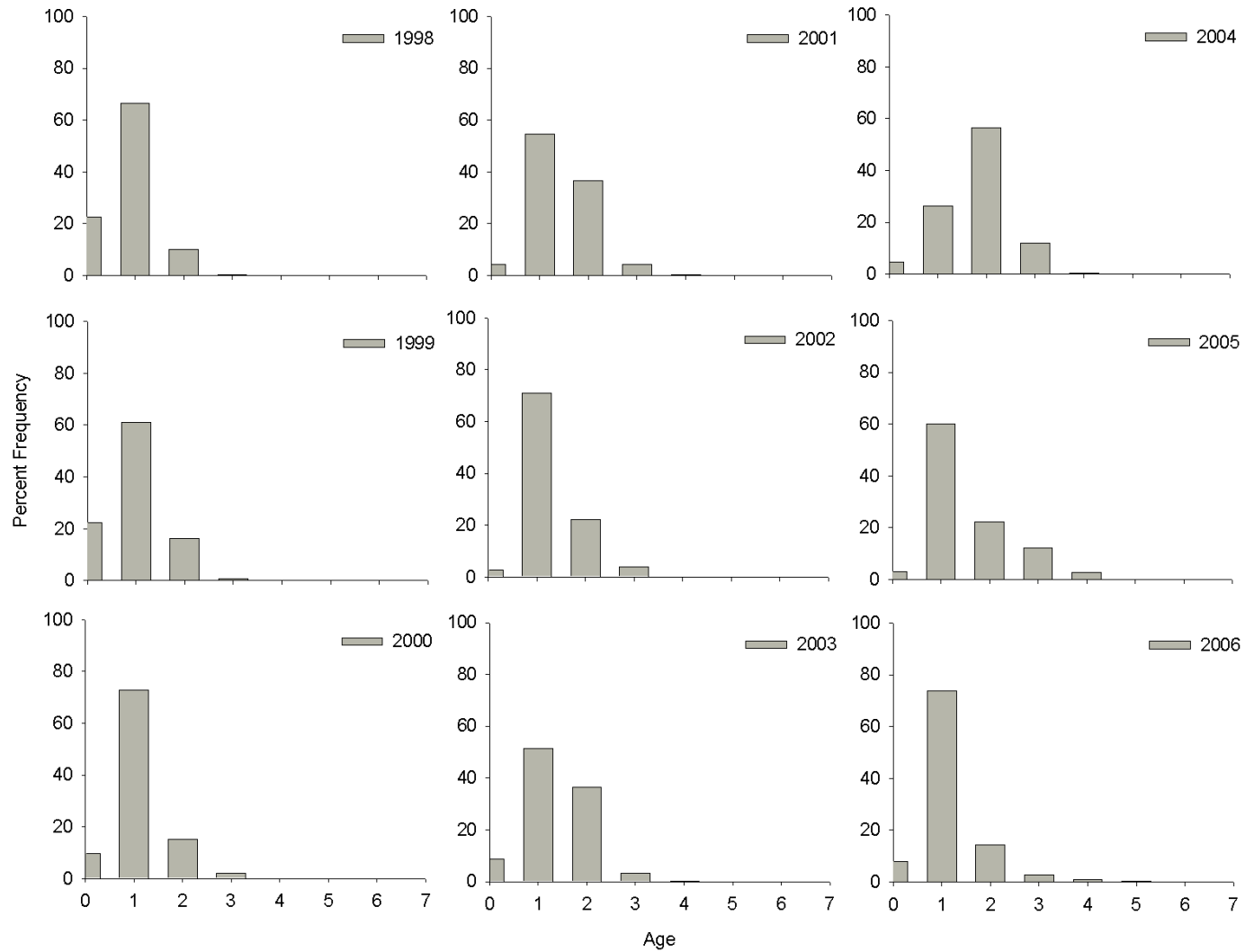


Figure 15. Age distribution of spot landed and sold in the North Carolina long haul fishery, 1998-2006.

South Carolina
Spot Fishery and Management Program
Compliance Report for the Year 2012



1 November, 2013

Prepared by: Christopher McDonough

Office of Fisheries Management
South Carolina Department of Natural Resources

I. INTRODUCTION

There were 541 lbs reported for commercial landings for Spot in 2012, which represented a 95% decrease from 2011 (12,162 lbs). Annual landings in previous years have been highly variable with 3,957 lbs in 2010, 22,557 lbs in 2009 and 1,492 lbs in 2008. Most of the reported commercial landings came from incidental by-catch from shrimp trawlers. Commercial landings are monitored through the South Carolina commercial fisheries monitoring program, which reports its data to the National Marine Fisheries Service (NMFS) and the ACCSP (Atlantic Coastal Cooperative Statistics Program). No regulatory changes were implemented under State law that would affect South Carolina's croaker landings or any reporting requirements for the fishery.

II. REQUEST FOR *de minimis*

The spot ISFMP, and the recently passed Omnibus Amendment (ASMFC, 2011), allows for a state to request *de minimis status if, for the preceding three years for which data are available, their average commercial landings or recreational landings (by weight) constitute less than 1% of the coast wide commercial or recreational landings for the same three year period. A state that qualifies for de minimis based on their commercial landings will qualify for exemptions in their commercial fishery only, and a state that qualifies for de minimis based on their recreational landings will qualify for exemptions in their recreational fishery only.*

The reported commercial landings for Spot in South Carolina have not exceed 1% of the Atlantic coast total landings since 1997, with all reported years since making up significantly less than 1% of the reported Atlantic coast landings required for *de minimis* status. This fulfills the above requirement for the commercial fishery in South Carolina to be in *de minimis* status.

The recreational harvest of Spot (A + B1) for South Carolina and the percentage of the coast wide landings made up by these catches were:

Table 1. Recreational landings (by weight) for Spot in South Carolina.

Year	SC Landings (lbs) (A + B1)	Coastal Landings (lbs) (A+B1)	SC Percentage of Landings (23-yr mean)
2007	605,024	15,717,617	3.85
2008	2,731,815	11,200,108	24.39
2009	589,027	6,035,163	9.76
2010	322,885	4,303,466	6.52
2011	596,679	5,989,196	9.96
2012	933,684	4,448,236	20.99

There was an overall increase in recreational landings in both 2011 and 2012 in South Carolina following down years in 2009 and 2010 (Table 1). The 10 year average for landings was 760,000 lbs including the peak years in 2006 and 2008. However, annual recreational landings have typically averaged 550,000 lbs a year without those peak years (2006 and 2008). Recreational landings of spot in South Carolina have typically made up greater than 1% of the Atlantic coast total and would not qualify for *de minimis* status for this segment of the fishery. Additionally, there are no ASMFC management measures restricting the recreational harvest of Spot in the Omnibus Amendment.

III. SPOT FISHERY AND MANAGEMENT PROGRAM

A. Fishery Dependent Monitoring:

South Carolina's spot fishery is generally recreational in nature. Fishery dependent data related to Spot 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 charterboat operators.

State Finfish Survey - The State Finfish Survey (SFS) is a fishery dependent intercept survey designed to collect primarily catch/effort data and length measurements of selected species taken by private boat anglers in South Carolina waters and federal waters off the state since 1996. The SFS only began collecting data on spot in 2009, so this species was only recently added. The SFS measured 41 Spot in 2012 ranging from 162-273 mm total length. The mean size \pm standard error of the group was 119.9 ± 3.26 mm total length. The total number of spot intercepted by the SFS in 2012 was an order of magnitude decrease compared to previous years (2009=5,021; 2010=2,020; 2011=2,081). Although relative effort levels for SFS intercepts were the same in 2012, it was not immediately apparent why the number of spot intercepted decreased so drastically. Anecdotal evidence from interviews with anglers suggested that the fall run of spot south along the South Carolina coast was greatly decreased in 2012 and may have contributed to the low numbers of fish intercepted.

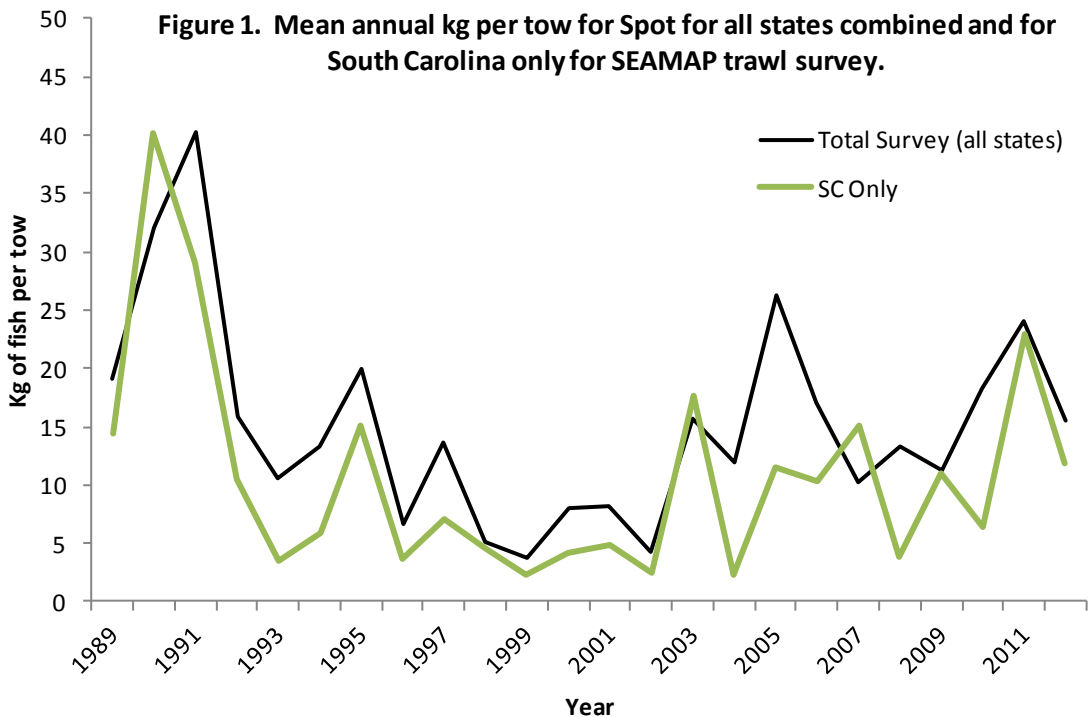
Marine Recreational Information Program - The MRIP data indicated a 56.5% increase in harvest (A + B1) in 2012 (933,684 lbs) from the previous year in 2011 (596,679 lbs). Large annual increases in harvest (>50.0%) have been observed in five of the last 12 previous years (2001, 2006, 2008, 2011, 2012) while decreases of >50% were observed in three years (2000, 2005, 2009) during the same time period. Large annual changes in the MRIP harvest do not necessarily reflect changes in stock status, as the changes occurred over a single year after which they

generally decreased by at least 50% the following year. Another important consideration was the level of percent standard error (PSE). PSE for spot harvest was generally greater than 30% for the last 6 years (www.st.nmfs.gov/st1/recreational/queries/index.html), indicating reliability issues on how harvest expansion estimates were determined. The most common factors contributing to high PSE levels are either a low number of intercepts or limited spot samples from the intercepts that did occur.

B. Fishery Independent Monitoring:

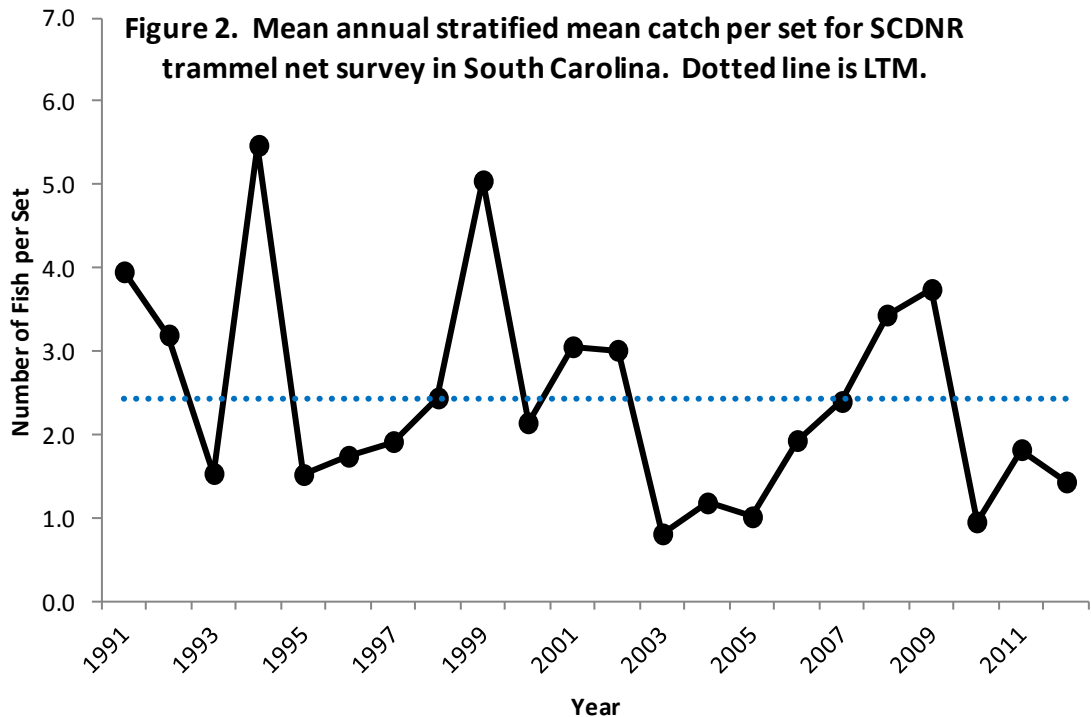
While Spot are not necessarily a specifically targeted species for SCDNR monitoring programs or projects, they are a common component species of three fishery independent monitoring efforts conducted by the SCDNR. The summary catch effort data for each of the fishery independent surveys can be found in Table 2 at the end of this report.

The first is the Southeast Area Monitoring and Assessment – South Atlantic Program (SEAMAP-SA) conducted by SCDNR staff. This shallow water (15 to 30 ft) trawl survey monitors status and trends of numerous coastal species within the South Atlantic Bight seasonally (spring, summer and fall) from Cape Canaveral, FL to Cape Hatteras, NC. The annual stratified mean catch per tow, in weight for the entire survey in 2012 decreased by 35.4% (15.5 kg/tow) over 2011 (24.0 kg/tow) (Fig. 1). In South Carolina waters, there was a greater decrease in CPUE (47.9%)

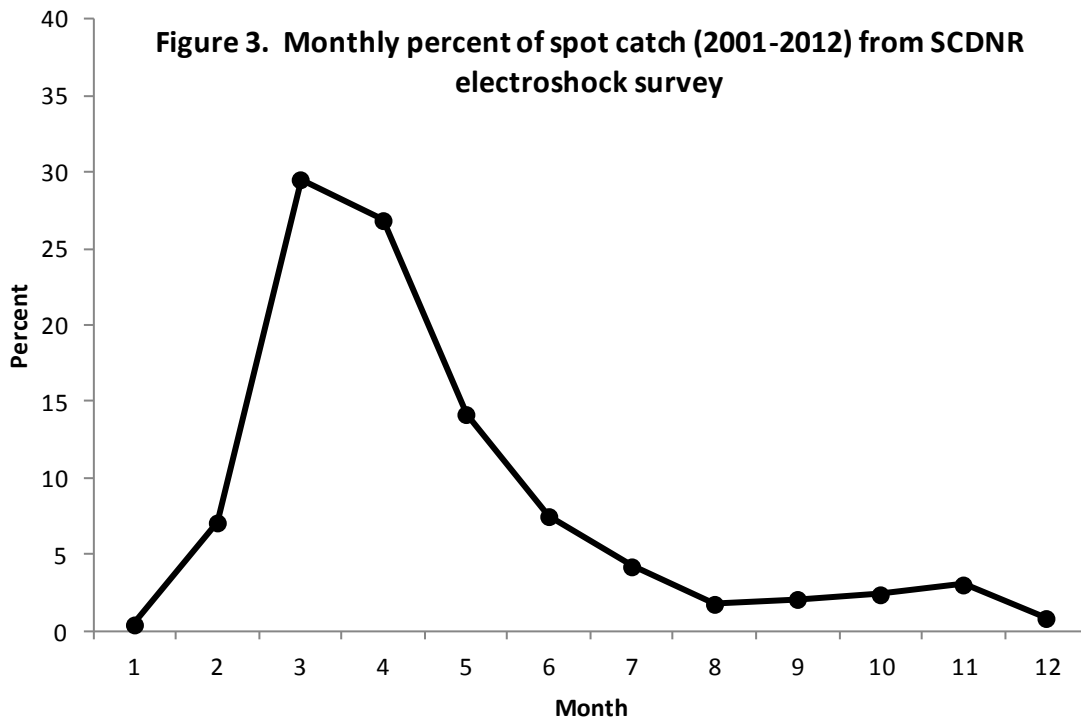


compared to the overall survey, but the CPUE trend in South Carolina has generally mirrored the trends in the entire survey. The only years where there were any noted departures from the overall trend occurred from 2007- 2010 where annual mean CPUE in South Carolina was opposite the changing trend in the general survey.

The second survey was an inshore estuarine trammel net survey. The trammel net survey has been conducted since 1991 and is currently an ongoing program. It uses a stratified random sampling protocol from seven different estuaries (as strata) with individual sampling sites chosen at random within each estuarine area on a monthly basis. The trammel net program was designed to monitor important recreational finfish species over a broad geographic range. Because of size selectivity due to mesh size, the trammel net survey primarily samples adult Spot throughout most of the year. The long term data series for the trammel survey showed peaks in abundance in 1994, 1999, and 2009 with the most noticeable multi-year declining trend occurring from 1998 – 2005. The greatest single year declines in CPUE (> 50%) occurred in 1995 (-65.4%), 2000 (-58.3%), 2003 (-70.5%) and 2010 (-73.5%). In 2012, CPUE decreased 19.5% from 2011, remaining below the long term mean for the third year. Since 2000, mean annual CPUE has only surpassed the long term mean four times (2001, 2002, 2008, 2009).



The third survey was an electroshock survey conducted in low salinity brackish and tidal freshwater portions of different South Carolina estuaries. The electroshock program monitors the abundance and trends of recreationally important finfish in these low salinity estuarine areas using a monthly random stratified design of 6 estuarine strata. The majority of croaker captured by the electroshock survey were juveniles (< 100 mm standard length), with stratified mean catch effort data (CPUE) being equivalent to the number of fish captured per set. The standard electroshock set sampled 0.25 mile of shoreline. The majority of spot captured during the survey occurred from February to July and accounted for 89.4% of all spot caught (Fig. 3). Mean annual CPUE ranged from 5.49 to 20.65 from 2001 to 2012 (Fig. 4). The long term mean for CPUE was 12.1 fish per set, although year to year changes were highly variable with > 50% change in CPUE in 8 of 11 years. Since the electroshock survey captured primarily juvenile spot (fish < 100 mm standard length), the mean annual CPUE values serves as a reasonable proxy for relative juvenile abundance. The index value for 2012 (5.49 fish per set) was the lowest in the index. However, a high degree of year to year variability in juvenile recruitment indices is not uncommon in estuarine fishes given the biotic and abiotic factors that can influence annual recruitment.



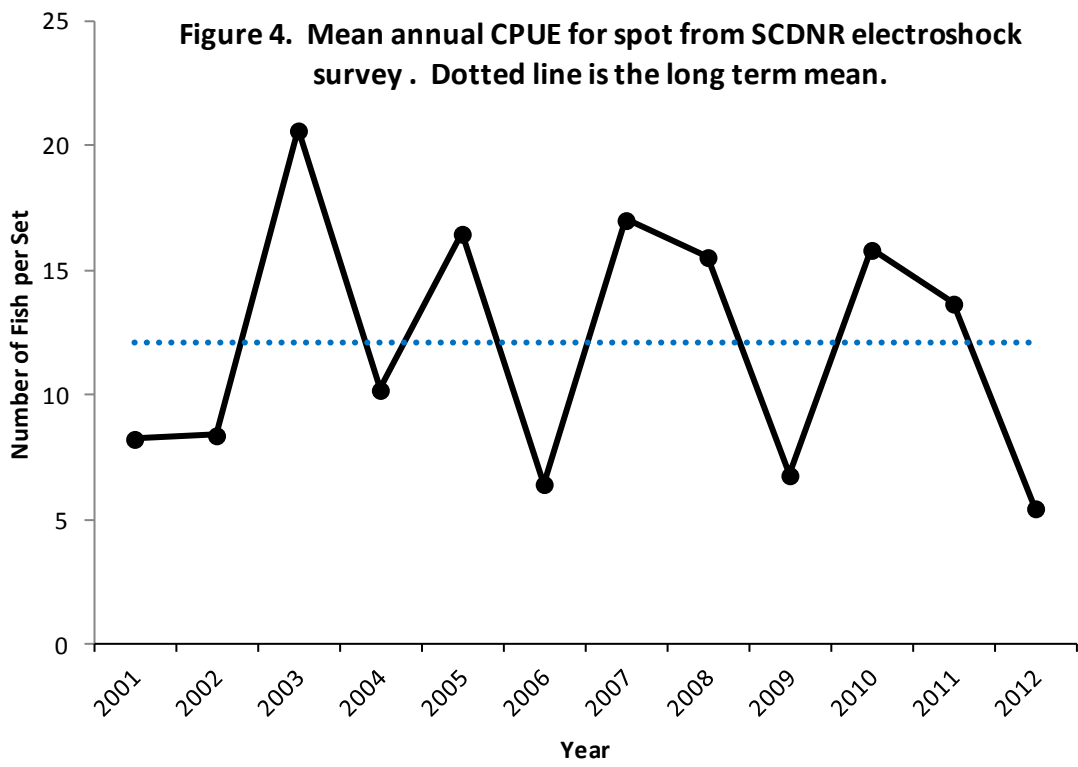


Table 2. South Carolina Spot CPUE indices (weight or number of Spot per set or tow), for fishery independent surveys from 1990 to 2012. All CPUE values are stratified mean annual CPUE based on randomly stratified sampling protocols.

	SEAMAP	SEAMAP	SEAMAP	SEAMAP	SCDNR	SCDNR
	All States	All States	SC-only	SC-only	Trammel	Electroshock
	All Seasons	All Seasons	All Seasons	All Seasons	All Year	All Year
Year	Number	KG	Number	KG	Number	Number
1989	325	19.170	251	14.379	*	*
1990	539	32.076	680	40.105	*	*
1991	599	40.281	433	29.008	3.95	*
1992	243	15.928	168	10.568	3.19	*
1993	130	10.531	73	3.429	1.53	*
1994	218	13.282	92	5.922	5.47	*
1995	365	19.905	285	15.167	1.52	*
1996	142	6.586	84	3.684	1.74	*
1997	203	13.687	140	7.047	1.91	*
1998	105	5.050	103	4.467	2.44	*
1999	80	3.742	48	2.380	5.04	*
2000	125	7.977	89	4.256	2.14	*
2001	178	8.121	112	4.895	3.05	8.27
2002	76	4.285	58	2.398	3.01	8.41
2003	345	15.619	426	17.601	0.81	20.65
2004	226	11.983	50	2.267	1.18	10.23
2005	439	26.203	140	11.452	1.01	16.50
2006	277	17.076	209	10.265	1.93	6.46
2007	76	10.174	80	15.118	2.39	17.05
2008	184	13.233	72	3.801	3.43	15.56
2009	217	11.198	247	11.003	3.74	6.81
2010	317	18.239	121	6.409	0.95	15.85
2011	496	24.023	501	22.857	1.82	13.70
2012	247	15.527	182	11.906	1.43	5.49

C. Spot Regulations in Effect:

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. South Carolina currently has no specific laws pertaining to size or possession limits for Spot in state waters.

D. Spot Harvest:

Currently, there is no directed commercial fishery for Spot in South Carolina and the only reported landings come from incidental shrimp trawl by-catch data. The reported landings for 2012 were low at 541 lbs reported. Total spot commercial landings in South Carolina have made up less than 1% of the Atlantic coast landings since 1997 and would qualify for *de minimis* status.

The reported total recreational harvest of Spot for South Carolina for 2012 from the MRIPS was 933,684 lbs (PSE = 35.5%) and was significantly higher than commercial landings. However, the percent standard error (PSE) was also quite high indicating harvest numbers were not completely reliable. South Carolina's spot harvest in 2012 made up approximately 21% of the Atlantic coast total and so would not qualify for *de minimis* status in the recreational fishery.

E. Habitat Recommendations – Not applicable.

IV. PLANNED SPOT MANAGEMENT PROGRAMS

A. Regulations in Effect:

No regulatory changes are anticipated for Spot in 2013.

B. Monitoring programs that will be performed:

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

C. Changes from the Previous Year:

None.

V. PLAN SPECIFIC REQUIREMENTS – Not applicable.



MARK WILLIAMS
COMMISSIONER

A.G. 'SPUD' WOODWARD
DIRECTOR

November 7, 2013

Kirby Rootes-Murdy
FMP Coordinator
Atlantic States Marine Fisheries Commission
1050 N. Highland St., Suite 200 A-N
Arlington VA, 22201

Kirby:

Please find enclosed Georgia's 2012 spot Compliance Report. The State of Georgia requests *de minimis* status for the spot commercial and recreational fisheries. Please let me know if you require additional information.

Sincerely,

Dawn Franco
Marine Fisheries Section

cc: Pat Geer

State of Georgia spot Compliance Report for the Year 2012

1. Introduction: Summary of the year: highlight any significant changes in monitoring, regulations, or harvest.

Spot have been regulated within Georgia state waters since 1989. The minimum size limit for spot landed in Georgia was eight (8) inches total length for both commercial and recreational fisheries with a bag/creel limit of 25 fish per person per day for only recreational fisheries. Trawlers harvesting shrimp for human consumption were exempted from the quantity limit. There was no season closure for either fishery.

Commercial harvest of spot in Georgia was limited to sales of fish caught within the recreational size and bag limit. During 2012, less than three dealers reported landings thereby making that information confidential. Pursuant to the requirement in Section 4.2.6, the Georgia Department of Natural Resources (GADNR), Coastal Resources Division (CRD), has a trip ticket system for commercial fisheries that conforms to ACCSP standard data element requirements. Through this program, commercial harvest has been continuously monitored.

Spot was not ranked among the top species targeted by recreational anglers in Georgia. From 2008-2012, only ~0.02% of the average ~622,059 directed trips in Georgia targeted spot. However, recreational harvest will continue to be monitored through the National Marine Fisheries Service's (NMFS) Marine Recreational Information Program (MRIP) Access Point Angler Intercept Survey (APAIS). Georgia CRD has been the state sub-contractor for the intercept survey since 2000.

The Marine Sportfish Population Health Survey (MSPHS) used a variety of sampling gear including trammel nets, gill nets, and hook and line to collect fishes of recreational importance from two Georgia estuaries. During 2012, 373 trammel and gill net sets resulted in the capture of 359 spot.

The Ecological Monitoring Survey continued to monitor estuarine finfish data as part of the monthly trawl surveys in six Georgia estuaries. In 2012, 493 trawls were conducted capturing 3,977 spot with a total weight of 352.76 kg.

2. Request for *de minimis*, where applicable.

There were no spot landings reported by Georgia dealers in 2012. The most recent three-year (2010, 2011, and 2012) coastwide average landings was 2.9 million pounds (Table 1). The State of Georgia requests *de minimis* status for the spot commercial fishery based on Georgia's reported landings of less than 1,000 pounds.

Year	Pounds
2009	5,578,379
2010	2,275,959
2011	5,267,410
2012	1,328,774
GRAND TOTALS:	14,450,522
3-YR AVERAGE	2,957,381

The three-year average of spot recreational landings along the Atlantic coast, as estimated by the NMFS Marine Recreational Information Program (MRIP), was 1.7 million pounds. In contrast, Georgia's coastwide estimated average landings equaled 159 pounds, or 0.01%, of the Atlantic coastal landings for the same time period (Table 2). The state of Georgia requests *de minimis* status for the spot recreational fishery based on the low average state landings.

Year	Atlantic Coast		Georgia Coast	
	Weight (lbs)	PSE	Weight (lbs)	PSE
2010	1,689,953	14.8	214	77.8
2011	2,147,563	12.2	171	103.6
2012	1,336,333	15.5	91	73.4
3-yr AVERAGE	1,724,616		159	
			0.01% of Coastwide landings	

3. Previous calendar year's fishery and management program

a. Activity and results of fishery dependent monitoring.

Finfish Carcass Recovery: The Marine Sportfish Carcass Recovery Project, a partnership with recreational anglers along the Georgia coast, was used to collect biological data from finfish such as red drum, spotted seatrout, southern flounder, sheepshead, and southern kingfish. Chest freezers were located at public access points along the Georgia coast. Each freezer was clearly marked and contained a supply of plastic bags, pencils, and data cards. Anglers placed their filleted fish carcasses and completed data card in plastic bags and then placed them in the provided freezer. CRD personnel collected the carcasses and processed them to determine species, length, sex, and maturity stage when possible. Sagittal otoliths were removed and processed to determine the age of the fish. In 2012, a total of 4,411 fish carcasses were donated through this program. Occasionally, some additional species outside of the requested list are donated but no spot were donated in 2012.

b. Activity and results of fishery independent monitoring.

Marine Sportfish Population Health Survey (MSPHS): CRD personnel utilized gill and trammel nets to collect information on the biology and population dynamics of recreationally important finfish. Two Georgia estuaries were sampled on a seasonal basis using entanglement gear. Specific information collected included: 1) age composition of the stock; 2) size and age at first spawning; 3) ratio of males to females in the stock; 4) movement and/or migration; 5) fishing mortality; 6) growth; and 7) spawning season. To provide age information, otoliths were removed from a size-stratified sub-sample of the catch from select sampling events.

From June to August, young-of-the-year red drum in the Altamaha River Delta and Wassaw estuary were targeted using gillnets to gather data on relative abundance and location of occurrence. From September to November, fish populations in the Altamaha River Delta and Wassaw estuary were monitored using trammel nets to gather data on relative abundance, size composition, and general species composition. During 2012, 373 trammel and gill net sets, with a soak time of 5 min, resulted in capture of 359 spot that were measured (CL) and then released (Table 3).

Gear	Sound	Effort	GM	CPUE	n	CL Mean	CL Min	CL Max
Trammel	Wassaw	75	0.46	0.85	64	206.34	179	240
	Altamaha	83	0.32	0.52	43	208.58	183	226
Gill	Wassaw	108	0.65	1.31	142	193.42	161	224
	Altamaha	107	0.40	1.03	110	186.70	130	221

Ecological Monitoring Survey (EMS): CRD annually monitored estuarine finfish data onboard the research vessel Anna. A 40-foot flat otter trawl was towed for 15 minutes through each of 42 stations every month in six Georgia estuaries. In 2012, 493 tows (observations) were conducted totaling 124.05 hours of tow time. A total of 3,977 spot were observed totaling 160.01 kg. Lengths ranged from 42 mm TL to 223 mm TL, with a mean length of 138.33 mm TL (Table 4).

Table 4. Observed annual data for spot 2008-2012 (EMS)					
Year	2008	2009	2010	2011	2012
Total Number	23836	17497	15512	15813	3977
Total Weight (kg)	938.64	639.12	212.43	390.29	160.01
Avg. Length (mmTL)	135.16	134.91	111.04	126.10	138.33
Minimum Length (mmTL)	20	15	16	24	42
Maximum Length (mmTL)	220	226	238	225	223
# of tows (n)	517	511	500	509	493
CPUE (#/15 min tow)	46.10	34.24	31.02	31.07	8.07
Geometric mean	8.82	6.10	4.24	4.89	2.44

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

4.1 Recreational Fisheries Management Measures

4.1.1 Recreational Bag and Size Limits - Georgia's current minimum size limit for spot is 8 inches total length with a twenty-five (25) fish bag limit (DNR Rule 391-2-4-.04).

4.2 Commercial Fisheries Management Measures - Trawlers fishing for shrimp for human consumption are exempt from the creel and possession limits for spot; however, the minimum size of eight (8) inches total length does apply. A commercial fishing license is required to sell (O.C.G.A. 27-4-110).

4.2.4 Commercial Gear Restrictions - Hook and line and trawl gear are the only feasible methods for direct harvest of spot in Georgia as gill nets have been banned in state waters since the 1950's, except for shad. There is no directed fishery for spot using either gear.

4.2.6 Data Collection and Reporting Requirements - Georgia is in full compliance with the ACCSP data collection and reporting requirements. Seafood dealers are required to maintain a record and report seafood purchased for commercial harvests in Georgia. Records must be submitted to the Department by the 10th day of the

month subsequent to fishing (O.C.G.A. 27-4-110 and 136 and DNR Rule 391-2-4-.09). Harvesters are required to maintain a logbook of fishing activity but at this time, are not required to report that activity (O.C.G.A. 27-4-118).

4.2.6.1 Vessel Registration System - Any commercial vessel fishing in Georgia waters is required to purchase either a trawler or non-trawler boat license, dependent on fishing practices (O.C.G.A 27-2-8).

4.3 For-Hire Fisheries Management Measures

4.3.1 Bag and Size Limits and 4.3.2 Maximum Size Limit - Georgia for-hire and charter boats, if licensed as commercial fishermen, may harvest and sell their catch, as would other commercial fishermen, however they are restricted to a recreational limits.

4.3.3 Data Collection and Reporting Requirements - If a for-hire captain sells his catch in Georgia, he is subject to the same reporting requirements as dealers and harvesters as noted above.

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

Commercial: No Georgia dealers reported spot landings in 2012.

Recreational: Since the year 2000 CRD has been the contractor for the intercept survey within the NMFS Marine Recreational Information Program (MRIP). In 2012, survey clerks interviewed 1,826 anglers. It is estimated that 299,605 anglers (PSE 8.4) completed 892,417 trips (PSE 10.5). Coastal Georgia residents accounted for 44.2% (132,508 PSE 12.1) of the total anglers. Non-coastal residents accounted for 31.6% (94,660 PSE 16.8) and out of state anglers accounted for the remaining 24.2% (72,437 PSE 19.1). Expanded data are presented in tabular format below.

		Number of Angler Trips		A +B1 + B2 Released + Harvest		B2 Released Alive		A+B1 Harvest	
FISHING AREA	MODE	Total	PSE	Total	PSE	Total	PSE	Total	PSE
INLAND	CHARTER	15,663	10.8	0		0		0	
	PRIVATE	469,527	13.8	4,317	54.6	3,968	59.0	348	75.6
	SHORE	228,634	23.9	0		0		0	
INLAND Total		713,824	11.9	4,317	54.6	3,968	59.0	348	75.6
OCEAN (<= 3 MI)	CHARTER	1,144	23.6	0		0		0	
	PRIVATE	14,793	32.6	0		0		0	
	SHORE	147,617	26.7	0		0		0	
OCEAN (<= 3 MI) Total		163,554	24.3	0		0		0	
OCEAN (> 3 MI)	CHARTER	3,112	18.7	0		0		0	
	PRIVATE	11,926	36.1	0		0		0	
OCEAN (> 3 MI) Total		15,038	28.9	0		0		0	
Grand Total		892,417	10.5	4,317	54.6	3,968	59.0	348	75.6

e. Review of progress in implementing habitat recommendations.

With over 2,344 linear miles of coastline and tidal marsh covering 378,000 acres, the entirety of Georgia's coast provides habitat for spot. CRD is involved in activities related to many of the recommendations in Section 4.3, but without a specific focus on spot. The Georgia Coastal Management Program (GCMP) provides an overarching entity under which many activities related to habitat protection are conducted both by CRD staff and others who are funded with Coastal Incentive Grants.

CRD entered into an oyster reef restoration & enhancement partnership with the University of Georgia's Marine Extension Service. Oyster reefs are considered essential fish habitat and their enhancement has numerous benefits. During this report period, oyster cultch material and oak limb bundles were deployed in the inter-tidal zone to restore/enhance one Recreational Shellfish Harvest Area in Glynn County Georgia. Oyster spat will attach to the cultch material, as well as already recruited oysters, causing these habitats to increase in size and enhance ecological value for years to come.

Georgia's "Marshland Protection Act" requires permits from the Coastal Marshlands Protection Committee and the U.S. Corps of Engineers for all activities that alter the marsh. This includes oyster restoration / enhancement projects. Thus, the appropriate federal and state regulatory agencies are informed of all restoration / enhancement sites. This minimizes the potential of negative impacts to critical habitats from other permitted activities.

During 2012, the Coastal Marshlands Protection Committee issued 11 new permits for structures such as commercial, industrial and community docks. CRD also issued 26 bank stabilization permits and 118 revocable licenses for private docks.

4. Planned management programs for the current calendar year

a. Summarize regulations that will be in effect. (Copy of current regulations if different from 3c.)

There are no planned changes to spot regulations in 2013. The eight (8) inch minimum limit and twenty-five fish bag limit will remain in effect for recreational fisheries. A commercial fishing license is required in order to sell spot and the eight (8) inch minimum size applies but there is no quantity limit for food shrimp trawlers.

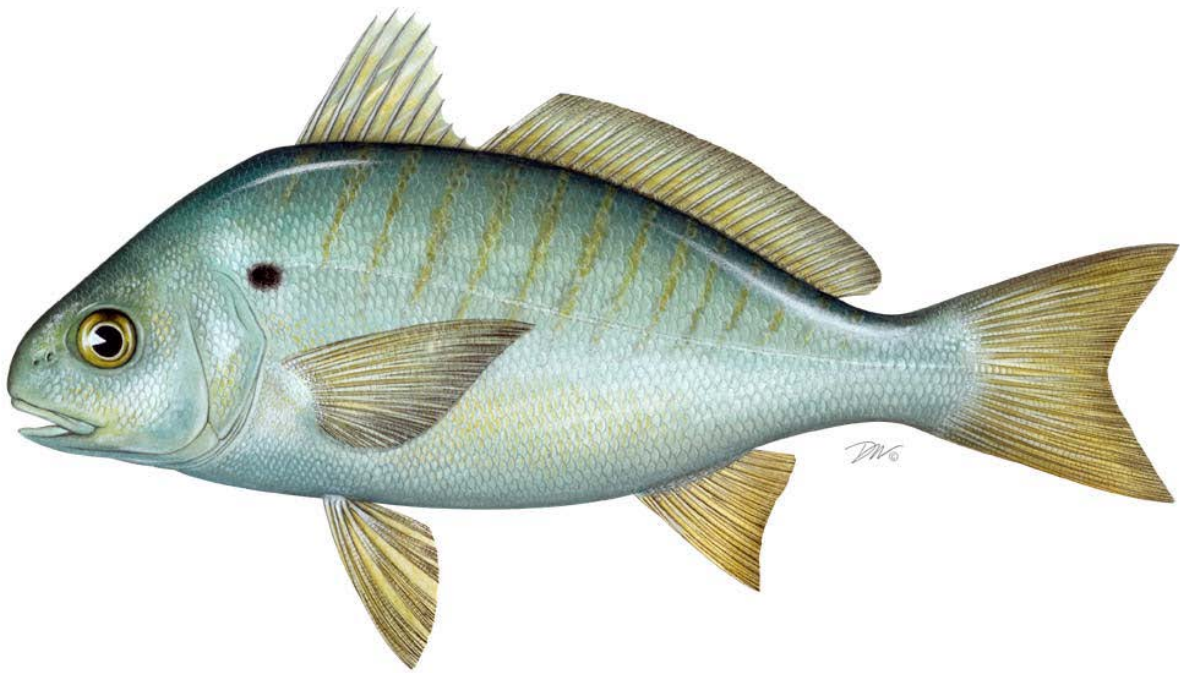
b. Summarize monitoring programs that will be performed.

Monitoring described in Section III will continue throughout 2013.

c. Highlight any changes from the previous year.

There were no changes from the previous year.

**The 2013 Atlantic States Marine Fisheries Commission Compliance Report for spot,
Leiostomus xanthurus, on Florida's Atlantic coast**



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

October 15, 2013

Executive Summary

In 2012, Florida's total harvests of spot on the Atlantic coast were 55,833 lbs, of which 19% were from the recreational fishery.

The 2010-2012 average of Florida's combined commercial and recreational landings was 1.35% of the 2010-2012's average of the coastwide combined commercial and recreational landings.

Preliminary estimates of commercial landings and effort for spot in 2012 amounted to 36,744 pounds from 1,399 trips. These landings were mostly taken from inland waters (43%) and the federal EEZ (50%) using gillnets (38%), cast nets (21%), hook-and-lines (28%), and trawls (13%).

In 2012, evaluation of trip limit and quota compliance was not made for the spot commercial fishery on the Atlantic coast of Florida, because such management regulations are nonexistent. However, the limitation on the use of entangling gears since 1995 subsequently resulted in substantial reductions of spot commercial landings.

There are no bag and minimum size limits for spot caught by commercial fishers on Florida's Atlantic coast. However, the median total length (TL) of fish showed a slightly increasing linear trend during 1992-2012.

In 2012, an estimated number of 65,598 spot weighing approximately 19,090 pounds were kept by anglers on Florida's east coast. The ratio "fish released alive /fish kept" was 5.7.

In 2012, evaluation of compliance with the minimum size limit and daily recreational bag limit was not made because there are no such management regulations for spot caught by anglers on the east coast of Florida.

There have been no landings reported for the head boat fishery of spot on the east coast of Florida in 2012.

There are no size and bag limits for spot caught by the head-boat fishery on Florida's Atlantic coast.

Indices of abundance for young-of-the year and sub-adult/adult spot have been low and showed little variations except in 2010.

No management programs are planned for the current year.

I. INTRODUCTION

Spot (*Leiostomus xanthurus*) occur in the U.S. Atlantic from the Gulf of Maine to east Florida. The area of greatest abundance and center of recreational and commercial fisheries extends from Chesapeake Bay to South Carolina. On Florida's Atlantic coast, spot are not found in coastal waters off the extreme tip of southeast Florida.

There are no regulations directed at spot in Florida. However, the ban of entangling gears in Florida enacted during the 1990s may have had direct effects on spot harvests by commercial fishermen. This report provides with the response of spot fisheries on Florida's Atlantic coast to the previous ban, especially in 2012.

Total harvests of spot in the commercial and recreational sectors for 2012 amounted to 55,833 pounds (Table 1; Fig. 1). They represented 47% of the 1995-2011 average harvest. In general, total harvests of spot on Florida's Atlantic coast were very low since 1996, averaging about 87,761 pounds annually.

The proportion of spot harvested by the recreational fishery generally increased over years but showed no clear trend after 1999 (Fig. 1). The head boat-fishery was virtually nonexistent during 1985-2012.

II. REQUEST FOR *De Minimis* STATUS

N/A. In fact, the 2010-2012's average of Florida's combined commercial and recreational landings was 1.35% of the 2010-2012's average of the coastwide combined commercial and recreational landings (Table 2).

III. PREVIOUS CALENDAR YEAR'S FISHERY AND MANAGEMENT PROGRAM

A. Activity and Results of Fishery Dependent Monitoring Program

Commercial Fishery

Description of 2012 Fishery

The commercial fishery data came from the State of Florida's TTK system. The landings for 2012 were preliminary and are subject to change.

Preliminary spot commercial landings in 2012 amounted to 36,744 pounds from 1,399 trips. They were 108.5% of those of 2011 (Fig. 2; Table 3). The spot commercial landings declined sharply after 1995 and, since 1999, varied without trend at low levels (average = 27,119 pounds \times year⁻¹). The number of trips varied without trends prior to 1995 and declined substantially since then (average = 967 trips \times year⁻¹). Both commercial landings and the number of trips increased slightly in 2011 and 2012.

The 2012 commercial landings were highest during spring and fall months (Fig. 3).

The number of primary fishermen (i.e., those who landed more than 100 pounds a year) varied between 85 and 355 during 1986-1995. Since 1996, they varied between 22 and 119 fishermen. Their preliminary estimate in 2012 was 56. No fisherman has landed more than 10,000 pounds a year since 1999. Between 1996 and 2012, primary fishermen

represented 16-37% of all fishermen, made 45-80% of trips and contributed for 81-98% of landings. In 2012, these percentages were 20.4%, 56%, and 89%, respectively.

Based on dealer records for 2012, the share of spot landed on the east coast of Florida was 50% for the federal EEZ, 43% for inland waters, and 7% for the state territorial sea, where 32%, 48%, and 20% of trips were made, respectively. Spot landed in 2012 (Table 4; Fig. 4) were caught using cast nets (21%), gillnets (38%), hook-and-lines (28%), and trawls (13%). Compared with 2011, the commercial landings in 2012 increased for cast nets (79%), hook-and-lines (61%), and trawls (775%) but decreased by 37% for gill nets. Cast-netting, gillnetting, and hook-and-lining accounted for 38%, 31%, and 29% of trips made in 2012, respectively (Table 4; Fig. 5).

Trip Limit and Quota Compliance

There are no commercial trip or vessel limits as well as annual commercial quota established for spot on the east coast of Florida either by FWC or by the Atlantic States Marine Fisheries Commission. However, the limitation on the use of entangling gears since 1995 resulted in substantial reductions of annual spot commercial landings in subsequent years (Fig. 2).

Size Limit: N/A

There is no minimum size limit for spot caught by commercial fishermen on the east coast of Florida. Note, however, that the median total length (TL) of fish showed a slightly increasing linear trend during 1992-2012 (Fig. 6).

Recreational Fishery

Description of 2012 Fishery

Estimates of the recreational fishery data came from the Atlantic Coastal Cooperative Statistics Program's Data Warehouse. The compliance with the bag and size limits was not evaluated because there are no regulations directed at spot recreationally harvested on the east coast of Florida. Moreover, lack of intercept data in 2012 did not permit to update non-website recreational fishery statistics in that year.

The time series of spot recreational harvests, standardized numbers of trips (estimated by dividing the total number of fish caught - Type A+B1+B2 - each year by the annual standardized total catch rates, derived themselves from a GLM for catch rates), and directed trips made on Florida's coast broadly trended similarly (Fig. 7; Table 5).

The recreational harvests (Type A+B1) of spot on the east coast of Florida averaged about 374,426 fish and 127,000 pounds annually during 1982-1995. They averaged about 102,994 fish and 39,267 pounds thereafter (Fig. 7; Table 5). In general, the recreational harvests of spot varied erratically during 1982-2012. In 2012, the anglers' harvest of spot on Florida's Atlantic coast was estimated at a number of 65,598 weighing approximately 19,090 pounds. The ratio of released fish to those kept by anglers showed a noisy trend, varying between 0.11 and 5.7 fish released for 1 fish kept (Fig. 8). In most years since 1994, more than one fish has been released alive for every spot kept by anglers. In 2012, the ratio "fish released alive/fish kept" was 5.7.

Size and Bag limits

There are no management regulations about the size and bag limits for the recreational fishery directed at spot on the east coast of Florida. However, note that the annual size distributions of spot landed by anglers did not change over time (Fig. 9), but the species has been poorly sampled.

Head boat fishery

Description of 2012 Fishery

The head-boat fishery for spot on the Atlantic coast of Florida has been insignificant and a few landings have been reported before 1994 (Fig. 1; Table 1).

Size and Bag limits

There are no management regulations about the size and bag limits for spot caught by the head-boat fishery on the east coast of Florida. Biological samples from this fishery have been available during 1972-2012, but a few or no spot have been measured each year on Florida's Atlantic coast.

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

The FWC-Fish and Wildlife Research Institute (FWRI)'s FIM program initiated surveys on estuarine, bay and coastal systems of the 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.

Indices of abundance (IOAs) data for juvenile (YOY) spot (<30 mm standard length, SL) were available from 21.3-m seine and 6.1-m trawl samples. They were examined to assess recruitment along Florida's east coast (northeast Florida and the northern Indian River Lagoon). Habitats in these estuaries suitable for recruitment of spot were primarily sampled from January-April, a period considered as general recruitment season for Florida's east coast. IOAs data for large juvenile and sub-adult/adult spot (90-250 mm SL) were collected using 183-m haul seines in the previous estuarine systems and also in the Southern Indian River Lagoon. These indices were derived by including all fish that were 90-250 mm SL collected monthly. IOAs covered appropriate periods depending on data availability.

Standardized catch rates for juvenile spot were estimated using a Generalized Linear Model (GLIMIX procedure) with either the Poisson or Negative binomial error distribution to analyze observed abundance data. The median value for the distribution (generated through Monte Carlo simulations) of the back-transformed values of LSMs

provided annual indices. The same GLIMIX procedure was used to derive IOAs for adult spot caught each month in the 183-m haul seines.

IOAs for YOY and sub-adult/adult spot have been low and showed little variations; except in 2010 (Fig. 10; Table 6).

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

N/A - Spot is not a regulated saltwater species in Florida. However, it is generally believed that the limitation on the use of entangling gears in state waters and the requirement on the possible use of nets measuring up to 500 sq ft with stretched-mesh size up to 2 inches have substantially affected any harvest by commercial fishermen.

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

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

See Table 3 and Figure 2 for the commercial landings and effort and Table 4 and Figures 4 and 5 for commercial landings and effort by gear type.

See Table 5 and Figure 7 for recreational harvests in numbers and weight.

E. Review of Progress in implementing habitat recommendations.

N/A

IV. PLANNED MANAGEMENT PROGRAMS FOR THE CURRENT YEAR

No management programs are planned for the current year.

ACKNOWLEDGEMENT - Dr. Tremain Derek developed the fishery-independent indices of relative abundance.

Table 1 - Summary of spot harvests (pounds) by fishery sector on the Atlantic coast of Florida, 1985-2012. The recreational harvests are fish kept by anglers (Type A+B1). The 2012 recreational and commercial harvests were preliminary and are subject to change.

	Commercial landings (lbs)	Recreational landings (Type A + B1; lbs)	Head boat landings (lbs)	Total lbs
1985	1,193,498	213,041		1,406,539
1986	918,875	25,360		944,235
1987	943,734	32,836	4	976,574
1988	1,344,276	184,603		1,528,879
1989	1,144,661	23,255		1,167,916
1990	1,275,729	1,737	57	1,277,523
1991	1,051,408	107,257	13	1,158,678
1992	755,495	167,846	60	923,401
1993	826,343	396,631	6	1,222,980
1994	1,002,760	57,234		1,059,994
1995	558,097	42,850		600,947
1996	56,423	26,954		83,377
1997	227,097	13,961		241,058
1998	161,205	47,195		208,400
1999	72,922	84,511		157,433
2000	57,939	14,129		72,068
2001	33,031	284,706		317,738
2002	20,584	7,839		28,423
2003	9,263	26,504		35,767
2004	12,679	1,496		14,174
2005	21,152	9,070		30,222
2006	22,501	2,629		25,130
2007	14,334	13,890		28,225
2008	9,177	19,082		28,258
2009	22,057	9,128		31,184
2010	13,416	35,600		49,015
2011	33,874	51,760		85,634
2012	36,744	19,090		55,833

Table 2-Annual recreational (Type A+B1) and commercial landings (lbs) used to determine whether the state of Florida can be guaranteed the *de minimis* status for the spot fisheries on the Atlantic coast [data source: the Atlantic Coastal Cooperative Statistics Program's Data Warehouse; the commercial landings from Florida's Atlantic coast were extracted from the state of Florida's Marine Fisheries Information System or "trip tickets" program].

	Coastwide commercial landings (lbs)	Coastwide recreational landings (Type A+B1, lbs)	Coastwide combined landings (lbs)	Florida's commercial landings (lbs)	Florida's recreational landings (Type A+B1, lbs)	Florida's combined landings (lbs)
2010	2,274,947	1,689,953	3,964,900	13,416	35,600	49,015
2011	5,330,047	2,147,606	7,477,653	33,874	51,760	85,634
2012	1,326,395	1,290,026	2,616,421	36,744	19,090	55,833
Combined average			4,686,325			63,494
Florida's percent of combined landings						1.35%

Table 3 - Commercial landings (pounds) and number of trips for spot on the east coast of Florida, 1985-2012. Estimates for 2012 were preliminary and are subject to change.

	Landings (lbs)	Trips
1985	1,193,498	8,334
1986	918,875	6,393
1987	943,734	6,814
1988	1,344,276	8,312
1989	1,144,661	7,168
1990	1,275,729	7,993
1991	1,051,408	8,388
1992	755,495	7,824
1993	826,343	7,463
1994	1,002,760	7,244
1995	558,097	3,926
1996	56,423	1,261
1997	227,097	2,223
1998	161,205	1,996
1999	72,922	1,592
2000	57,939	934
2001	33,031	903
2002	20,584	729
2003	9,263	490
2004	12,679	380
2005	21,152	517
2006	22,501	544
2007	14,334	546
2008	9,177	493
2009	22,057	673
2010	13,416	621
2011	33,874	1,138
2012	36,744	1,399

Table 4 - Florida's Atlantic coast commercial landings (pounds) and trips made by gear type for spot, 1984-2012. The 2012 estimates were preliminary and are subject to change. Gear-specific records prior to 1991 were unavailable.

	CAST NET	GIG/SPEAR	GILL NET	HOOK AND L	OTHER	TRAMMEL	TRAWL	UNKNOWN	Grand Total
1984								60849	60849
1985								1193498	1193498
1986								918875	918875
1987								943734	943734
1988								1344276	1344276
1989								1144661	1144661
1990								1275729	1275729
1991	1166		375983	2247	760	2831	1974	666447	1051408
1992	795	42	679207	2229	10740	6737	5919	49826	755495
1993	1817		754518	5491	25834	6891	20282	11510	826343
1994	4341		962077	1607	3566	1463	25569	4137	1002760
1995	40741	9	485368	7940	8992	689	11305	3053	558097
1996	26230		1662	2817	23882		1764	68	56423
1997	33259	6	172560	3607	15126		1523	1016	227097
1998	36472	1	117612	4527	740		1584	269	161205
1999	30361	4	36838	2062	1494	1	1848	314	72922
2000	11601	7	44278	1250	236		458	109	57939
2001	8215	163	21698	2554			369	33	33031
2002	10558		8377	903	19		727		20584
2003	4414	1	4234	177	16		421		9263
2004	5052		5213	1255	1056		103		12679
2005	5234	31	13906	1420	209		352		21152
2006	5217	3	16305	404	560		12		22501
2007	4009		8427	823	10		1066		14334
2008	1715	233	4345	2467	17		399		9177
2009	2111	14	13557	4104	467		1804		22057
2010	1694	31	9359	1796	287		248		13416
2011	4278	12	22501	6273	282		528		33874
2012	7653	9	14139	10129	193		4620		36744

Trips

	CAST NET	GIG/SPEAR	GILL NET	HOOK AND L	OTHER	TRAMMEL	TRAWL	UNKNOWN	Grand Total
1984								484	484
1985								8334	8334
1986								6393	6393
1987								6814	6814
1988								8312	8312
1989								7168	7168
1990								7993	7993
1991	21		2423	53	19	154	103	5615	8388
1992	46	4	6399	69	61	396	149	700	7824
1993	119		6441	140	109	223	263	168	7463
1994	250		6479	62	50	92	258	53	7244
1995	615	2	2976	93	42	46	120	32	3926
1996	877		41	106	148		77	12	1261
1997	908	3	1005	104	129		58	16	2223
1998	976	1	853	114	2		42	8	1996
1999	754	1	653	81	6	1	87	9	1592
2000	410	4	436	57	8		12	7	934
2001	456	6	367	62			11	1	903
2002	428		247	34	6		14		729
2003	317	1	126	30	4		12		490
2004	210		125	36	6		3		380
2005	229	2	224	46	9		7		517
2006	170	1	322	34	16		1		544
2007	173		286	70	2		15		546
2008	121	2	234	129	2		5		493
2009	133	3	426	84	16		11		673
2010	201	3	309	76	22		10		621
2011	529	3	372	198	28		8		1138
2012	533	1	427	404	26		8		1399

Table 5 - Estimated MRFSS numbers and pounds of spot harvested, released alive and caught and estimated standardized total catch rates; standardized and directed numbers of trips made by recreational anglers on the Atlantic coast of Florida (1982-2012). The last three time series were not estimated for 2012 because there were no intercept data in 2012.

Years	Harvests (A+B1, numbers)	released (B2, numbers)	Harvests (A+B1; lbs)	caught (A+B1+B2; #)	Standardized CPUE	Standardized trips	Directed Trips
1982	735,398	205,387	236,026	940,785	1.6639	565,409	51,402
1983	488,029	186,615	167,294	674,643	1.3806	488,652	20,707
1984	396,402	130,493	122,585	526,896	1.4560	361,883	59,214
1985	861,700	170,060	213,041	1,031,760	2.7154	379,961	43,426
1986	96,803	10,351	25,360	107,154	1.5696	68,266	62,400
1987	73,833	57,437	32,836	131,270	1.1842	110,851	22,238
1988	663,681	110,003	184,603	773,685	2.7698	279,326	99,411
1989	67,506	22,425	23,255	89,932	2.0864	43,104	20,647
1990	7,252	30,937	1,737	38,189	1.7490	21,834	4,416
1991	269,628	168,284	107,257	437,913	1.8438	237,506	77,047
1992	357,678	64,738	167,846	422,416	2.6392	160,055	91,156
1993	946,757	185,226	396,631	1,131,982	3.1466	359,742	114,949
1994	137,067	335,647	57,234	472,715	2.2128	213,628	17,989
1995	140,231	268,765	42,850	408,996	2.3056	177,395	21,976
1996	64,337	65,083	26,954	129,420	1.8892	68,505	17,111
1997	31,987	18,102	13,961	50,089	1.7609	28,445	6,285
1998	120,389	58,264	47,195	178,653	2.1047	84,883	13,795
1999	264,233	530,849	84,511	795,082	2.7633	287,726	47,302
2000	40,908	54,388	14,129	95,296	1.3785	69,132	23,388
2001	652,975	74,232	284,706	727,207	2.1117	344,372	38,274
2002	25,907	44,584	7,839	70,491	1.4479	48,684	11,470
2003	84,685	106,918	26,504	191,603	1.4142	135,490	22,090
2004	6,789	9,427	1,496	16,216	0.9836	16,486	9,176
2005	23,795	41,773	9,070	65,568	1.6883	38,836	22,580
2006	7,990	21,755	2,629	29,745	1.5560	19,116	4,572
2007	30,184	26,675	13,890	56,859	1.2807	44,397	14,734
2008	58,731	128,942	19,082	187,674	1.8534	101,261	36,645
2009	25,391	40,890	9,128	66,280	1.5661	42,322	9,392
2010	94,670	57,924	35,600	152,594	1.1674	130,716	51,366
2011	152,329	196,294	51,760	348,624	2.0001	174,307	23,852
2012	65,598	373,916	19,090	439,514	-	-	-

Table 6 - Fishery-independent catch in number (No), effort (number of sets), and various statistics derived for the YOY and sub-adult/adult indices of relative abundance (i.e., catch rates, expressed as median number of fish per set) for spot on the east coast of Florida (IRL = Indian River Lagoon; JAX = Jacksonville).

Florida's East Coast spot IOAS - YOY							
Seines deployed only in northern IRL							
21 - m Bag seines							
0 - 30 mm - SL							
<i>Year</i>	<i>No. animals</i>	<i>No. sets</i>	<i>Median</i>	<i>25th</i>	<i>75th</i>	<i>min</i>	<i>max</i>
1998	8347	112	14.099	9.370	19.279	2.320	68.365
1999	1206	112	0.475	0.338	0.677	0.093	2.400
2000	4709	112	4.868	3.399	6.904	1.327	22.691
2001	704	112	0.239	0.171	0.334	0.042	1.156
2002	2969	113	1.644	1.135	2.249	0.446	9.101
2003	5199	114	1.624	1.203	2.225	0.451	7.342
2004	1226	114	0.399	0.284	0.549	0.083	2.270
2005	2453	112	1.536	1.143	2.124	0.243	6.190
2006	665	112	0.536	0.379	0.727	0.108	1.938
2007	5	112	0.003	0.002	0.005	0.000	0.024
2008	393	112	0.618	0.426	0.859	0.093	3.036
2009	699	112	0.187	0.129	0.272	0.036	0.897
2010	27147	112	169.369	123.293	247.761	39.517	1031.176
2011	1433	112	0.366	0.254	0.494	0.075	2.070
2012	125	112	0.052	0.035	0.080	0.012	0.289
Total	57,280	1,685					

Florida's East Coast spot (include all northern IRL and JAX)							
IOAs -YOY							
6.1 - m trawls							
0 - 30 mm - SL							
<i>Year</i>	<i>No. animals</i>	<i>No. sets</i>	<i>Median</i>	<i>25th</i>	<i>75th</i>	<i>min</i>	<i>max</i>
2003	612	160	0.247	0.170	0.341	0.058	1.310
2004	10508	163	0.287	0.221	0.390	0.096	1.001
2005	4047	164	0.157	0.117	0.200	0.039	0.707
2006	252	164	0.043	0.031	0.058	0.012	0.203
2007	527	164	0.015	0.011	0.021	0.002	0.061
2008	2427	164	0.255	0.184	0.334	0.057	0.924
2009	646	164	0.082	0.059	0.114	0.022	0.391
2010	22111	163	0.971	0.707	1.319	0.247	3.309
2011	11310	164	0.221	0.162	0.293	0.058	0.811
2012	2622	164	0.040	0.029	0.056	0.008	0.199
Total	55,062	1,634					

Florida's East Coast spot (include JAX , all northern IRL and southern IRL). IOA - Sub-Adult/Adult							
183 - m Haul seines							
90 - 250 mm SL							
<i>Year</i>	<i>No. animals</i>	<i>No. sets</i>	<i>Median</i>	<i>25th</i>	<i>75th</i>	<i>min</i>	<i>max</i>
1997	163	364	0.323	0.243	0.408	0.082	0.997
1998	1709	434	3.965	2.944	4.971	1.093	17.028
1999	107	420	0.260	0.199	0.352	0.076	0.833
2000	719	420	1.084	0.852	1.388	0.300	3.567
2001	1011	539	0.606	0.461	0.767	0.146	2.231
2002	1119	602	0.632	0.502	0.836	0.226	2.109
2003	1774	613	1.926	1.520	2.424	0.656	6.782
2004	1674	614	1.101	0.876	1.406	0.248	5.038
2005	1499	610	1.001	0.773	1.294	0.285	2.925
2006	2236	612	0.955	0.759	1.208	0.328	2.628
2007	1966	614	0.721	0.560	0.933	0.214	2.185
2008	1385	592	0.906	0.713	1.168	0.281	2.753
2009	1427	564	0.848	0.651	1.104	0.292	2.421
2010	24466	564	21.061	15.929	27.054	5.724	70.600
2011	13562	564	17.053	13.068	21.274	5.317	45.922
2012	2782	564	2.161	1.683	2.816	0.753	6.373
Total	57,599	8,690					

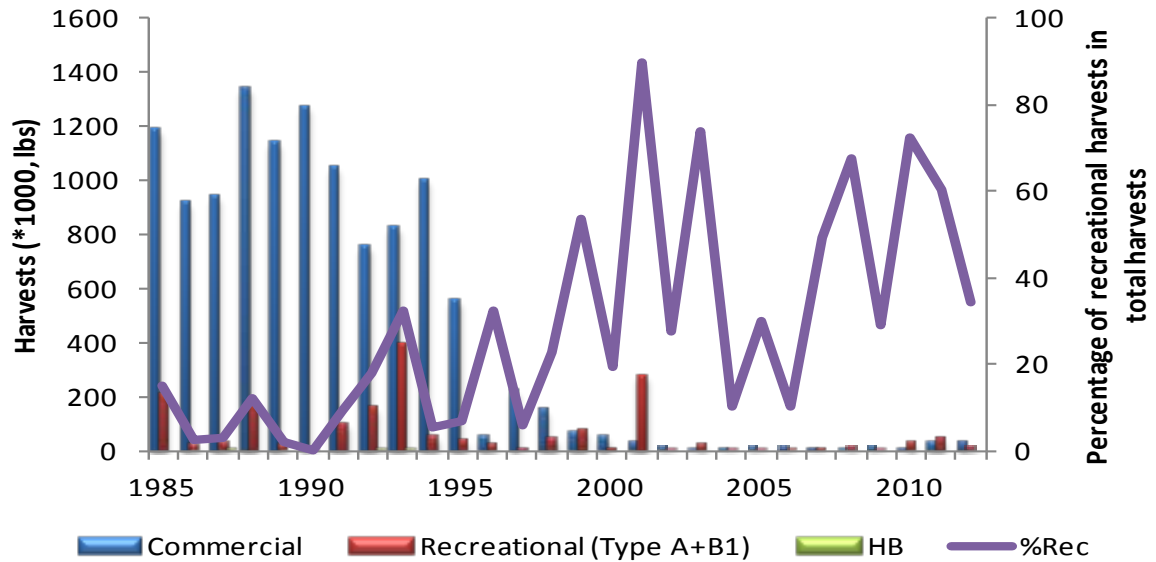


Figure 1 - Total harvests (lbs) and proportions of recreational harvests of spot on Florida's Atlantic coast, 1985-2012. The Recreational harvests are fish kept by anglers (Type A+B1). Harvests for 2012 were preliminary and are subject to change. The contribution of the head boat (HB) fishery in total harvests has been insignificant.

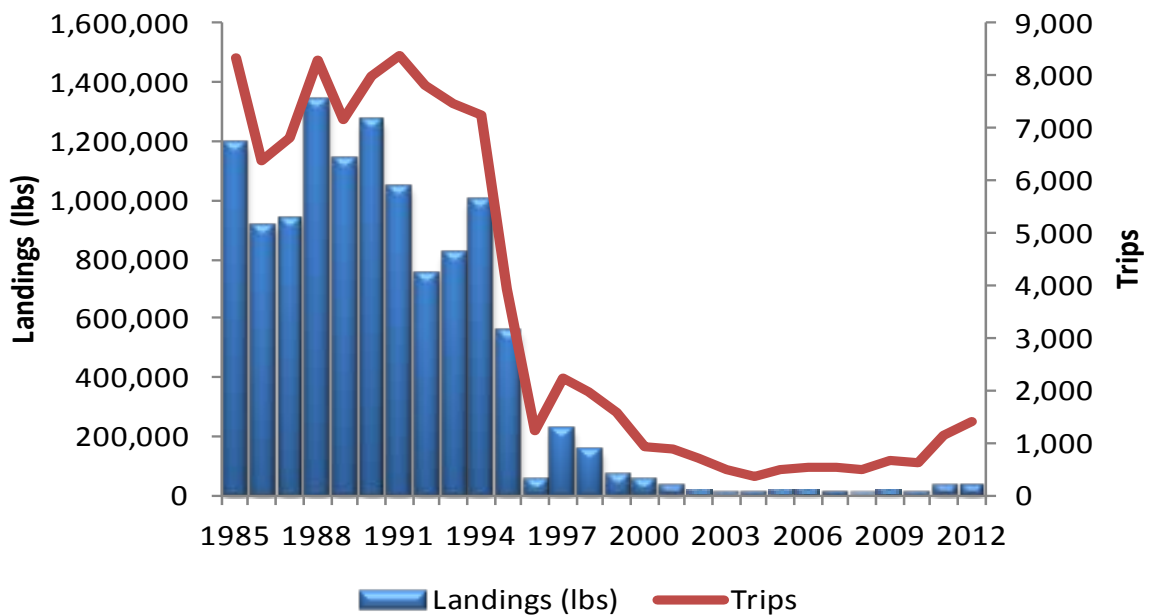


Figure 2 - Commercial landings (lbs) of spot and number of trips reporting spot commercial landings on Florida's Atlantic coast, 1985-2012. The 2012 estimates were preliminary and are subject to change.

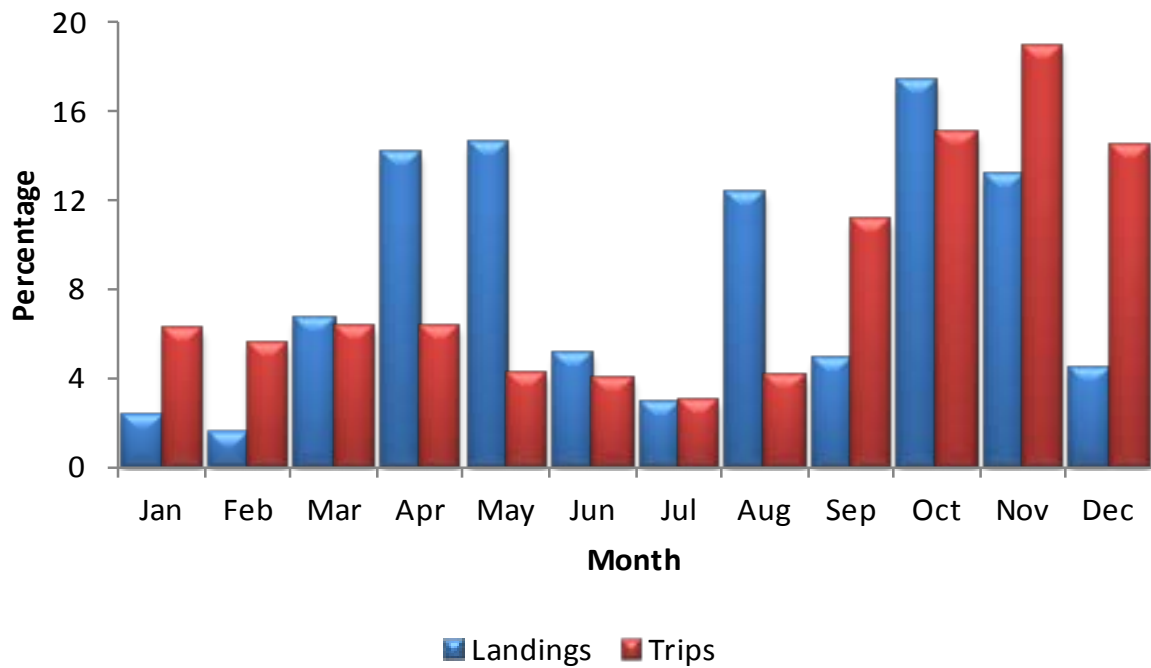


Figure 3 - Monthly percentages of spot commercial landings and trips on the coast of Florida in 2012.

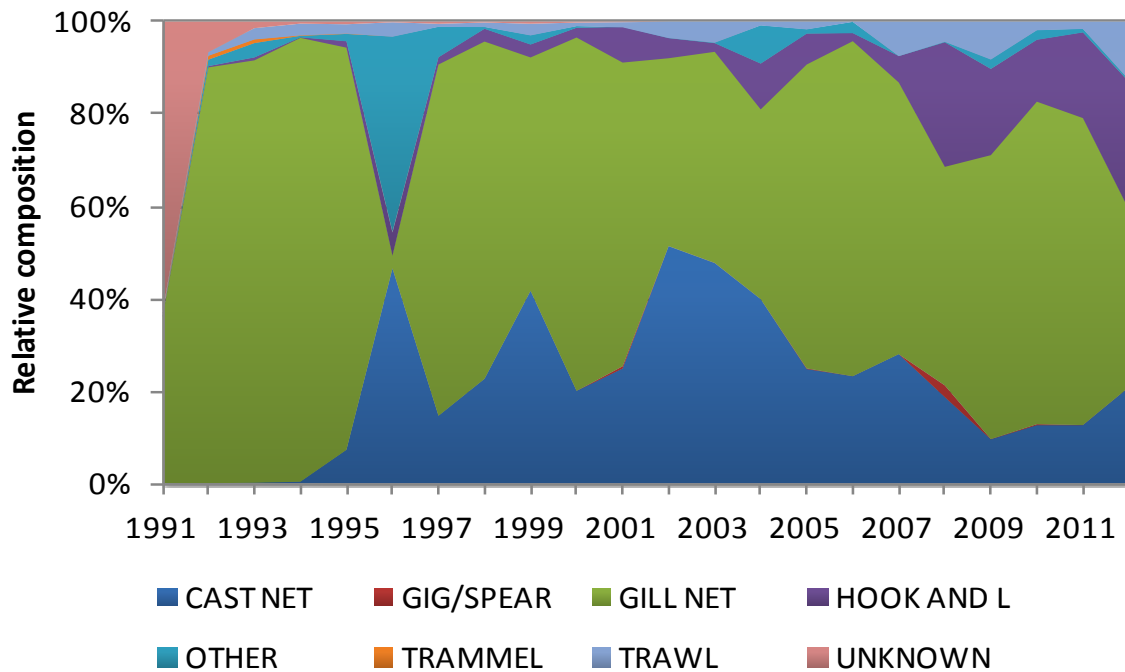


Figure 4 - Composition (%) of spot commercial landings by gear type on Florida's Atlantic coast, 1991-2012. The 2012 commercial landings were preliminary and are subject to change.

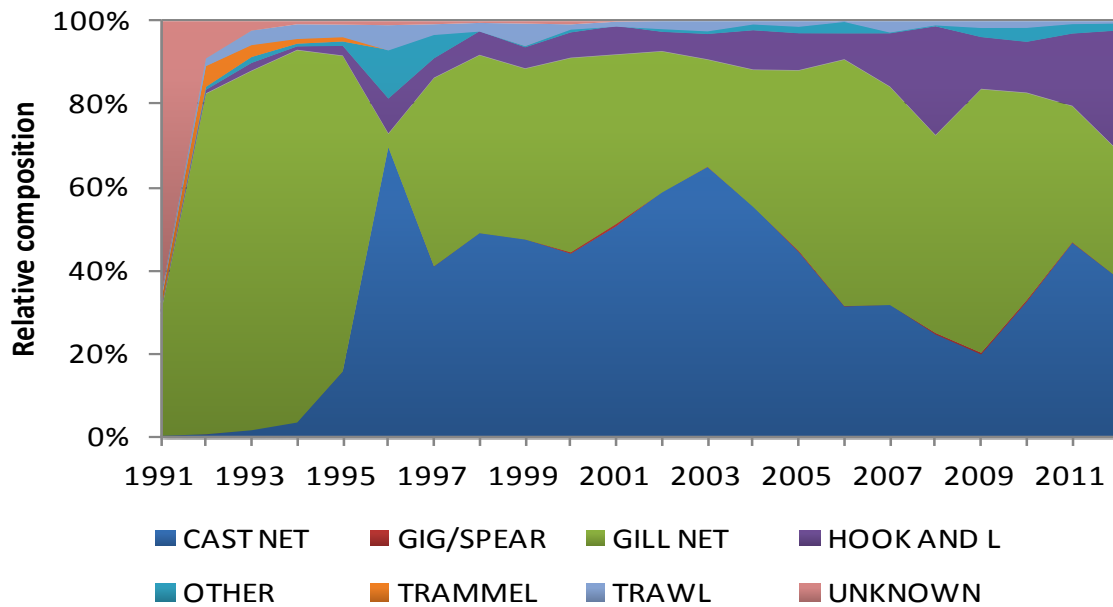


Figure 5- Composition (%) of commercial trips by gear type reporting spot on Florida's Atlantic coast, 1991-2012. The 2012 commercial trip estimates were preliminary and are subject to change.

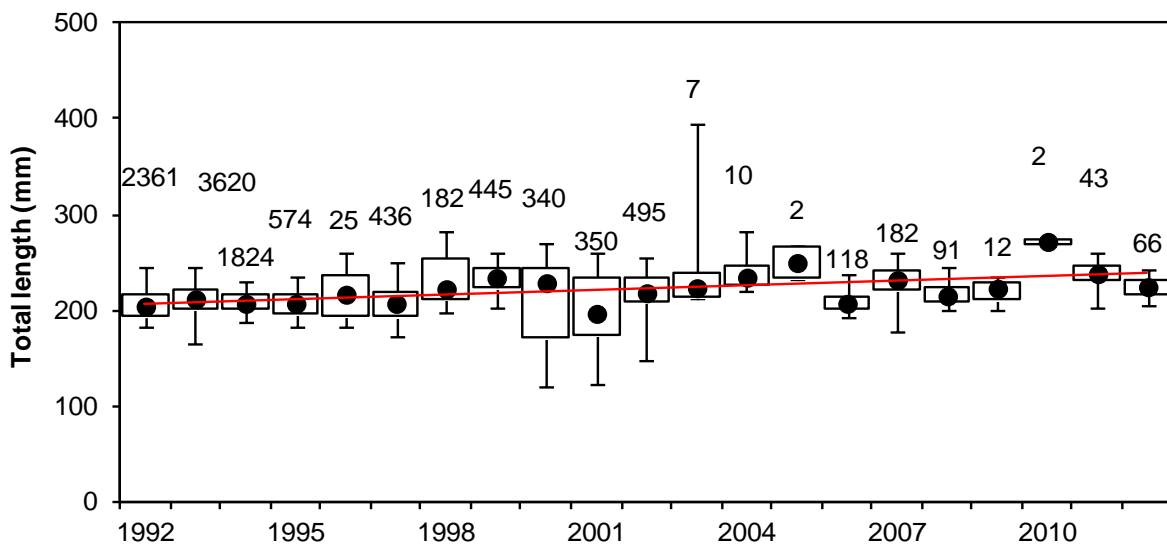


Figure 6 - Size distributions of spot measured in the commercial fishery on the coast of Florida, 1992-2012. The dark circle represents the median, the box represents the 25th-75th percentiles and the vertical whiskers extend from 2.5th - 97.5th percentiles. Numbers of fish measured are shown above the upper whiskers. The red line indicates the long-term trend of the annual median total length of fish measured.

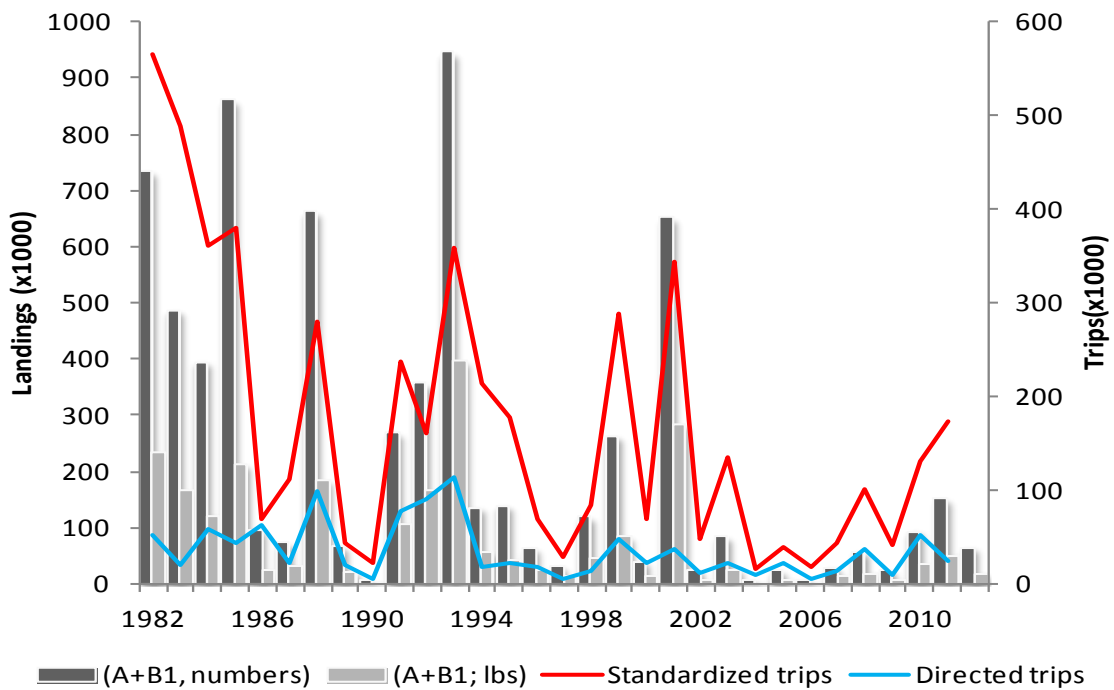


Figure 7 - Time series of the recreational harvests in number and weight (lbs) and of the numbers of standardized and directed angler-trips reporting spot on Florida's Atlantic coast, 1982-2012. The 2012 estimates were preliminary and are subject to change. The 2012 numbers of standardized and directed angler-trips were not estimated because there were no intercept data in 2012.

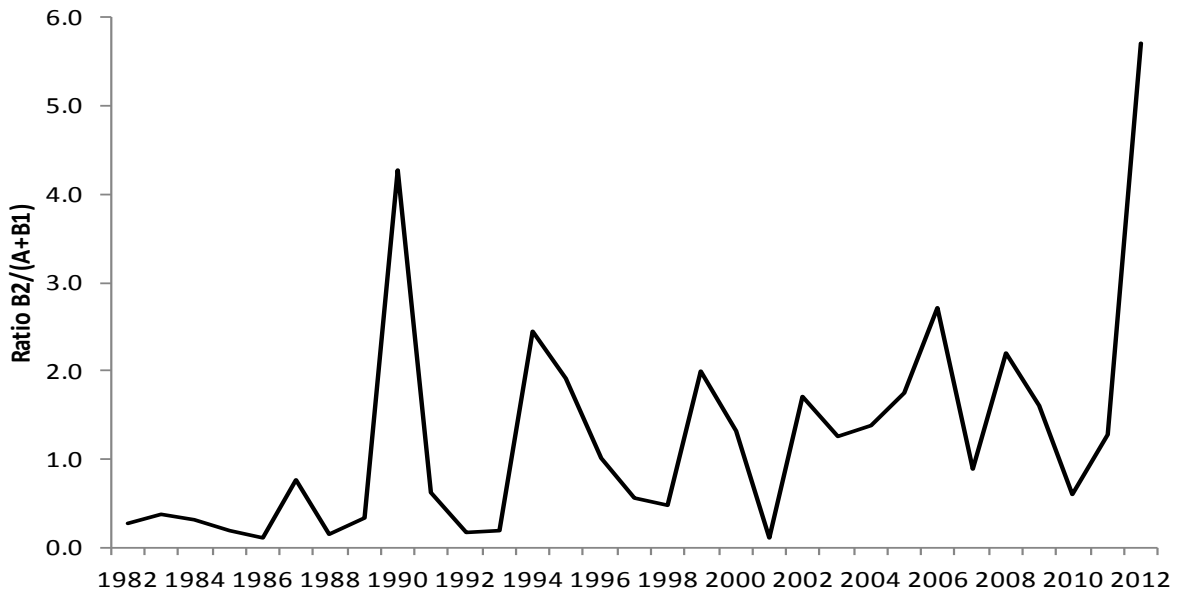


Figure 8 - Variations of the ratio "fish released alive (type B2)/fish kept (Type A+ B1)" for spot recreationally harvested on the east coast of Florida, 1982-2012. The ratio in 2011 was preliminary and subject to change.

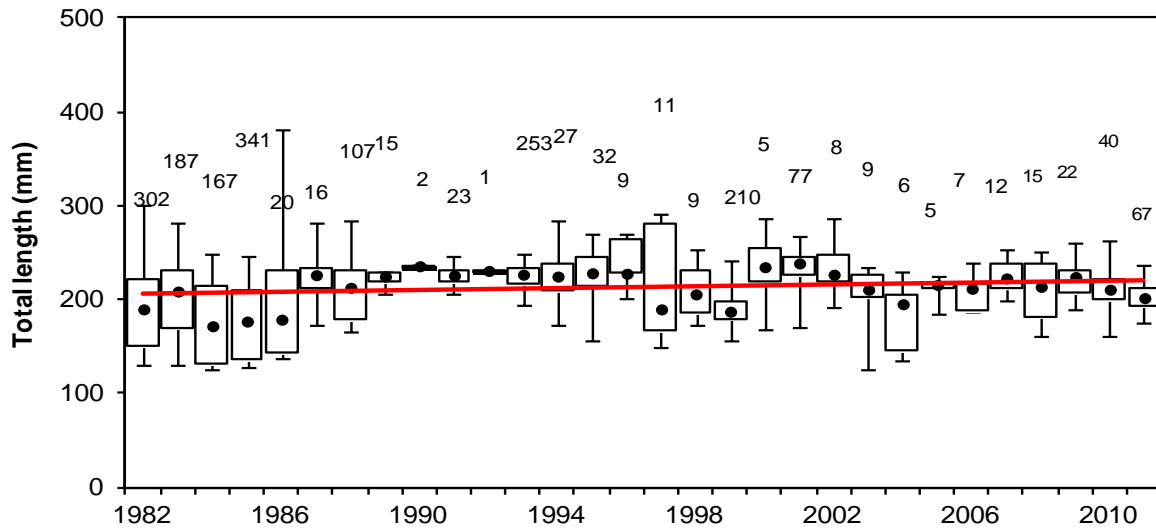


Figure 9 - Size distributions of spot measured in the recreational fishery on the Atlantic coast of Florida, 1982-2011. The dark circle represents the median, the box represents the 25th - 75th percentiles and the vertical whiskers extend from 2.5th -97.5th percentiles. Numbers of fish measured are shown above the upper whiskers. The red line indicates the long-term trend of the median total length. The 2012 size distribution is not shown because there were no intercept data in 2012.

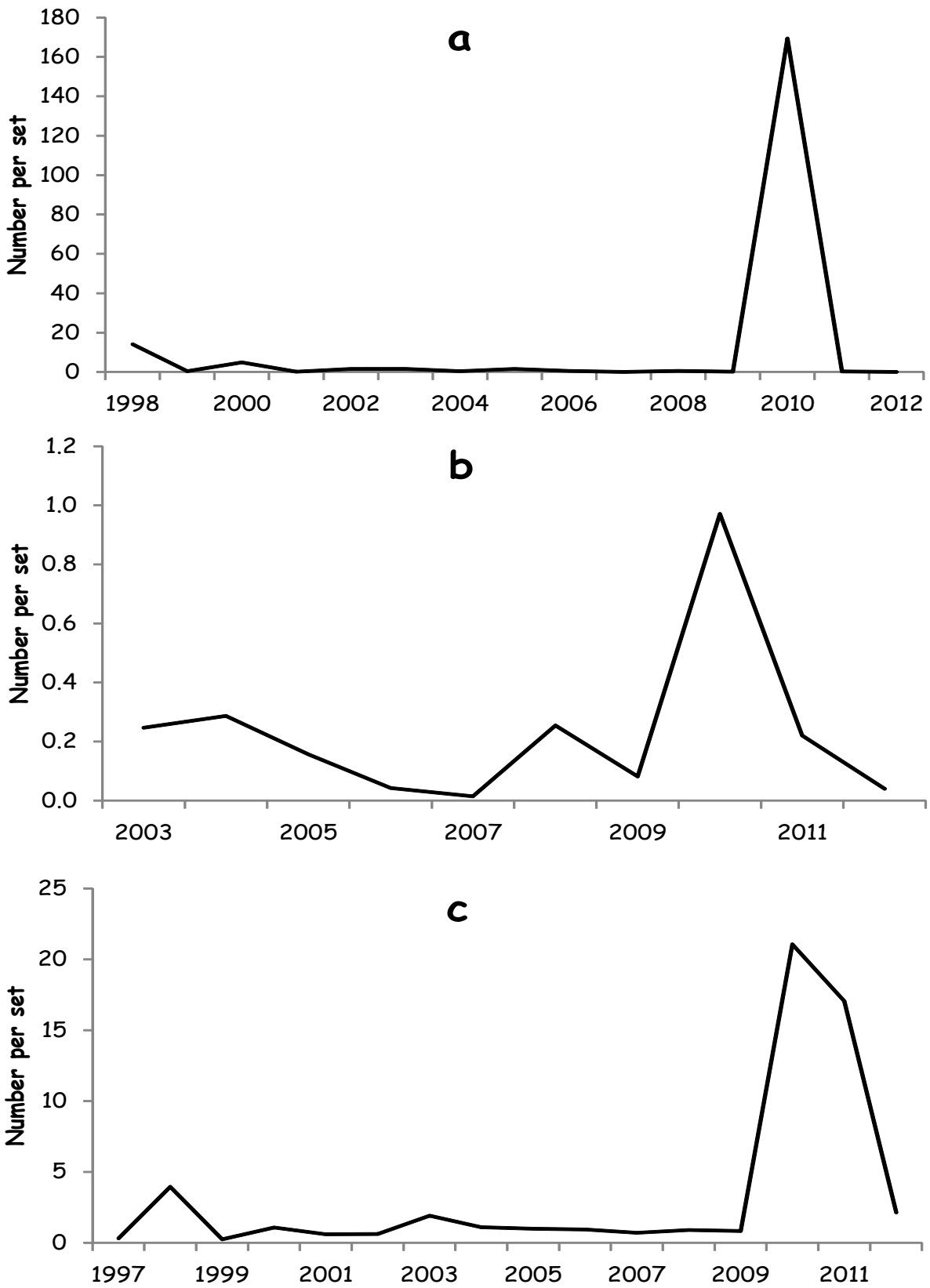
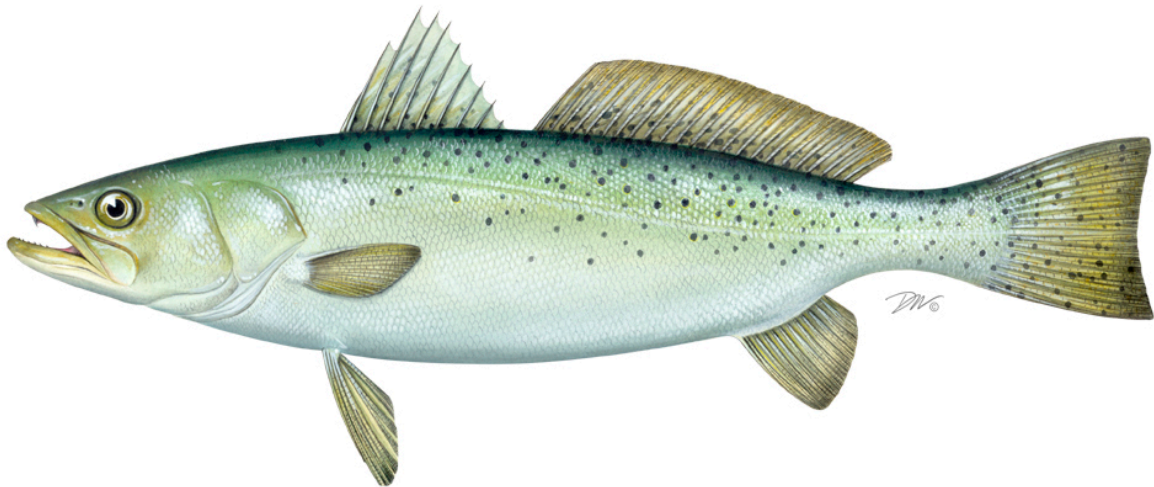


Figure 10 - Indices of relative abundance for young-of-the year spot (0-30-mm SL) collected using (a) 21.3-m seines and (b) 6.1-m trawl samples, and (c) for large juvenile and sub-adult/adult spot (90-250-mm SL) collected using 183-m Haul seines on the east coast of Florida, 2001-2012 (they were based on monthly stratified-random sampling surveys).

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

SPOTTED SEATROUT
(Cynoscion nebulosus)

2012 FISHING YEAR



The Spotted Seatrout Plan Review Team

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September 2013

2013 Spotted Seatrout FMP Review

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2013 Spotted Seatrout FMP Review

I. Status of the Fishery Management Plan

<u>Date of FMP Approval:</u>	Original FMP – October 1984
<u>Amendments:</u>	Amendment 1 – November 1991 Omnibus Amendment to Spanish Mackerel, Spot, and Spotted Seatrout (Amendment 2)- August 2011
<u>Management Area:</u>	The Atlantic coast distribution of the resource from Maryland through the east coast of Florida
<u>Active Boards/Committees:</u>	South Atlantic State/Federal Fisheries Management Board; Spotted Seatrout Plan Review Team, Omnibus Amendment Plan Development Team

The Atlantic States Marine Fisheries Commission (ASMFC) adopted the Fishery Management Plan (FMP) for spotted seatrout in 1984. The states of Florida through Maryland have a declared interest in the Commission's FMP for spotted seatrout. The ISFMP Policy Board approved Amendment 1 to this FMP in November 1991. In August of 2011, the South Atlantic State/Federal Management Board approved the Omnibus Amendment to Spanish Mackerel, Spot, and Spotted Seatrout FMPs. The Omnibus Amendment (Amendment 2) brought the Spotted Seatrout FMP under the authority of the Atlantic Coastal Fisheries Cooperative Management Act (1993) and the ASMFC Interstate Fishery Management Plan Charter (1995).

The goal of the management plan is "to perpetuate the spotted seatrout resource in fishable abundance throughout its range and generate the greatest possible economic and social benefits from its harvest and utilization over time." Plan objectives include: 1) attain over time optimum yield; 2) maintain a spawning potential ratio of at least 20% to minimize the possibility of recruitment failure; 3) promote conservation of the stocks in order to reduce the inter-annual variation in availability and increase yield per recruit; 4) promote the collection of economic, social, and biological data required to effectively monitor and assess management efforts relative to the overall goal; 5) promote research that improves understanding of the biology and fisheries of spotted seatrout; 6) promote harmonious use of the resource among various components of the fishery through coordination of management efforts among the various political entities having jurisdiction over the spotted seatrout resource; and 7) promote determination and adoption of standards of environmental quality and provide habitat protection necessary for the maximum natural protection of spotted seatrout. Amendment 2 to the Spotted Seatrout FMP added the following objectives in support of the compliance under the Act: 1) Manage the spotted seatrout fishery restricting catch to mature individuals; 2) manage the spotted seatrout stock to maintain sufficiently-high spawning stock biomass; 3) develop research priorities that will further refine the spotted seatrout management program to maximize the biological, social, and economic benefits derived from the spotted seatrout population.

Recommended management measures include a minimum size limit of 12 inches total length (TL) with comparable mesh size regulations in directed fisheries, and data collection for stock assessment and monitoring the status of the fisheries. All states with a declared interest in spotted seatrout have implemented at least the recommended minimum size limit. In addition, each state

has either initiated spotted seatrout data collection programs or modified other programs to collect improved catch and effort data. Table 1 provides the states' recreational and commercial regulations for spotted seatrout in 2012.

II. Status of the Stock

A coastwide stock assessment of spotted seatrout has not been conducted given the largely non-migratory nature of the species and the lack of data on migration where it does occur. Instead, state-specific age-structured analyses of local stocks have been performed by several states. These stock assessments provide estimates of spawning potential ratio (SPR), which is a measure of the effect of fishing pressure on the relative abundance of the mature female segment of the population. The FMP recommends a goal of 20% SPR; North Carolina, South Carolina, and Georgia have adopted this goal, and Florida has established a 35% SPR goal.

Florida's stock assessments are for separate northern and southern populations. Average transitional SPR estimates for Florida's spotted seatrout during 2007-2009 were 67% in the northeast region of the state's Atlantic coast and 45% in the southeast region (Murphy et al. 2011). This assessment provided the basis for some relaxation in the management of spotted seatrout in Florida (Table 1).

The South Carolina Department of Natural Resources packaged three state-specific assessments into a report in 2001; however, these assessments were not peer reviewed. This initial assessment of South Carolina spotted seatrout covered 1986-1992 and indicated that female SPR was just above the 20% goal in the terminal year (Zhao and Wenner 2001). This assessment led to an increase in the minimum size limit and decrease in the creel limit for spotted seatrout in South Carolina. A more recent assessment of the population of South Carolina spotted seatrout was conducted for the period 1981-2004, but not peer reviewed (de Silva, Draft 2005). Two modeling approaches were used, and both models indicated that the current spawning stock biomass is below what would be required to maintain 20% SPR.

Assessments in North Carolina and Georgia spotted seatrout covered 1981-1997 and 1986-1995, respectively, and both indicated that female SPR was below the 20% goal in the terminal year (Zhao and Burns 2001, Zhao *et al.* 2001). A more recent assessment of spotted seatrout in Georgia has been performed; however, it remains unpublished. This 2002 Georgia assessment is unpublished because the results were highly questionable due to data deficiencies and changing methodologies.

North Carolina recently completed a peer reviewed stock assessment of spotted seatrout covering 1991-2008, which included all spotted seatrout caught in North Carolina and Virginia (Jensen 2009). The assessment indicated that SPR has been below 20% SPR in recent years. Jensen (2009) recommended the implementation of management measures to account for recent increases of recreational fishing and discard mortality and maintain a sufficiently large spotted seatrout population to act as a buffer against the effects of future cold stun events. Based on the assessment, North Carolina developed a draft state FMP for spotted seatrout, with the final version approved in April 2012.

III. Status of the Fishery

Both commercial and recreational fishermen regularly catch spotted seatrout from Maryland through the east coast of Florida (except in South Carolina where spotted seatrout has been declared a gamefish and can only be taken by recreational means). Landings from states north of Maryland are minimal and/or inconsistent from year to year. All catch estimates in this section include those in the management area only (MD-FL). Total recreational landings have surpassed total commercial landings every year since recreational landings have been recorded in 1981 (Figure 1). In 2009, recreational landings were more than five times the commercial landings. A coastwide (VA, NC, SC) winter mortality event in 2000/2001 likely contributed to the sudden decline in commercial and recreational landings in 2001 and 2002. Both fisheries' landings have increased since then.

Commercial Fishery

The National Marine Fisheries Service (NMFS) compiles commercial spotted seatrout landings. The data are cooperatively collected by the 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. See Table 2.

Atlantic coast commercial landings of spotted seatrout (1960-2012) have ranged from 165,000 pounds to 1.38 million pounds (Figure 1). Commercial landings historically came primarily from Florida and North Carolina, with Virginia, South Carolina, and Georgia accounting for a small portion of the total. From 1960 to 1976, annual commercial landings of spotted seatrout averaged 1.07 million pounds, but have declined since then due to increased regulation and possible declines in abundance. Significant changes to regulations include the 1987 designation of spotted seatrout as a gamefish in South Carolina, and the 1995 prohibition on the use of entangling nets in Florida's coastal waters. From 2002 to 2011, commercial landings have averaged approximately 292,022 pounds. North of Florida, variability in annual harvest is typical and seems to parallel the climatic conditions of the preceding winter and spring. In 2012 the commercial landings are estimated to be 408,520 pounds, representing a 161% increase from the previous year's harvest and a 39.9% increase from the previous ten-year average. North Carolina accounted for approximately 65% of the total coastwide catch, with Virginia and Florida responsible for approximately 19% and 15% of the 2012 commercial landings, respectively.

Recreational Fishery

Recreational catch statistics are collected by the NMFS recreational fisheries survey. Effort data are collected through telephone interviews. Catch data are collected through access-point angler intercept surveys. Catch per trip estimates are produced for each type of fish encountered, either observed or reported, and these estimates are combined with the effort estimates by sampling stratum to produce the catch and harvest estimates. See Tables 3, 4, and 5.

Over the last 28 years, the recreational catch of spotted seatrout (kept and released) has shown a strong upward trend, increasing from 1.1 million fish in 1981 to a peak of 8.8 million fish in 2012 (Figure 2). The recreational harvest of spotted seatrout, however, has remained relatively stable around the time series average of 1.3 million fish. The recreational harvest increased from approximately 952,458 fish in 2010 to 1.8 million in 2012. Due in part to recreational size and creel limits and closed seasons, as well as the encouragement of catch and release practices, the

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percentage of caught fish being released has increased to 75-87 percent of the catch since 2000. In 2012, the release percentage (79.4%) was similar to the previous 10-year average (76.3%). In 2012, Georgia anglers took the largest proportion of harvested fish with 29%, followed closely by North Carolina anglers at 27%. Recreational catches are generally made with rod and reel, but some are taken by recreational nets and by gigging, where these methods are permitted. Most recreational fishing is conducted from private boats and the majority of the catch is taken from nearshore waters.

IV. Status of Assessment Advice

A coastwide stock assessment of spotted seatrout has not been conducted and the Plan Review Team (PRT) does not recommend that one be completed due to the life history of the fish and the available data. Several states have performed age-structured analyses on local stocks of spotted seatrout. Recent Florida and North Carolina stock assessments for spotted seatrout provide divergent trends on the status of the species. The 2005 stock assessment in South Carolina indicated an increasing population trend but a status level that is still below target spawning stock biomass levels (de Silva 2005). The PRT supports the continuation of state-specific assessments, yet recognizes the difficulty most states face to attain sufficient data of a quality that can be used in the assessment process and personnel who can perform the necessary modeling exercises.

The lack of biological and fisheries data for stock assessment and effective management of the resource was recognized in the 1984 FMP and continues to be a hindrance. Some states are increasing their collection of biological and fisheries data, which should provide insight on stock status over time.

V. Status of Research and Monitoring

In addition to the commercial and recreational fishery-dependent data collected and/or compiled through the National Marine Fisheries Service, Fisheries Statistics Division, some states have implemented fishery-independent or additional fishery-dependent monitoring programs.

The Florida Fish and Wildlife Conservation Commission (FWC) implemented a juvenile finfish monitoring program in the northern Indian River Lagoon in the spring of 1990 and in the estuarine reaches of the St. Johns, St. Marys, and Nassau Rivers in northeast Florida in the spring of 2001 (FWC-FWRI 2013). Florida also initiated a stratified random sampling program in 1997 on the Atlantic coast that utilizes a 183-m haul seine to catch exploitable-sized fishes. This has been conducted in the northern Indian River and southern Indian River since initiation and in northeast Florida since 2001. Trends in the YOY abundance have been relatively stable with periods of strong recruitment evident. Recent strong recruitment appears to have occurred in Northeast Florida (2011 and 2012) but is not as evident in the central and southern areas of Florida's Atlantic coast. For 2012 sampling program, 191 lengths were measures and 131 otoliths were collected from adult sized spotted seatrout.

Florida's fishery-dependent sampling includes commercial trip-ticket information and biostatistical sampling of the commercial and recreational catch. A voluntary angler logbook program was implemented in 2002 to collect information on the lengths of spotted seatrout

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released alive by anglers. Recently (2011) this program changed to 'postcard' program enlisting anglers encountered at sites visited during the MRIP angler intercept survey.

Georgia collects fishery-dependent data through a Marine Sportfish Carcass Recovery Program. Data collected through this survey are used to examine trends in the size and age composition of the recreationally harvested population, valuable information for future stock assessments. For 2012, a total of 4,428 fish carcasses were donated through the program. Approximately 77% (3,431) of the carcasses were seatrout, with an average centerline (CL) length of 362.2 mm CL (minimum: 290 mm CL; maximum: 651 mm CL), were reported from 16 recovery locations.

Georgia also collects fishery-independent data through the Marine Sportfish Population Health Study, was implemented in 2003 to provide age and sex specific estimates of relative abundance in two Georgia estuaries, Wassaw Sound and the Altamaha Sound region. This trammel net survey is conducted monthly, September through November, and utilizes a hybrid random-stratified and fixed station design in which each station is sampled once in a given month. For 2012, the average centerline length in Wassaw was 362.4 mm CL and 351.0 mm CL in Altamaha.

South Carolina has an extensive directed research program on this species. Current project objectives include determining the size and age composition of the recreational catch by sampling independent angler and fishing tournament catches as well as a carcass program, and producing fisheries independent relative abundance estimates from trammel net surveys along the South Carolina coast. The latter is a stratified random sampling design and has been conducted monthly since November 1990. South Carolina also has an electrofishing survey of upper estuarine waters. It uses a stratified random design and has been operating monthly since 2001. In 2012, a total of 50 Spotted Seatrout were captured by random electrofishing sets, with a mean overall CPUE of 0.24 Spotted Seatrout per set. CPUE has generally declined in the electrofishing survey since 2009. In contrast to electrofishing, the trammel net survey, catches some YOY as well as older seatrout (S. Arnott, Personal Communication, 2011). During 2012, a total of 3,258 Spotted Seatrout were captured in random trammel net sets, with an overall mean CPUE of 3.37 Spotted Seatrout per trammel set. Additionally, South Carolina also has ongoing seatrout parasite studies (Moravec et al. 2006). Catch rates, size composition, and sub-samples of the catch on a bi-monthly basis are used for generating age-length keys for cohort specific indices of abundance. Roumillat and Brouwer (2004) have described the reproductive dynamics of female spotted seatrout in South Carolina.

North Carolina has collected age, growth, and maturity data for spotted seatrout caught in fishery-dependent and fishery-independent sampling programs since 1991. A fishery-independent monitoring program was initiated in May 2001, supported by USFWS Sports Fish Restoration funds. The program utilizes a stratified random, multi-mesh size gill net survey along North Carolina's Outer Banks, the bays of western Pamlico Sound, the Neuse, the Pamlico, Pungo, New and Cape Fear Rivers, and the Atlantic Ocean. Project objectives include calculating annual indices of abundance for important recreational fish (spotted seatrout included); supplementing samples for age, growth, and reproductive studies; evaluating catch rates and species distribution for identifying and resolving bycatch problems; and characterizing habitat utilization. Additional areas of the Neuse and Pamlico-Pungo Rivers contribute to the

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Pamlico Sound Area Independent Gill Net Survey, with common objectives and sampling design. Hydrophone work was conducted in North Carolina to characterize critical spawning habitats for spotted seatrout in Pamlico Sound. For the 2012 surveying program, the overall spotted seatrout CPUE was 0.68 (n=193) for Pamlico Sound (second highest in the time series); 0.64 (n=204) for surveys in the Pamlico-Pungo, and Neuse rivers (also second highest in the time series); and 0.37 (n=45) for surveys in the Cape Fear and New Rivers. Hook-and-line and estuarine gill net discard mortality studies were conducted in North Carolina in 1998-2001, supported by Atlantic Coastal Fisheries Cooperative Management Act funds.

A spotted seatrout tagging study was initiated in September 2008 and is scheduled to conclude in August 2012. Funding for one year was to collect preliminary data necessary to design and conduct an effective long-term tagging study on spotted seatrout in North Carolina, 2008-2009 (funded by NC Sea Grant Fishery Resource Grant). This was followed by an advanced tagging study by NC State University researchers who are using a combined conventional tag and telemetry approach to study the movement and mortality of spotted seatrout in North Carolina, 2009-2012 (funded by NC Marine Resources Fund, which consists of proceeds from the sale of the Coastal Recreational Fishing License).

VI. Status of Management Measures and Issues

Changes to State Regulations

North Carolina:

Reduction in recreational bag limit from six fish to four fish and removed restriction limiting two fish to greater than 24 inches total length.

Florida

Effective September 1, 2013, the recreational seasons were dropped, the commercial season was lengthened, and the commercial possession limit was modified to accommodate twice the possession limit on a vessel occupied by two or more license fishers.

Omnibus Amendment (Interstate)

In August 2011, the Management Board approved an amendment to the Spot FMP to address three issues: compliance measures, consistency with federal management in the exclusive economic zone, and alignment with Commission standards. The updated FMP's objectives are to: (1.) Increase the level of research and monitoring on spot bycatch in other fisheries, in order to complete a coastwide stock assessment (2.) Manage the Spot fishery stock to maintain the spawning stock biomass above the target biomass levels. (3.) Develop research priorities that will further refine the spot management program to maximize the biological, social, and economic benefits derived from the spot population. Through the Omnibus Amendment requires the following fishery management measures in either the recreational or commercial fisheries for states within the management unit range:

12"TL minimum size with comparable mesh size requirements

De minimis Guidelines

A state qualifies for *de minimis* status if its past 3-years' average of the combined commercial and recreational catch is less than 1% of the past 3-years' average of the coastwide combined commercial and recreational catch. Those states that qualify for *de minimis* are not required to implement any monitoring requirements, none of which are included in the plan.

De Minimis Requests

The state of New Jersey requests *de minimis* status. The PRT notes they meet the requirements of *de minimis*.

VII. Implementation of FMP Compliance Requirements for 2012

12'' TL minimum size with comparable mesh size requirements (both commercial and recreational)

VIII. Recommendations of Plan Review Team

Management and Regulatory Recommendations

- Increase observer coverage in states that have a commercial fishery for spotted seatrout.

Prioritized Research Recommendations

High Priority

- Conduct state-specific stock assessments to determine the status of stocks relative to the plan objective of maintaining a spawning potential of at least 20%.
- Collect data on the size or age of spotted seatrout released alive by anglers and the size and age of commercial discards.
- Continue work to examine the stock structure of spotted seatrout on a regional basis, with particular emphasis on advanced tagging techniques.
- Expand the NMFS recreational fishery survey to assure adequate data collection for catch and effort data, increased intercepts, and state add-ons of social and economic data needs.
- Conduct telemetry tagging surveys to provide precise estimates of mortality attributed to winter kills.
- Provide state-specific batch fecundity estimates for use in stock assessments.
- Develop state-specific juvenile abundance indices.
- Increase observer coverage in states that have a commercial fishery for spotted seatrout.

Medium Priority

- Identify essential habitat requirements.
- Evaluate effects of environmental factors on spawning frequency and stock density.
- Initiate collection of social and economic aspects of the spotted seatrout fishery.

IX. References

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X. Figures

Figure 1. Commercial landings (1960-2012) and recreational landings (1981-2012), in pounds, from Maryland to Florida (See Tables 2 and 4 for values and sources)

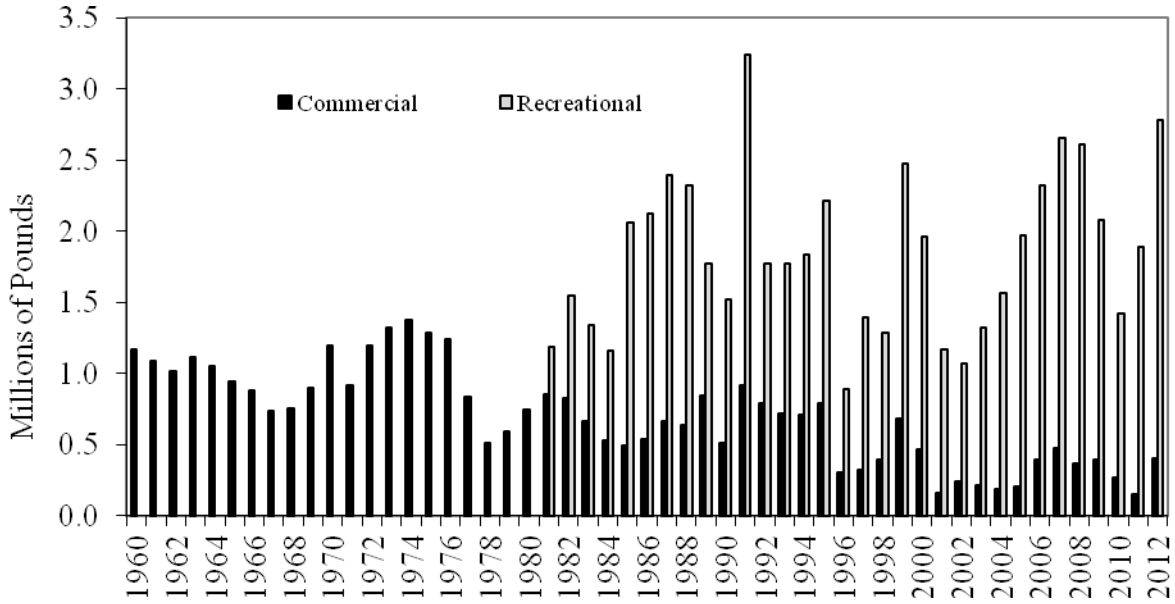
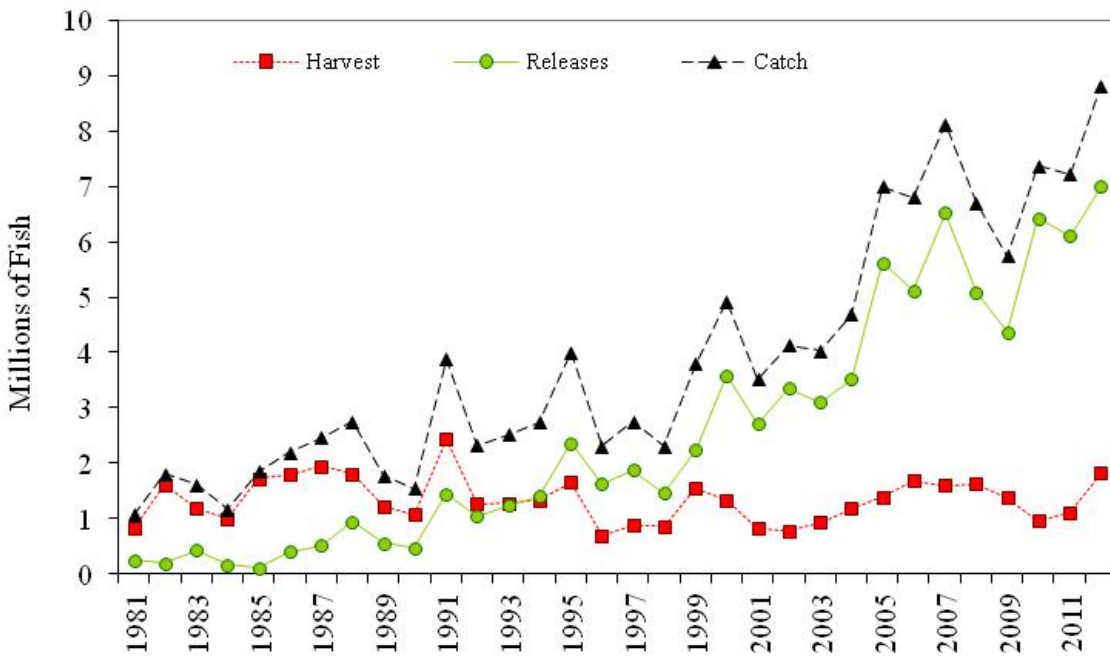


Figure 2. Recreational catch (numbers), 1981-2012, from Maryland to Florida (See Tables 3 and 5 for values and sources)



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XI. Tables

Table 1. Summary of state regulations for spotted seatrout in 2012

State	Recreational	Commercial
New Jersey	13" TL; 1 fish	Gill net: 13"; open 1/1-5/20 & 9/3-10/19 & 10/27-12/31; 100 lb possession limit; 100 lb bycatch limit; mesh ≥ 3.25 " stretched except 2.75 - 3.25" stretched allowed within 2nm for permitted fishermen doing monthly reporting. Trawl: 13"; open 1/1-7/31 & 10/13-12/31; mesh ≥ 3.75 " diamond or 3.375 square; 100 lb possession limit' 100 lb bycatch limit. Pound net: 13"; open 1/1/-6/6 & 7/1-12/31; 150 lb bycatch limit. Hook & line: open 1/1-12/31, 13", 1 fish.
Delaware	12" TL	12" TL. Gill net restrictions.
Maryland	12" TL; 10 fish	12" TL. Minimum mesh size restrictions for trawl (3-3/8" sq. or 3-3/4" diag.) and gill nets (3").
PRFC	14" TL; 10 fish	14" TL
Virginia	14" TL; 10 fish	14" TL except pound nets and haul seines allowed 5% by weight less than 14". Hook & line - 10 fish limit. Quota: 51,104 lbs (Sept. 1-Aug. 31).
North Carolina	14" TL; 4 fish	14" TL; hook & line - 75 fish limit.
South Carolina	14" TL; 10 fish. May be taken by rod & reel year-round or gigging March-November.	Gamefish status: native caught fish may not be sold.
Georgia	13" TL; 15 fish	13" TL; 15 fish. BRD requirement for trawl; gear mesh regulations.
Florida	15-20" TL slot with 1 fish >20" allowed; north region: 6 fish limit; south region: 4 fish limit	15-24" TL; June 1-Nov 30 season (north), May 1-Sept 30 season (south); 75 fish per day or vessel (up to 150 per day if two or more licensed commercial fishers aboard); hook & line or cast net only

Note: A commercial fishing license is required to possess spotted seatrout in all states with a fishery.

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Table 2. Commercial landings (pounds) of spotted seatrout by state, 1981-2012
(Source: NMFS Fisheries Statistics Division, 09/30/2013)

Year	MD	VA	NC	SC	GA	FL	Total
1981		4,000	113,304		629	736,026	853,959
1982		3,400	83,847	1,944	4,994	732,278	826,463
1983		4,400	165,360	4,479	5,795	481,535	661,569
1984		3,000	152,934	2,374	4,348	367,541	530,197
1985		8,302	109,048	1,770	7,149	369,756	496,025
1986		18,500	191,514	12,214	8,691	307,261	538,180
1987		13,300	315,380	11,941	10,739	317,044	668,404
1988		15,500	296,538	486	9,110	315,947	637,581
1989		18,500	451,909	33	10,565	361,973	842,980
1990		21,435	250,634	1,095	5,942	236,453	515,559
1991	98	21,200	660,662		7,380	225,812	915,152
1992	364	10,395	526,271		11,310	247,189	795,529
1993	24	38,033	449,886		8,550	223,931	720,424
1994	30	44,636	412,458		5,112	247,666	709,902
1995	182	28,722	574,410		8,482	184,269	796,065
1996	14,961	4,476	226,668		7,501	48,254	301,860
1997	15,688	11,711	232,583		7,621	57,316	324,919
1998	19,794	21,774	307,777		2,845	41,556	393,746
1999	36,365	38,513	546,775		3,244	61,802	686,699
2000	20,270	19,918	376,657		1,997	45,392	464,234
2001	24,754	3,773	105,797			30,234	164,558
2002	11,771	9,308	175,643		969	44,640	242,331
2003	902	5,310	181,529			27,075	215,676
2004	342	17,290	131,019		815	29,605	187,700
2005	2,410	21,448	129,645			36,762	210,280
2006	245	28,529	312,714			36,687	398,897
2007	32	41,003	374,817	0	0	46,838	476,804
2008	0	43,666	304,504	0	0	20,887	369,057
2009	243	27,762	320,336	0	0	46,297	394,695
2010		28,346	200,562			39,374	268,282
2011	557	17,107	75,239			63,592	156,495
2012	1890	79,490	265,476	0	0	61,664	408,520

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Table 3. Recreational harvest (numbers of fish) of spotted seatrout by state, 1981-2012
(Source: NMFS Fisheries Statistics Division, 09/30/2013)

Year	MD	VA	NC	SC	GA	FL	Total
1981			30,037	20,934	189,080	576,847	816,898
1982			112,023	849,634	226,758	426,378	1,614,793
1983			91,956	121,940	325,655	645,120	1,184,671
1984			90,262	95,281	114,403	700,876	1,000,822
1985			263,878	347,851	251,764	866,162	1,729,655
1986	7,507	82,671	270,867	477,136	401,490	550,591	1,790,262
1987	29,295	17,415	320,977	392,329	439,782	744,330	1,944,128
1988	20,769	288,705	420,115	355,547	389,276	331,709	1,806,121
1989	151,986	66,033	181,149	174,011	448,767	198,617	1,220,563
1990	20,416	67,939	251,088	113,160	368,787	249,824	1,071,214
1991	17,995	69,032	316,895	438,502	1,204,116	385,817	2,432,357
1992	3,235	30,091	333,990	200,030	338,175	363,238	1,268,759
1993	7,038	103,131	206,523	222,144	463,702	274,118	1,276,656
1994	33,511	115,025	457,636	139,551	337,965	255,216	1,338,904
1995	19,198	90,838	325,927	223,751	607,095	381,884	1,648,693
1996	35,765	46,098	151,380	137,530	171,676	148,571	691,020
1997	19,951	92,725	256,719	111,576	167,287	228,096	876,354
1998	13,620	34,623	294,501	125,038	197,293	189,621	854,696
1999	2,112	138,492	410,321	101,260	655,407	241,096	1,548,688
2000	1,634	90,135	250,450	219,740	486,673	288,443	1,337,075
2001		13,447	182,124	63,452	309,487	250,987	819,497
2002		16,303	197,484	84,777	271,357	206,310	776,231
2003	2,091	102,484	106,415	123,027	425,993	169,587	929,597
2004		74,747	316,894	247,156	336,254	199,523	1,174,574
2005	3,828	31,416	512,262	268,467	231,429	337,744	1,385,146
2006	5,136	56,475	577,537	294,096	453,394	299,337	1,685,975
2007		145,736	525,156	122,419	499,709	302,625	1,595,645
2008		79,545	584,024	175,975	623,619	160,455	1,623,618
2009	11,680	40,109	509,416	147,266	478,895	182,752	1,370,118
2010	3,146	17,417	195,065	101,053	384,077	251,455	952,213
2011	3,058	247,736	215,922	66,207	289,950	286,501	1,109,374
2012	6,032	125,627	500,522	234,921	526,604	427,469	1,821,175

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Table 4. Recreational harvest (pounds of fish) of spotted seatrout by state, 1981-2012
(Source: NMFS Fisheries Statistics Division, 09/30/2013)

Year	MD	VA	NC	SC	GA	FL	Total
1981			63,036	14,808	138,720	967,921	1,184,485
1982			120,045	588,999	177,847	660,295	1,547,186
1983			96,359	138,442	323,889	784,531	1,343,221
1984			39,861	116,118	141,306	866,077	1,163,362
1985			288,088	509,551	234,704	1,032,344	2,064,687
1986	4,960	64,394	328,439	587,570	440,774	695,168	2,121,305
1987	22,511	38,495	366,442	592,612	491,317	883,707	2,395,084
1988	36,629	460,378	390,836	448,473	536,959	453,063	2,326,338
1989	184,318	112,344	259,726	277,489	608,009	328,338	1,770,224
1990	39,059	121,136	282,872	174,845	423,815	475,045	1,516,772
1991	34,753	121,604	472,397	628,011	1,449,853	534,371	3,240,989
1992	7,802	56,685	508,760	227,210	430,946	543,491	1,774,894
1993	12,800	201,562	307,151	268,055	586,426	392,827	1,768,821
1994	26,764	175,184	679,996	183,343	412,392	357,441	1,835,120
1995	31,464	148,544	478,674	247,987	667,379	642,670	2,216,718
1996		77,269	197,261	171,727	196,487	249,898	892,642
1997	32,963	261,911	311,891	163,771	242,506	380,276	1,393,318
1998	37,189	61,888	444,441	151,718	262,896	329,793	1,287,925
1999		290,694	690,606	146,277	916,860	428,061	2,472,498
2000	2,972	195,544	385,190	267,297	565,903	545,202	1,962,108
2001		26,733	213,438	58,885	369,083	502,254	1,170,393
2002		28,882	274,100	111,954	302,559	353,693	1,071,188
2003	3,494	218,061	145,936	140,276	502,278	316,279	1,326,324
2004		134,602	385,624	229,541	377,370	390,880	1,518,017
2005	10,761	76,325	628,739	326,501	263,209	603,891	1,909,426
2006	9,993	132,629	941,161	369,165	531,441	533,121	2,517,510
2007		305,599	988,527	211,225	531,637	594,506	2,631,494
2008		195,987	922,733	302,019	733,307	298,679	2,452,725
2009	13,261	85,358	833,568	199,554	579,270	322,941	2,033,952
2010	6,724	28,146	407,193	138,514	425,854	411,495	1,418,046
2011	4,664	549,976	403,160	116,979	353,472	464,863	1,893,114
2012	10,257	226,556	817,451	388,105	518,189	819,009	2,779,567

2013 Spotted Seatrout FMP Review

Table 5. Recreational releases (number of fish) of spotted seatrout by state, 1981-2012
(Source: NMFS Fisheries Statistics Division, 09/30/2013)

Year	MD	VA	NC	SC	GA	FL	Total
1981				5,522	36,853	209,059	251,434
1982				8,007	17,645	171,093	196,745
1983			16,579	32,860	12,038	367,881	429,358
1984			30,173	44,436	16,174	76,346	167,129
1985			16,578	6,409	22,917	66,960	112,864
1986	13,639	28,606	19,792	115,315	189,798	35,646	402,796
1987		30,070	136,104	130,253	176,415	41,391	514,233
1988	26,999	148,934	74,818	78,568	182,628	431,665	943,612
1989	52,859	11,977	82,909	54,279	167,025	187,406	556,455
1990	4,874	23,435	84,235	35,223	114,624	203,439	465,830
1991	21,811	40,550	169,921	51,415	369,972	789,779	1,443,448
1992	701	19,855	139,616	97,813	192,261	597,254	1,047,500
1993		65,605	149,744	92,101	146,665	780,573	1,234,688
1994	32,466	243,463	207,262	220,941	125,421	574,629	1,404,182
1995	157,530	327,643	277,896	194,996	327,835	1,074,703	2,360,603
1996	51,594	165,169	153,051	107,691	63,585	1,081,893	1,622,983
1997	4,826	168,964	98,377	89,147	61,148	1,449,278	1,871,740
1998	49,460	74,569	73,024	151,935	100,059	1,005,443	1,454,490
1999	7,082	152,120	253,442	92,792	160,801	1,577,378	2,243,615
2000	4,805	264,550	90,070	368,332	547,765	2,310,491	3,586,013
2001		110,308	194,982	38,709	365,140	1,995,635	2,704,774
2002		136,265	385,162	147,962	357,953	2,326,420	3,353,762
2003		207,270	131,619	314,642	737,730	1,707,957	3,099,218
2004	9,430	295,518	300,025	333,537	608,193	1,969,884	3,516,587
2005	4,612	277,307	817,036	395,483	678,057	3,446,336	5,618,831
2006	9,721	125,135	559,786	666,865	872,395	2,889,495	5,123,397
2007	2,231	414,709	973,516	560,272	957,682	3,623,247	6,531,657
2008		373,146	1,005,298	850,006	719,622	2,140,752	5,088,824
2009	30,381	171,028	1,213,526	398,971	915,301	1,641,702	4,370,909
2010	107,017	550,118	1,684,872	407,228	742,215	2,937,411	6,428,861
2011	7,685	1,214,620	1,916,249	279,969	552,123	2,141,212	6,111,858
2012	55,183	428,540	1,646,512	817,017	1,029,479	3,025,556	7,002,287

State of New Jersey
Department of Environmental Protection

Division of Fish & Wildlife

**Annual State Report for Spotted Seatrout: 2012
and Fishery Summary: 2013**

August 2013

Report By: Jennifer Pyle

**Submitted to the Atlantic States Marine Fisheries
Commission as a Requirement of Amendment 2 to the
Interstate Fisheries Management Plan for Spotted
Seatrout**

I. SUMMARY OF SPOTTED SEATROUT FISHERY AND RESOURCE MONITORING IN NEW JERSEY

In accordance with the Omnibus Amendment to the Interstate Fishery Management Plans For Spanish Mackerel, Spot, and Spotted Seatrout, the State of New Jersey herein submits its annual report on spotted seatrout fisheries conducted within state waters during 2012. There were no fishery management or monitoring changes for spotted seatrout during 2012.

II. REQUEST FOR *DE MINIMUS* STATUS

New Jersey requests *de minimus* status under the Omnibus Amendment to the Interstate Fishery Management Plans for Spanish Mackerel, Spot, and Spotted Seatrout because there have been no reported landings since 2007.

III. NEW JERSEY SPOTTED SEATROUT FISHERY AND MANAGEMENT PROGRAM: 2012

A. Fishery Dependent Monitoring

The Bureau of Marine Fisheries does not conduct any fishery dependent monitoring for spotted seatrout.

B. Fishery Independent Monitoring

The New Jersey Bureau of Marine Fisheries conducts five nearshore (within 12 nautical miles) trawl surveys each year. These surveys occur in January/February, April, June, August, and October. All species taken during these surveys are weighed and measured. Catch per unit effort in number of fish per tow and biomass (kilograms) per tow is calculated each year. No spotted seatrout have been caught in nearshore waters since this survey began in 1988.

C. New Jersey Regulations on Spotted Seatrout in 2012

In New Jersey, spotted seatrout (*Cynoscion nebulosus*) are managed as a group with weakfish (*Cynoscion regalis*) in regards to regulatory identification. Therefore all regulations pertaining to weakfish are also in effect for spotted seatrout. The following is a synopsis of weakfish (*Cynoscion nebulosus* and *Cynoscion regalis*) regulations for 2012.

1. Recreational Fishery

A possession limit of one fish at a minimum length of 13 inches was adopted as per Addendum IV to Amendment 4 of the ASMFC Weakfish Management Plan.

2. Commercial Fishery

a. Gill Net

Gill net fishermen have had a 13-inch size limit on weakfish since March of 1992. That size limit remains in effect. There will be a 100-pound possession limit per vessel per day. The minimum mesh size for gill nets is 3.25 inches (stretched) with the following exception: nets with a mesh size between 2.75 inches and 3.25 inches (stretched) may be fished within two nautical miles of the MHWL. Fishermen must obtain a small mesh permit and submit

monthly reports on catch and effort including the number, length and condition of all weakfish captured. Retention of sub-legal size weakfish taken by the small mesh nets is prohibited.

The gill net season will be closed from May 21 through September 2 and October 20-26. A vessel is allowed a bycatch of 100 pounds of weakfish during the closed season as long as an equal (or more) poundage of other species is also harvested.

b. Trawl

The size limit for the trawl fishery is 13 inches from January 1 through December 31 and will be in effect for both the open and closed seasons.

During the open season, the possession of any weakfish aboard a vessel constitutes a directed fishery. There will be a 100-pound possession limit per vessel per day during the open season. The minimum mesh size for an otter trawl used in a directed fishery for weakfish is 3.75 inches stretched diamond mesh inside measurement or 3.375 inches stretched square mesh inside measurement.

The closed season for the otter trawl fishery will remain from August 1 through October 12. A vessel is allowed a bycatch of 100 pounds of weakfish during the closed season as long as an equal (or more) poundage of other species is harvested.

c. Pound Net

There will be a 100-pound possession limit per vessel per day. The season will be closed from June 7 through June 30. A vessel is allowed a bycatch of 100 pounds of weakfish during the closed season as long as an equal (or more) poundage of other species is also harvested.

d. Commercial Hook and Line

New Jersey does not have a licensed commercial hook and line fishery for weakfish. Fishermen can sell weakfish legally taken by hook and line provided they follow the recreational bag and size limit above.

D. New Jersey Spotted Seatrout Harvest

Commercial fishery landings for spotted seatrout were obtained from the National Marine Fisheries Service statistics website (1950-2006) and the Standard Atlantic Fisheries Information System from 2007 to present (Table 1). Recreational catch data were obtained from the Marine Recreational Information Program from 1980-2012. Due to low harvest records, these landings are considered confidential.

E. Habitat Requirements

No mandatory measures related to habitat are implemented through this amendment.

**IV. NEW JERSEY SPOTTED SEATROUT FISHERY AND MANAGEMENT PROGRAM:
2013**

A. New Jersey Regulations on Spotted Seatrout in 2013

See III C above for New Jersey's 2013 spotted seatrout regulations.

B. Spotted Seatrout Monitoring Programs for 2013

There will be no fishery dependent resource monitoring program for spotted seatrout in 2013. The State's ocean stock assessment program will continue in 2013 and any spotted seatrout taken will be weighed and measured.

C. Significant Changes in Management and/or Monitoring of Spotted Seatrout in 2013

No changes from the previous year.



Martin O'Malley, Governor
Anthony G. Brown, Lt. Governor
John R. Griffin, Secretary
Joseph P. Gill, Deputy Secretary

Maryland Spotted Seatrout (*Cynoscion nebulosus*) Compliance Report to The Atlantic States Marine Fisheries Commission – 2012

Prepared by

Harry W. Rickabaugh Jr.

**Maryland Department of Natural Resources
Fisheries Service**

August 2013

I. Introduction

In Maryland spotted seatrout (*Cynoscion nebulosus*) are primarily captured along the lower Eastern Shore of Maryland's portion of Chesapeake Bay and in Maryland's coastal bays by both commercial and recreational fishermen. Fish are rarely encountered north of the Choptank River on the Eastern Shore or north of the Potomac River on the Western shore, with range expanding slightly with increased salinity in dry years. A small number of local guides and recreational private boat anglers target and catch spotted seatrout annually from late may through early fall. In years of higher abundance catches by recreational fishermen targeting other species become more common. All commercial harvest is bycatch from fisheries targeting several more abundant species. Juvenile spotted seatrout use lower Chesapeake Bay tributaries and Maryland's coastal bays as nursery habitat.

Maryland has a 14 inch total length (TL) minimum size limit and 10 fish per person per day creel limit for recreational anglers, and a 12 inch TL minimum size limit for commercial fishermen. Landings from both commercial and recreational fisheries have been variable with years of zero harvest reported or estimated for both sectors.

II. Request for *De minimis* status

N/A

III. 2012 Fishery and Management Programs.

- a. MD DNR fisheries biologists sampled commercial pound nets bi-weekly in Maryland's portion of the Chesapeake Bay from May 22 through September 11, 2012. Eight spotted seatrout were encountered during onboard pound net sampling, with a mean length of 436 mm TL. Spotted seatrout are rarely encountered in this survey, with 11 out of 20 years encountering none. Total length ranged from 327mm to 647 mm. All specimens met the minimum commercial length limit, and only one was short of the recreational size limit.
- b. There was no fishery independent monitoring for spotted seatrout in 2012. A low number of juvenile spotted seatrout are encountered in the coastal bays seine survey and the Chesapeake Bay blue crab trawl survey as bycatch, indicating the species utilizes these areas as nursery habitat. Annual catch for the coastal bays survey ranged from 0-24 fish; with zero catch in six of the 22 years surveyed. The Chesapeake Bay survey caught no spotted seatrout in 7 of 24 years, but did have three years of higher catch (2000 = 71, 2001 = 90 and 2009 = 139) potentially indicated stronger years of recruitment in the sampling during those years. Mean total catch per year was 18.5 fish.
- c. Spotted Seatrout Regulations:

Maryland's spotted seatrout and weakfish regulation are combined in state regulations, hence the inclusion of weakfish in the following text. Language pertaining to spotted seatrout is underlined.

From the Code of Maryland Regulations: 08.02.05.13.13 Weakfish and Spotted Sea Trout.

A. Minimum Size.

- (1) A recreational angler may not catch or possess spotted sea trout less than 14 inches in total length.
- (2) A recreational angler may not catch or possess weakfish less than 13 inches in total length.
- (3) A person licensed to catch fish for commercial purposes may not catch or possess weakfish or spotted sea trout less than 12 inches in total length.

B. Recreational Catch Limits. Except for a person licensed to catch finfish for sale, a person may not catch or possess more than one weakfish and ten spotted sea trout per day.

C. Commercial.

(1) Atlantic Ocean, Its Coastal Bays, and Their Tidal Tributaries.

- (a) A person may not catch, possess, or land more than 100 pounds of weakfish per day or trip, whichever is longer;
- (b) The weight of the weakfish may not exceed the weight of the catch of the other species on board the vessel; and
- (c) Harvest of weakfish with hook and line is prohibited.

(2) Chesapeake Bay and Its Tidal Tributaries.

(a) Hook and Line.

- (i) The open commercial season for harvesting weakfish with hook and line is August 1 through September 30.
- (ii) A person may not catch, possess, or land more than 50 pounds of weakfish per day or trip, whichever is longer.
- (iii) No bycatch of weakfish is permitted outside of the open commercial season.

(b) All Other Gears.

- (i) A person may not catch, possess, or land more than 50 pounds of weakfish per day or trip, whichever is longer.

D. Net Mesh Size Restrictions.

(1) Trawls. A person may not use a trawl with mesh less than 3-3/8 inches square or 3-3/4 inches diamond stretched mesh size to catch weakfish or spotted sea trout.

(2) Gill Nets. A person may not use a gill net with stretched mesh size less than 3 inches to catch weakfish or spotted sea trout.

E. Public Notice. The Secretary:

(1) May modify, open, or close a season 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 a reasonable effort to disseminate public notice through various other media so that an affected person has reasonable opportunity to be informed.

III. 2012 Fishery and Management Programs (Continued)

d. Commercial fishermen in MD are required to report all spotted seatrout harvested on daily fishing reports submitted to DNR. The preliminary 2012 commercial harvest was 1,890 pounds (Table 1, Figure 1). Eight-two percent of spotted seatrout harvest in 2012 was from the Chesapeake Bay, with the remaining landings coming from the Atlantic Ocean or coastal bays. Seventy-three percent of spotted seatrout landings were from gill nets, 12% were from hook and line and the remaining 5% were from pound nets and trawls. Spotted seatrout landings in Maryland peaked in the early 1950s, averaging 48,000 pounds per year, and the late 1990s to early 2000s, averaging 18,000 pounds per year. In contrast, reported landings were zero pounds for 36 consecutive years from 1955 to 1990. Landings from 2003 to 2012 averaged 781 pounds per year. Recent landings are bycatch of other fisheries and not directed spotted seatrout trips.

The Marine Recreational Information Program (MRIP) estimated that recreational fishermen in Maryland harvested 6,032 spotted seatrout in 2012 (Figure 2; MRIP 2013), below the time series mean of 12,910 fish. The 2012 estimated number of spotted seatrout released was 55,183 fish (Table 1, Figure 2; MRIP 2013), over twice the time series mean of 20,915 fish. The MRIP survey design may not adequately sample Maryland's recreational spotted seatrout catch due to the limited region the fishery operates in. The current MRIP survey indicates eight years of no harvest or releases occurring through the 32 year time series. While Maryland's spotted seatrout fishery is quite modest, it is very likely anglers caught some fish each year. Licensed charter boat captains in Maryland were required to keep log books of their clients catch from 1993-2012. Spotted seatrout data is available from 1995-2012. Log books from 2012 indicate 2,876 spotted seatrout were caught, 2,874 of which were harvested (Table 1, Figures 3 and 4). Charter boat spotted seatrout catches were reported every year from 1995-2012, except 1996. MRIP estimated no spotted seatrout were caught in three years with reported charter boat harvest. A geometric mean (GM) harvest per angler was calculated from the charter boat data. Only positive trips are available, as no indication of target species is recorded. The spotted seatrout GM varied without trend (Figure 5). The 2012 GM of 0.78 was the 3rd highest of the 18 year time series.

e. There were no habitat requirements in Amendment 2.

IV. Planned Management for 2013.

a. No regulation changes are planned for 2013.

- b. MD DNR will continue to monitor commercial pound nets in 2013. MD DNR also may monitor fish houses for other species throughout the summer, and spotted seatrout will be measured if they are available, and time permits.

V. **Plan Specific Requirements**

None

VI. **Law enforcement requirements**

None.

Reference

MRIP 2013. Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division July 15, 2013

Table 1. Maryland spotted seatrout reported commercial landings in pounds, recreational harvest estimates in numbers and reported chartered boat harvest in numbers.

Year	Commercial Pounds	Recreational Numbers	Charter Log Numbers	Year	Commercial Pounds	Recreational Numbers	Charter Log Numbers
1950	72,039			1981	0		
1951	25,824			1982	0		
1952	48,835			1983	0		
1953	50,676			1984	0		
1954	44,352			1985	0		
1955	0			1986	0	7,507	
1956	0			1987	0	29,295	
1957	0			1988	0	20,769	
1958	0			1989	0	151,986	
1959	0			1990	0	20,416	
1960	0			1991	98	17,995	
1961	0			1992	0	3,235	
1962	0			1993	868	7,038	
1963	0			1994	690	33,511	
1964	0			1995	668	19,198	0
1965	0			1996	12,742	35,765	0
1966	0			1997	15,199	19,951	3,000
1967	0			1998	16,933	13,620	5,449
1968	0			1999	29,419	2,112	8,074
1969	0			2000	18,419	1,634	20,030
1970	0			2001	25,161	0	3,269
1971	0			2002	10,313	0	4,058
1972	0			2003	816	2,091	272
1973	0			2004	401	0	872
1974	0			2005	2,339	1,954	392
1975	0			2006	295	4,860	249
1976	0			2007	14	0	5,180
1977	0			2008	269	0	3,598
1978	0			2009	176	7,933	6,377
1979	0			2010	1,025	3,146	224
1980	0			2011	585	3,058	1,762
				2012	1,890	6,032	2,874

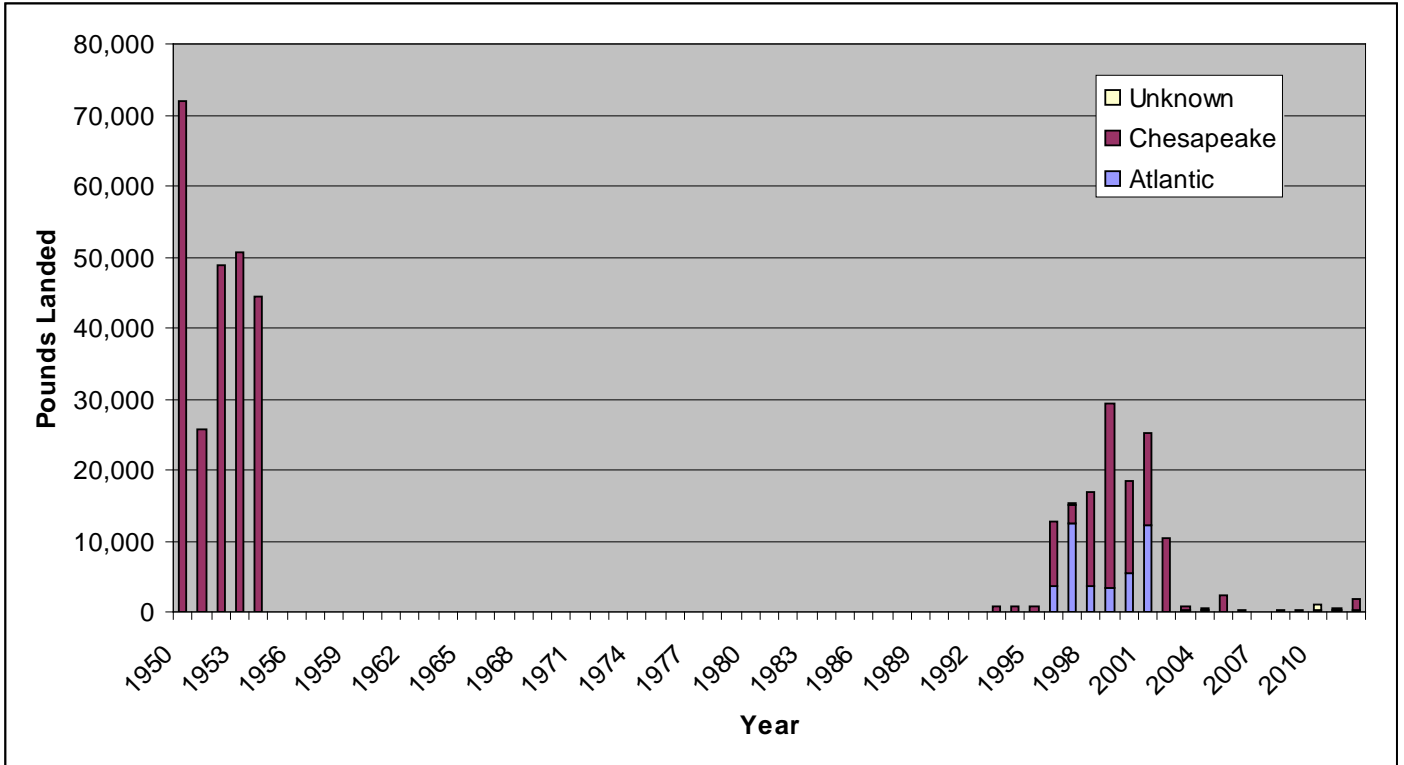


Figure 1. Commercial spotted seatrout landings reported to Maryland DNR, 1950-2012.

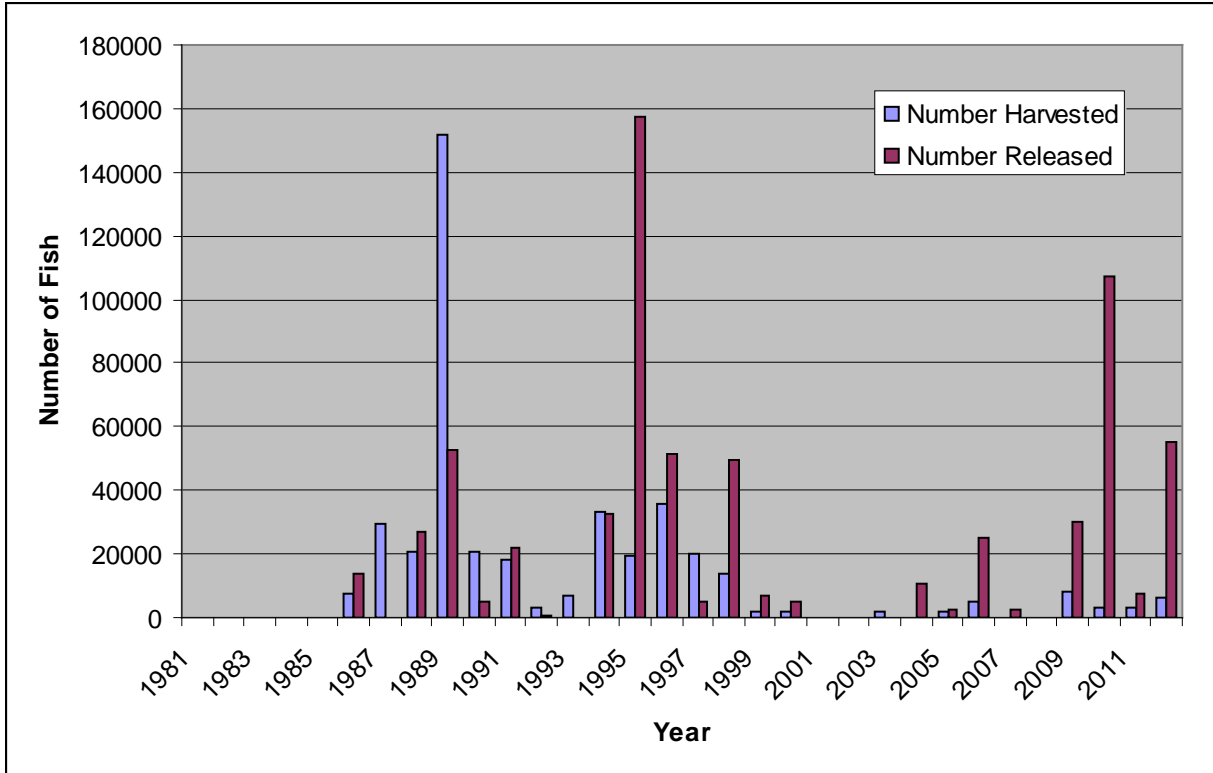


Figure 2. MRIP harvest and release estimates for spotted seatrout in Maryland, 1981-2012.

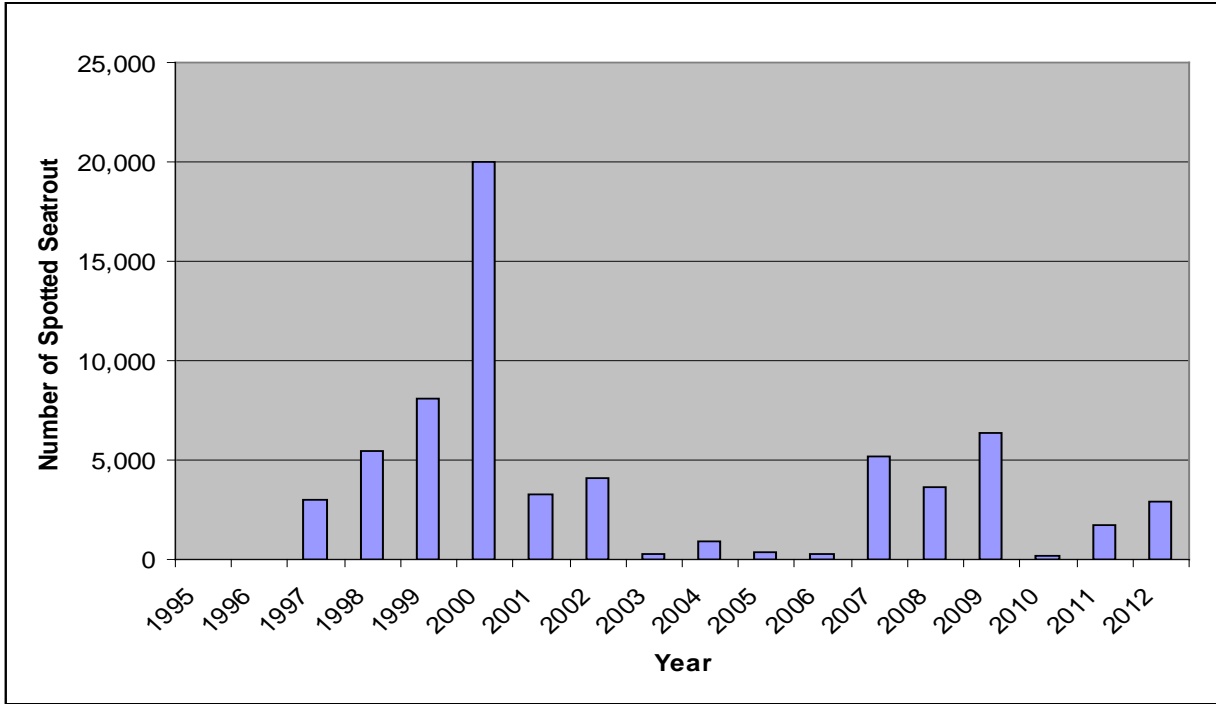


Figure 3. Reported spotted seatrout harvest from Maryland's charter boat fishery in numbers, 1995-2012.

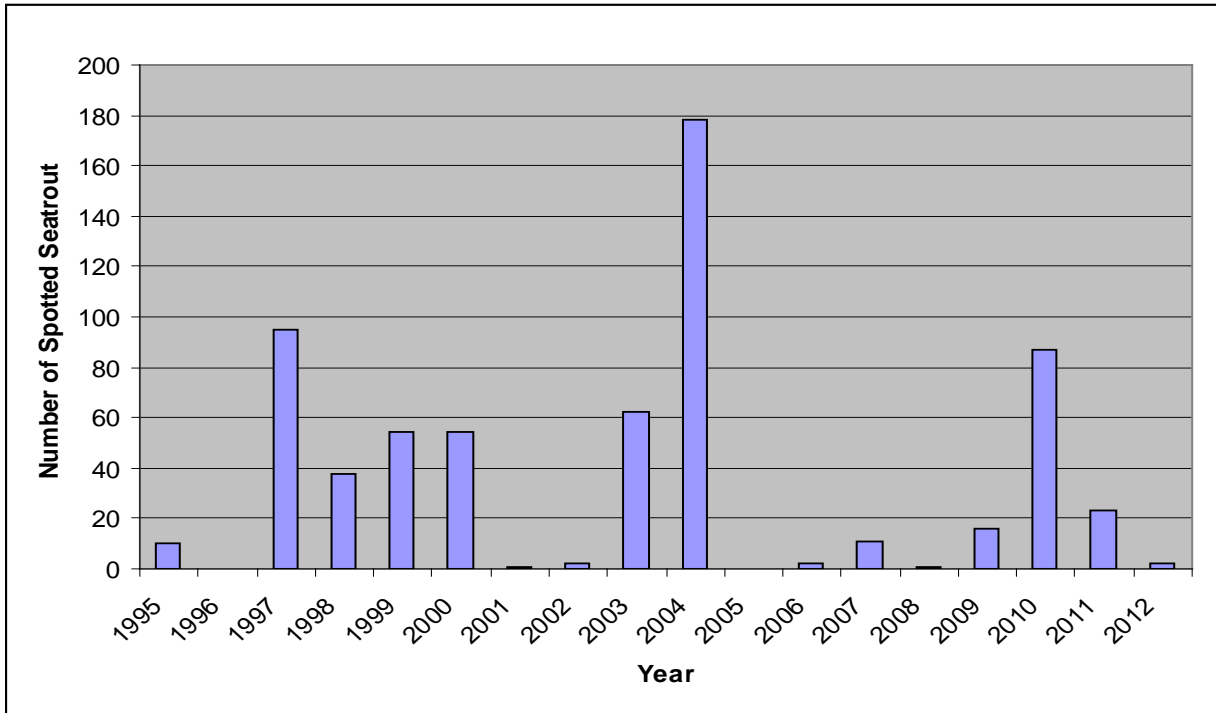


Figure 3. Reported spotted seatrout releases from Maryland's charter boat fishery in numbers, 1995-2012.

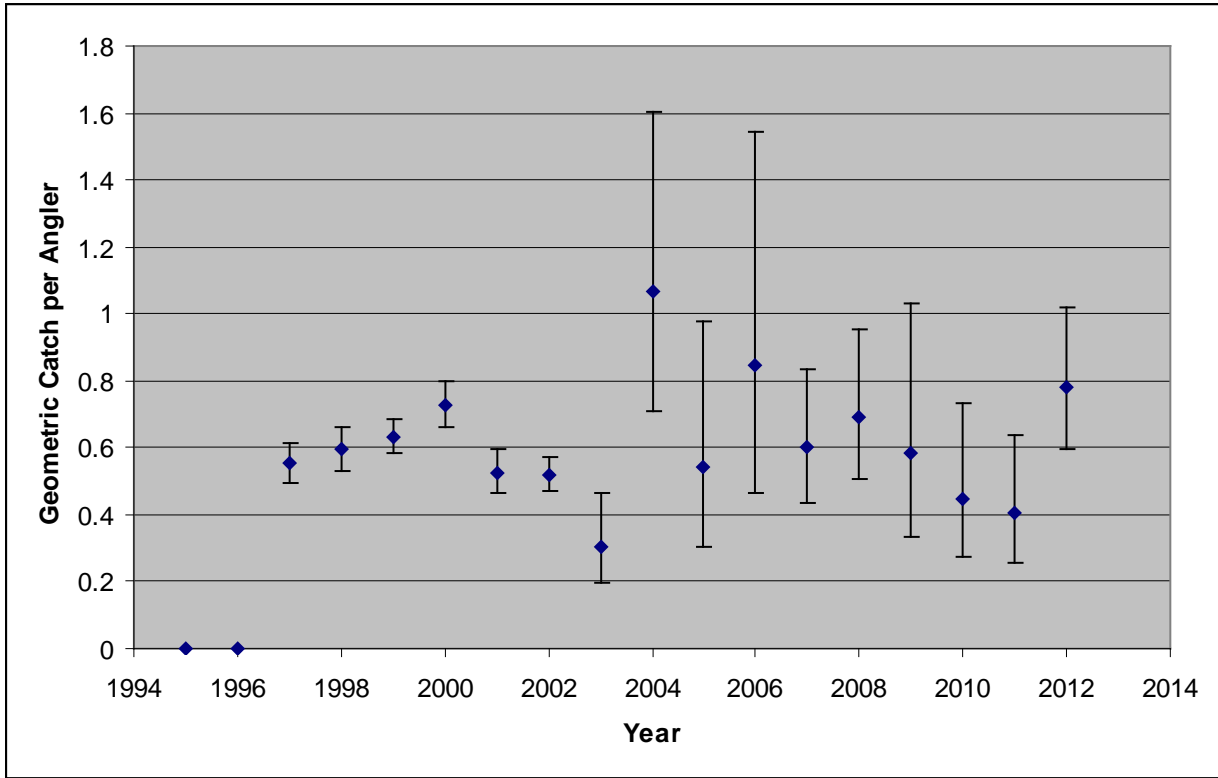


Figure 5. Spotted seatrout geometric mean harvest per angler with 95% confidence intervals, from Maryland charter boat captain logbook entries, 1995-2012.



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

September 1, 2013

MEMORANDUM

TO: Kirby Rootes-Murdy, FMP Coordinator
Atlantic States Marine Fisheries Commission

FROM: Adam Kenyon, Fisheries Management Specialist,
Fisheries Management Division

SUBJECT: Virginia's 2013 Compliance Report for Spotted Seatrout

The attached document describes Virginia's spotted seatrout landings and management program for the 2012 calendar year. Confidential data have been excluded.

ABK

attachment

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

I. Introduction

The Virginia Marine Resources Commission (VMRC) currently operates a mandatory reporting program (Chapter 4 VAC 20-610-10 et seq. “Pertaining to Commercial Fishing and Mandatory Harvest Reporting”), for recording commercial harvests, and obtains recreational fisheries data from the Marine Recreational Information Program (MRIP), the Virginia Game Fish Tagging Program and the Marine Sportfish Collection Project.

In 2012, the commercial landings of spotted seatrout were 79,490 pounds, up from 14,214 pounds in 2011 (Table 1). Haul seine gear accounted for 83.2% of the 2012 commercial landings.

The National Marine Fisheries Service’s MRIP estimated the recreational fishery landed 226,556 fish (125,627 pounds) of spotted seatrout in 2012 (Table 2).

II. Request for *de minimis* Status

The VMRC does not request *de minimis* status for this fishery.

III. Previous Calendar Year’s Fishery and Management Program

a. Activity and results of fishery dependent monitoring

1. Commercial fishery dependent monitoring

The VMRC Biological Sampling Program collects biological data from Virginia’s commercial and recreational fisheries. The lengths and weights of all samples are recorded and otoliths are removed from selected species, including spotted seatrout, for ageing. In 2012, a total of 785 lengths, 764 weights, and 260 otoliths was taken from spotted seatrout sampled from Virginia’s commercial fisheries (Table 3). Of the 785 samples, 11 were from the commercial hook-and-line gear, 396 from haul seine, 70 from pound nets, 300 from gill nets, and 8 were sampled from crab pots. Sample lengths ranged from 10 to 31 inches total length (TL), with an average of 18 inches TL (Figure 1). The average weight of spotted seatrout sampled from the commercial landings was 2.3 pounds. The spotted seatrout sampled from the commercial fishery ranged in age from 0 to 6 years.

2. Recreational fishery dependent monitoring

VMRC Marine Sportfish Collection Project

The VMRC introduced its Marine Sportfish Collection Project in June 2007. The program sets up freezers where recreational anglers can donate their whole fish or carcasses on a voluntary basis at official weigh-in stations for the Virginia Saltwater Fishing Tournament. The VMRC processes the donated fish for sex, length, and age. There were 62 spotted seatrout donated to the project in 2012. All fish were donated by recreational hook-and-line fishermen. A total of 62 lengths, 1 weight, and 12 otoliths were taken from the recreational spotted seatrout donations (Table 3). The lengths of spotted seatrout sampled from the recreational hook-and-line fishery ranged from 14 to 28 inches TL (Figure 2). The average length of the

spotted seatrout recreational fishery samples was 19.3 inches TL. Only one weight was sampled from the recreational spotted seatrout fishery, at 2.5 pounds. The spotted seatrout sampled from the recreational hook-and-line fishery ranged in age from 1 to 6 years.

b. Activity and results of fishery independent monitoring

There were no fishery independent monitoring programs during the 2012 calendar year.

c. Copy of regulations in effect for 2012

The VMRC maintains a 14 inch minimum size limit on all spotted seatrout caught commercially and recreationally. However, any catch by commercial pound net or haul seine has a tolerance of up to 5.0%, by weight, of spotted seatrout less than 14 inches.

From April 1 through November 30, hook-and-line gear is limited to a possession limit of 10 spotted seatrout. From December 1 through March 31, hook-and-line gear is limited to a possession limit of 5 spotted seatrout. Also, from December 1 through March 31, an individual may only possess 1 spotted seatrout 24 inches or greater caught by hook-and-line (Appendix 1).

A seasonal commercial quota for spotted seatrout was established in Virginia in 1995 to avoid a potential directed commercial fishery. This seasonal quota is not biologically based, and operates during the 12-month period from September 1 through August 31. The seasonal commercial quota was established at 51,104 pounds of spotted seatrout, which was equal to the average of the 1993 and 1994 landings plus 25%.

d. Harvest for commercial and recreational fisheries

Commercial landings data were obtained through the VMRC mandatory reporting database. Virginia's commercial fishery landed 79,490 pounds of spotted seatrout in 2012 (annual landings are reported for the compliance report). This is 5.6 times greater than the 2011 landings of 14,214 pounds, and over double that of the five-year average landings of 34,842 pounds. (Table 1). Haul seine gear accounted for 83.2% of the 2012 commercial landings, followed by gill net at 12.6%, hook and line at 3.5%, and other gear at 0.7%. Virginia closed its season for spotted seatrout on October 18, 2012, when the seasonal quota was met. The commercial spotted seatrout season will remain closed until September 1, 2013.

The 2012 MRIP estimated recreational landings of spotted seatrout in Virginia totaled 226,556 fish (A+B1). The 2012 MRIP estimated number of fish released (B2) totaled 428,540 fish (Table 2). In Virginia, saltwater anglers took 2,517,758 trips in 2012 for all species (Table 4).

Currently, no fishery-independent sampling programs or estimates of non-harvest loss are available.

e. Review of progress in implementing habitat recommendations

There have not been programs initiated relating specifically to spotted seatrout.

IV. Planned management programs for 2013

a. Summarize regulations that will be in effect for 2013

In 2013, the Virginia commercial and recreational fisheries will continue to be regulated by the current size limit, as well as the recreational possession limit, and the commercial quota. The 2013 Virginia commercial spotted seatrout season will re-open on September 1, 2013 (Appendix I).

b. Summarize monitoring programs that will be performed

The VMRC will continue to monitor commercial harvests of spotted seatrout through the mandatory harvest reporting program, and to collect biological data from commercial and recreational fisheries, as well as fishery-independent sampling if available.

c. Highlight any changes from the previous year

N/A

Table 1. Annual Virginia commercial landings of spotted seatrout, 1996 through 2012.

Year	Pounds
1996	4,184
1997	11,641
1998	21,705
1999	35,131
2000	15,510
2001	19,041
2002	8,794
2003	5,299
2004	10,412
2005	17,096
2006	30,352
2007	33,501
2008	41,376
2009	22,887
2010	16,242
2011	14,214
2012	79,490
Total	386,875

Table 2. Virginia spotted seatrout recreational landings (A+B1) and releases (B2), 2003 through 2012.

Year	Harvest (Type A +B1)				Released Alive (Type B2)	
	Number	PSE [Number]	Weight (lb)	PSE [Weight]	Number	PSE [Number]
2003	218,061	21.5	102,484	22	207,270	24.9
2004	136,393	32.5	68,409	32.1	257,996	45
2005	66,517	58.9	22,062	55.8	192,091	36.6
2006	107,149	48.2	43,530	42.2	82,935	37.2
2007	374,521	26.8	159,244	26.4	362,809	21.9
2008	248,366	32.4	103,880	39.2	366,566	28.6
2009	43,703	28.2	22,635	28.8	171,028	26.2
2010	28,146	32.6	17,417	32.5	550,118	27.4
2011	549,976	39.3	247,736	38.2	1,214,620	30.1
2012	226,556	27.2	125,627	26.8	428,540	28.4

Table 3. Number of spotted seatrout samples collected from Virginia's fisheries, by the VMRC Biological Sampling Program and Marine Sportfish Collection Project, by fishery and gear, 2012.

Fishery	Gear	Length	Weight	Age
Commercial	Hook-and- Line	11	8	6
	Haul Seine	396	395	135
	Pound Net	70	70	40
	Gill Net	300	283	79
	Crab Pot	8	8	0
Recreational	Hook-and- Line	62	1	12
Total		847	765	272

Table 4. Total number of recreational trips taken in Virginia, all species combined, 1996 through 2012.

Year	Number of Trips
1996	2,743,913
1997	3,712,259
1998	2,956,024
1999	2,693,943
2000	3,390,719
2001	4,128,242
2002	3,253,844
2003	3,113,183
2004	3,663,879
2005	3,964,054
2006	3,787,818
2007	3,511,486
2008	3,498,928
2009	3,047,706
2010	2,596,891
2011	2,898,696
2012	2,517,758
Average	3,263,491

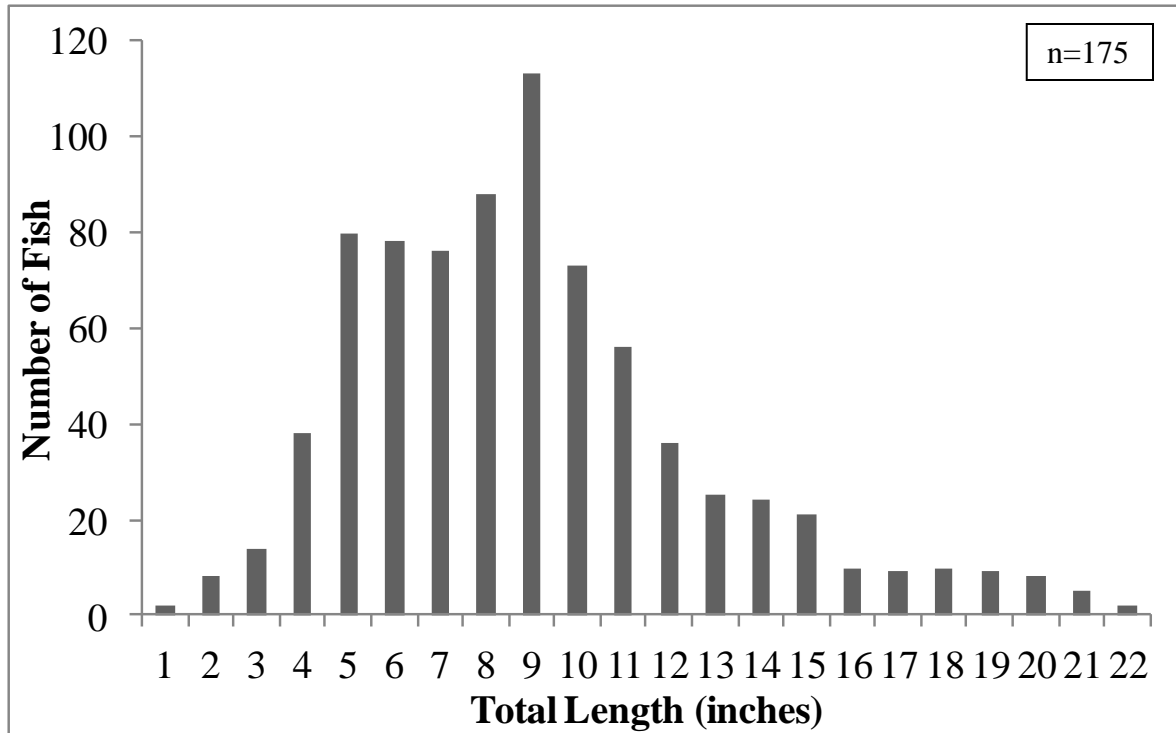


Figure 1. Length-frequency distributions of spotted seatrout samples collected from Virginia commercial landings, by the VMRC Biological Sampling Program in 2012.

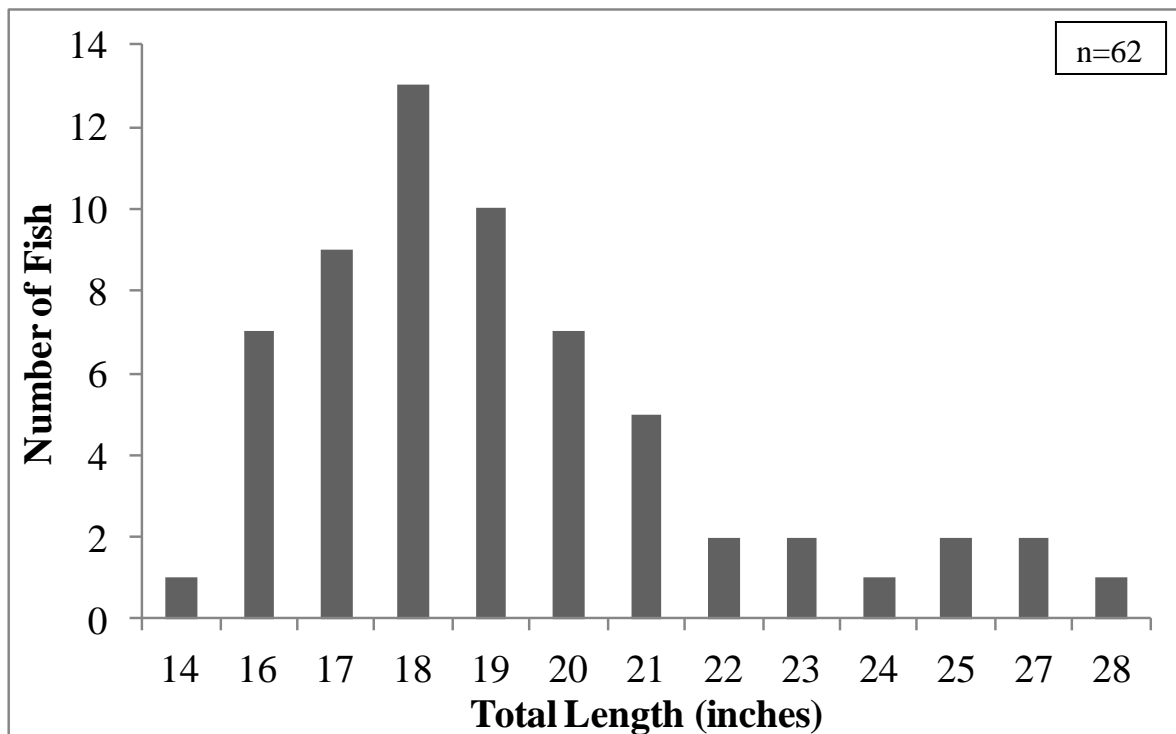


Figure 2. Length-frequency distribution of spotted seatrout samples donated by recreational hook-and-line anglers, to the VMRC Marine Sportfish Collection Project in 2012.

Appendix I.

VIRGINIA MARINE RESOURCES COMMISSION "PERTAINING TO SPECKLED TROUT AND RED DRUM" CHAPTER 4VAC20-280-10 ET SEQ.

PREAMBLE

This chapter establishes minimum size limits for the taking or possession of speckled trout and red drum (channel bass) by commercial and recreational fishermen. The minimum size limits will protect the spawning stocks and increase yield in the fishery. This chapter is designed to assure that Virginia is consistent with all federal and interstate management measures for speckled trout and red drum. In addition, this chapter establishes a commercial landings quota for speckled trout. The goal of these management measures is to perpetuate the speckled trout and red drum resources in fishable abundance throughout their range and generate the greatest possible economic and social benefits from their harvest and utilization over time.

This chapter is promulgated pursuant to authority contained in §§28.2-201 and 28.2-304 of the Code of Virginia. This chapter amends and re-adopts, as amended, previous Chapter 4VAC20-280-10 et seq., which was adopted December 17, 2002, and effective January 1, 2003. The effective date of this chapter, as amended, is April 1, 2011.

4VAC20-280-10. Purpose.

The purpose of this chapter is to protect and rebuild the spawning stocks of speckled trout and red drum, minimizing the possibility of recruitment failure, and to increase yield in their fisheries.

4VAC20-280-20. Definitions.

The following words and terms, when used in this chapter, shall have the following meanings unless the context clearly indicates otherwise.

"Red drum" means red drum or channel bass and is any fish of the species *Sciaenops ocellatus*.

"Speckled trout" means speckled trout or spotted seatrout and is any fish of the species *Cynoscion nebulosus*.

4VAC20-280-30. Size limits.

- A. It shall be unlawful for any person to take, catch, or possess any speckled trout less than 14 inches in length provided however, the catch of speckled trout by pound net or haul seine may consist of up to 5.0%, by weight, of speckled trout less than 14 inches in length.

- B. It shall be unlawful for any person fishing with hook-and-line, rod-and-reel, or hand-line to possess more than one speckled trout 24 inches or greater from December 1 through March 31 of any year.
- C. It shall be unlawful for any person to take, catch or possess any red drum less than 18 inches in length or greater than 26 inches in length.
- D. Length is measured in a straight line from tip of nose to tip of tail.

4VAC20-280-40. Possession limits.

- A. It shall be unlawful for any person fishing with hook-and-line, rod-and-reel, or hand-line to possess more than 10 speckled trout from April 1 through November 30 in any year.
- B. It shall be unlawful for any person fishing with hook-and-line, rod-and-reel, or hand-line to possess more than 5 speckled trout from December 1 through March 31 in any year.
- C. It shall be unlawful for any person to possess more than three red drum.

4VAC20-280-50. Commercial landings quota.

- A. For each 12-month period of September 1 through August 31, the commercial landings of speckled trout shall be limited to 51,104 pounds.
- B. When it is projected that the commercial landings quota will be met by a certain date within the above period, the Marine Resources Commission will provide notice of the closing date for commercial harvest and landing of speckled trout during that period; and it shall be unlawful for any person to harvest or land speckled trout for commercial purposes after such closing date for the remainder of that period.

4 VAC 20-280-60. Penalty.

- A. Pursuant to §28.2-304 of the Code of Virginia, any person violating any provision of 4VAC20-280-40 C of this chapter shall be guilty of a Class 1 misdemeanor.
- B. Pursuant to §28.2-903 of the Code of Virginia, any person violating any provision of this chapter other than 4VAC20-280-40 C shall be guilty of a Class 3 misdemeanor, and a second or subsequent violation of any provision of this chapter, other than 4VAC20-280-40 C, committed by the same person within 12 months of a prior violation is a Class 1 misdemeanor.

ASMFC SPOTTED SEATROUT PLAN – OMNIBUS AMENDMENT

NORTH CAROLINA ANNUAL SPOTTED SEATROUT COMPLIANCE REPORT 2012

September 2013

NC Department of Environment and Natural Resources

Division of Marine Fisheries

PO Box 769

Morehead City, NC 28557



1. Introduction

The management goal for the Omnibus Amendment is to bring the FMP for spotted seatrout under authority of the Atlantic Coastal Fisheries Cooperative Management Act, providing for more efficient and effective management and changes to management in the future. The proposed objectives of Amendment 2 are:

- 1) Manage the spotted seatrout fishery restricting catch to mature individuals.
 - a) Commercial and recreational 12 inch minimum TL size limit with comparable mesh size limitations.
- 2) Manage the spotted seatrout stock to maintain sufficiently-high spawning stock biomass.
- 3) Develop research priorities that will further refine the spotted seatrout management program to maximize the biological, social, and economic benefits derived from the spotted seatrout population.

Although not required, it is recommended that:

- 1) All states implement management measures on spotted seatrout harvest controls (e.g. bag and size limits) in order to achieve a minimum 20% SPR.
- 2) Encourage the continued use of BRDs in fisheries to reduce spotted seatrout bycatch.

No regulatory changes occurred during 2012.

2. Current/Previous Years Management Program in North Carolina

a. Activity and results of fishery dependent monitoring

Commercial spotted seatrout landings 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 a licensed fisherman lands 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 on 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.

Commercial fishing activity is monitored through fishery dependent sampling conducted under Title III of the Interjurisdictional Fisheries Act and has been ongoing since 1982. Data collected in this program allow the size and age distribution of spotted seatrout to be characterized by gear/fishery. Predominant fisheries for spotted seatrout include estuarine gill nets, ocean gill nets, estuarine long haul seine/swipe nets, and ocean beach seines. In 2012, 86% of the spotted seatrout harvest was taken in estuarine gill nets, followed by other gears with 7% (Table 1). Other gears include pound nets, trawls, gigs, rod and reel, and hand harvest. A total of 3,784 fish were measured from commercial fisheries during 2012. Samples were obtained from each of the four dominant fisheries, ocean beach seine, estuarine gill net, ocean gill net, long haul, and other gears (Table 2).

Recreational fishing activity is monitored through the Marine Recreational Information Program (MRIP, Figure 1).

b. Activity and results of fishery independent monitoring

Three fishery independent gill net surveys were initiated by the NCDMF in May of 2001, 2003 and 2008, respectively. These surveys utilize a stratified random sampling scheme designed to characterize the size and age distribution for key estuarine species in Pamlico Sound, Pamlico, Pungo, Neuse, Cape Fear and New rivers. By continuing a long-term database of age composition and developing an index of abundance for spotted seatrout these surveys will help managers assess the spotted seatrout stocks without relying solely on commercial and recreational fishery dependent data. Additionally, data collected is used to help improve bycatch estimates, evaluate the success of management measures, and look at habitat usage. The overall spotted seatrout CPUE was 0.68 (n=193) in 2012 for the Pamlico Sound survey, the second highest in the time series (Figure 2). The overall spotted seatrout CPUE for the Pamlico, Pungo, and Neuse rivers survey was 0.64 (n=204) in 2012 and was the second highest CPUE in the time series. The overall CPUE for spotted seatrout from the Cape Fear and New rivers survey was 0.37 (n=45) in 2012.

c. Regulations in effect for North Carolina in 2012

15A NCAC 03M .0512 COMPLIANCE WITH FISHERY MANAGEMENT PLANS

(a) In order to comply with management requirements incorporated in Federal Fishery Management Council Management Plans or Atlantic States Marine Fisheries Commission Management Plans or to implement state management measures, the Fisheries Director may, by proclamation, take any or all of the following actions for species listed in the Interjurisdictional Fisheries Management Plan:

- (1) Specify size;
- (2) Specify seasons;
- (3) Specify areas;
- (4) Specify quantity;
- (5) Specify means and methods; and
- (6) Require submission of statistical and biological data.

(b) Proclamations issued under this Rule shall be subject to approval, cancellation, or modification by the Marine Fisheries Commission at its next regularly scheduled meeting or an emergency meeting held pursuant to G.S. 113-221.1.

*History Note: Authority G.S. 113-134; 113-182; 113-221; 113-221.1; 143B-289.4;
Eff. March 1, 1996;*

AMENDED EFF. OCTOBER 1, 2008.

See Appendix A for released proclamations that affected the spotted seatrout commercial and recreational fisheries during 2012.

Under proclamation authority the NCDMF Director maintains the following restrictions:

No possession of spotted seatrout under 14 inches total length
Daily bag limit of four recreationally caught spotted seatrout
Daily bag limit of 75 commercially caught spotted seatrout
Commercial operations cannot possess or sell spotted seatrout from midnight on Friday through midnight on Sundays, each week, except for Albemarle and Currituck sounds.

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

Commercial landings in 2012 were 265,476 lbs; an increase from 2011 landings (75,239 lbs) and higher than the ten-year mean of 229,512 lbs (2003-2012). Estuarine gill nets accounted for 86% of the commercial landings in 2012 (Table 1).

Recreational landings (MRIP) in 2012 were 817,452 lbs; an increase from 2011 landings (403,160 lbs) and above the ten-year average (2003-2012 – 647,963 lbs)(Table 4).

Non-harvest loss in the commercial fishery is currently not fully known. It is likely that non-harvest loss occurs in the gill net, haul seine, beach seine, crab pot, stop net, and trawl fisheries. Data available suggest bycatch is minimal and the 2008 North Carolina spotted seatrout stock assessment assumed bycatch to be negligible in the commercial fisheries (NCDMF 2012). North Carolina is currently in the process of updating the spotted seatrout stock assessment and has an expected completion date of spring 2014. Updated non-harvest numbers should be available and will be reported in North Carolina's 2014 compliance report.

e. Review of progress in implementing habitat recommendations

The NCDMF regularly provides input to federal and state regulatory agencies of the location of habitats used by spotted seatrout. The Division reviews impact statements and permit applications for projects or facilities, which may impact spotted seatrout spawning or nursery areas and provides appropriate recommendations to minimize impacts or to preserve habitats.

The NCDMF and the North Carolina Wildlife Resources Commission have designated Anadromous Fish Spawning Areas for their respective jurisdictions. Also, the NC Coastal Habitat Protection Plan (CHPP) was adopted in 2005 to reach 4 goals: 1. Improve effectiveness of existing rules and programs protecting coastal fish habitats, 2. Identify, designate, and protect strategic habitat areas, 3. Enhance habitat and protect it from physical impacts and, 4. Enhance and protect water quality, all of which will directly impact habitats utilized by spotted seatrout (Street 2005). The CHPP was updated in 2010, but maintains these same four goals.

The NCDMF approved Strategic Habitat Areas (SHA) for region 1 in North Carolina in January 2009 (Figure 3). "Strategic Habitat Areas represent priority habitat areas for protection due to their exceptional condition or imminent threat to their ecological functions supporting estuarine and coastal fish and shellfish species" (NCDMF 2009). The NCDMF has identified approximately 150 SHAs for region 2 and is currently reviewing proposed sites (Figure 4)(NCDMF 2011). The SHA will be incorporated into conservation and restoration efforts.

3. Planned management program for the current calendar year

a. Regulations Summary

In compliance with the requirements of the ASMFC Omnibus Amendment North Carolina will continue under its current management program.

North Carolina's current regulations:

- Maintain a prohibition on the possession of all spotted seatrout under 14 inches total length
- Maintain the current recreational bag limit of four fish per day.

- Maintain the commercial possession limit of 75 fish per day
- Maintain no sale or possession of commercially harvested spotted seatrout from midnight Friday through midnight Sunday, each week, except Albemarle and Currituck sounds.

b. Current monitoring programs

Current monitoring programs outlined in Section 2 a. and b. will be continued.

c. Changes from previous year

Reduced recreational bag limit from six fish to four fish and removed restriction limiting two fish to greater than 24 inches total length.

Literature Cited

NCDMF 2009. Strategic Habitat Nominations for Region # 1: Albemarle Sound To Northeastern Coastal Ocean of North Carolina. North Carolina Division of Marine Fisheries, Morehead City, NC, 91 pp.

NCDMF 2011. Strategic Habitat Area Nominations for Pamlico Sound System, North Carolina (Region 2). North Carolina Division of Marine Fisheries, Morehead City, NC. 135 pp.

NCDMF 2012. North Carolina Spotted Seatrout Management Plan, North Carolina Department of Environment and Natural Resources, Division of Marine Fisheries, Morehead City, NC. 344 pp.

Street, M.W., A.S. Deaton, W.S. Chappell, and P.D. Mooreside. 2005. North Carolina Coastal Habitat Protection Plan. North Carolina Department of Environment and Natural Resources, Division of Marine Fisheries, Morehead City, NC, 656 pp.

Table 1. Commercial harvest of spotted seatrout from North Carolina waters, 1994-2012.

Year	Beach Seine		Estuarine Gill Net		Long Haul		Ocean Gill Net		Other		Total
	lbs	%	lbs	%	lbs	%	lbs	%	lbs	%	lbs
1994	42,339	10	216,032	52	98,706	24	19,557	5	35,724	9	412,358
1995	149,392	26	270,057	47	101,401	18	32,442	6	21,004	4	574,296
1996	16,947	7	161,521	71	22,574	10	17,942	8	7,595	3	226,580
1997	15,995	7	137,951	59	46,126	20	22,292	10	10,133	4	232,497
1998	12,304	4	209,164	68	68,286	22	5,712	2	12,206	4	307,671
1999	30,242	6	362,946	67	126,574	23	8,068	1	18,845	3	546,675
2000	43,107	11	276,396	72	33,911	9	12,526	3	10,635	3	376,574
2001	8,391	8	74,756	71	11,455	11	7,238	7	3,874	4	105,714
2002	4,896	3	133,172	76	23,768	14	6,891	4	6,829	4	175,555
2003	6,613	4	131,337	72	25,271	14	5,215	3	13,027	7	181,462
2004	12,061	9	91,511	70	14,740	11	8,226	6	4,424	3	130,961
2005	14,480	11	94,509	73	10,896	8	5,104	4	4,612	4	129,601
2006	23,705	8	217,401	70	49,527	16	10,098	3	11,890	4	312,620
2007	12,438	3	282,190	75	54,404	15	6,318	2	19,373	5	374,722
2008	10,927	4	236,097	78	34,144	11	5,271	2	17,991	6	304,430
2009	2,286	1	271,245	85	24,521	8	4,181	1	18,013	6	320,247
2010	2,958	1	165,072	82	8,880	4	6,606	3	17,307	9	200,822
2011	992	1	60,919	81	4,517	6	1,552	2	7,260	10	75,239
2012	5,633	2	228,337	86	7,005	3	5,045	2	18,997	7	265,017
Average	21,879	8	190,559	69	40,353	15	10,015	4	13,670	5	276,476

Table 2. Number of length measurements obtained from the North Carolina spotted seatrout fishery, 2012.

Year	Gear	Number of Measurements
2012	Beach Seine	37
	Estuarine Gill Net	3,463
	Ocean Gill Net	84
	Long Haul	150
	Other	50
Total		3,784

Table 3. North Carolina's 2012 spotted seatrout commercial harvest (lbs and percent by gear) and the number of individuals measured by NCDMF.

Gear	Landings (lbs)	%	Number Measured
Estuarine Long Haul	7,005	3	150
Ocean Gill Net	5,045	2	84
Estuarine Gill Net	228,337	86	3,463
Ocean Beach Seine	5,633	2	37
Other Gears	18,997	7	50
Total	265,017	100	3,784

Table 4. North Carolina recreational harvest (A +B1) of spotted seatrout estimated through MRIP by Wave, 2012.

Year	Wave						Total
	January /February	March /April	May /June	July /August	September /October	November /December	
2000			63,079	64,323	103,118	154,670	385,190
2001		2,125	44,279	15,366	75,122	76,547	213,439
2002		402	24,452	29,083	97,850	122,313	274,100
2003		5,803	33,912	24,309	12,074	69,837	145,935
2004		1,622	16,798	18,919	122,796	230,672	390,807
2005	3,875	2,501	31,862	17,303	173,855	445,013	674,409
2006	64,744	73,041	97,640	72,003	117,501	394,951	819,880
2007	32,111	25,523	71,884	211,249	112,904	420,787	874,458
2008	67,261	16,436	154,612	130,034	177,360	442,976	988,679
2009	16,642	31,270	422,617	98,613	111,419	277,094	957,655
2010	3,095	9,922	45,174	35,498	106,608	206,897	407,194
2011		816	7,701	31,848	136,906	225,889	403,160
2012	32,437	28,290	52,744	59,868	223,083	421,030	817,452
Total	220,165	197,751	1,066,754	808,416	1,570,596	3,488,676	7,352,358

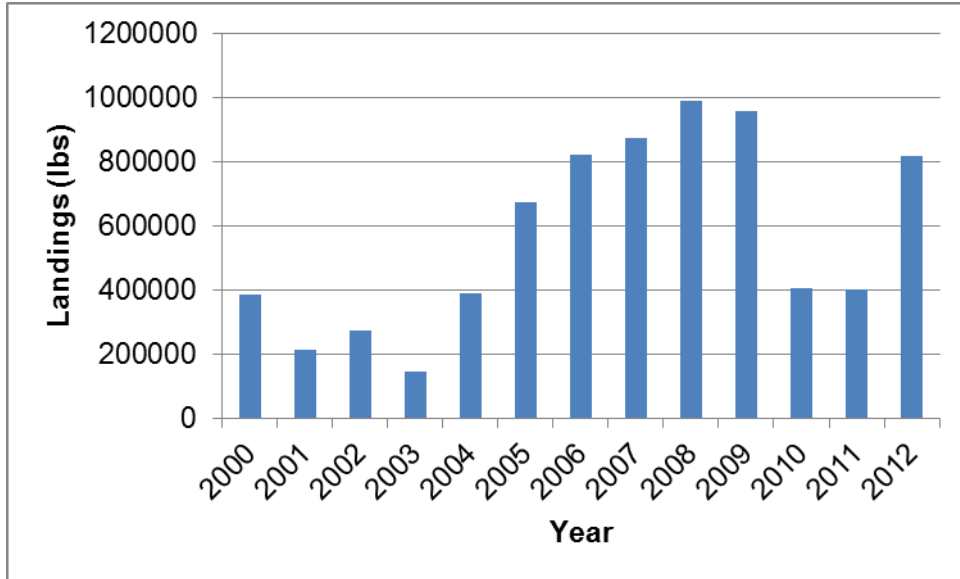


Figure 1. Landings for the North Carolina spotted seatrout recreational fishery as estimated from MRIP, 2000-2012.

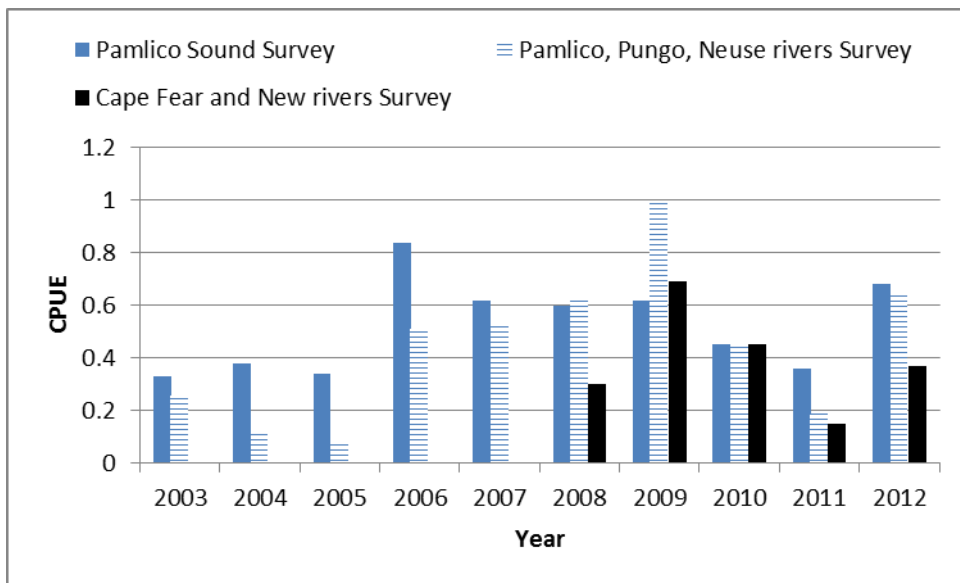


Figure 2. Annual weighted spotted seatrout CPUE (ages combined) from the North Carolina Pamlico Sound, Pamlico, Pungo, Neuse rivers, and Cape Fear and New rivers Independent Gill Net Surveys, 2003-2012.

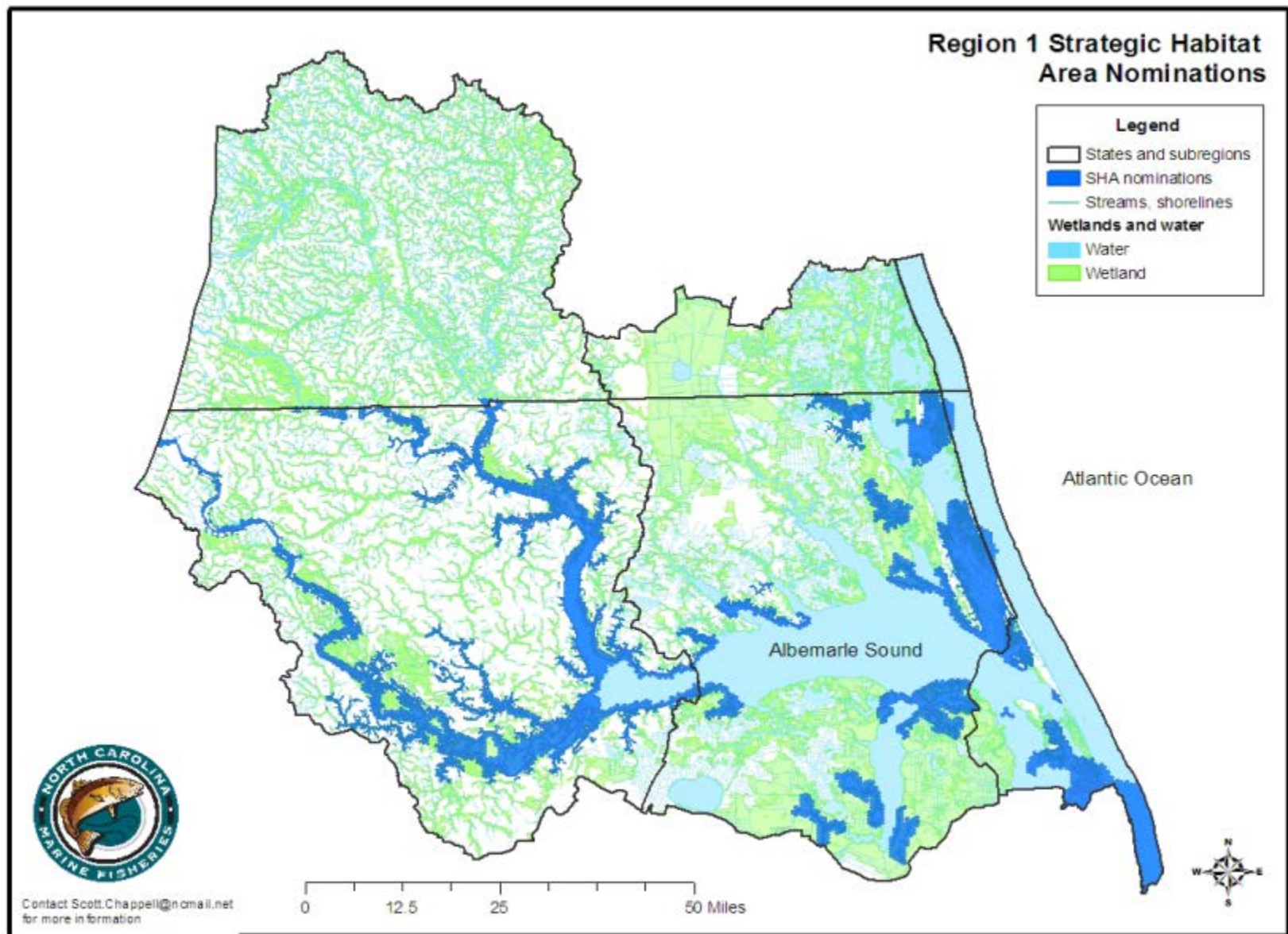


Figure 3. Region 1 Strategic Habitat Area Nominations, North Carolina, 2010.

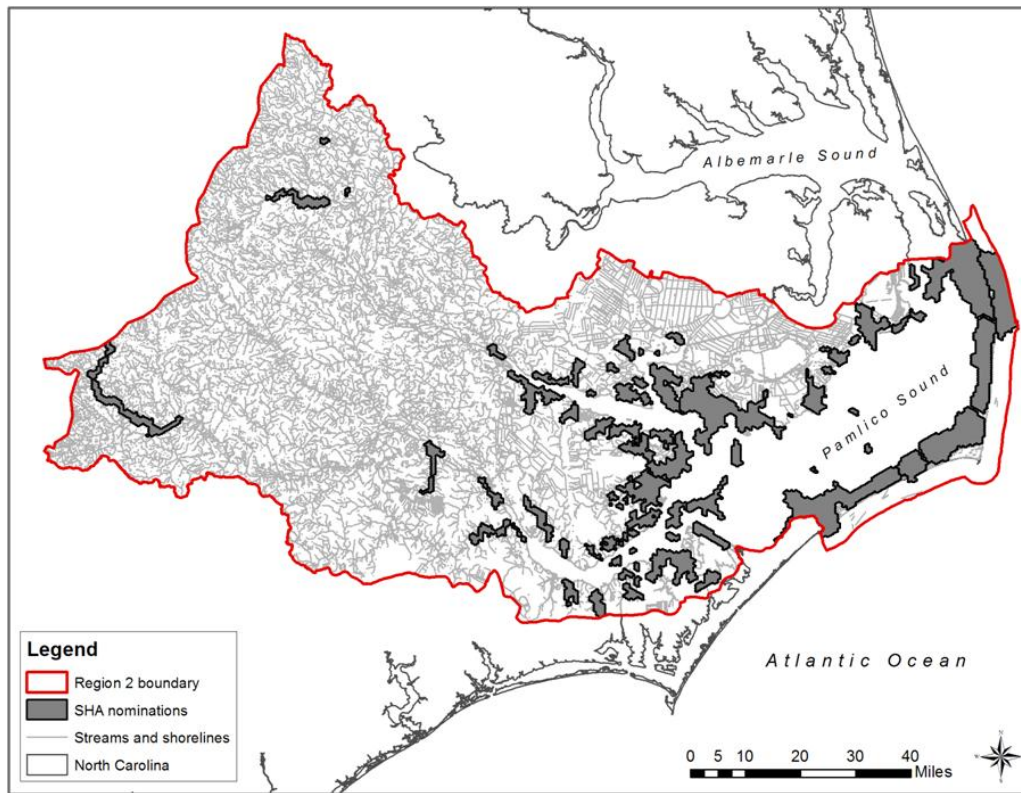


Figure 4. Region 2 Strategic Habitat Area Nominations, North Carolina, 2011 (NCDMF 2011).

Appendix A

FF-21-2012

PROCLAMATION

RE: SPOTTED SEATROUT COMMERCIAL

Dr. Louis B. Daniel III, Director, Division of Marine Fisheries, hereby announces that effective **12:01 A.M., Sunday, April 1, 2012**, the following will apply to spotted seatrout for **commercial** purposes:

I. MINIMUM SIZE LIMIT

It is unlawful to possess spotted seatrout (speckled trout) less than **14 inches** total length.

II. HARVEST RESTRICTIONS

A. It is unlawful for a commercial fishing operation to possess more than **75 spotted seatrout per day**.

B. It is unlawful to possess more than four (4) spotted seatrout per person per day taken by hook and line in joint and coastal fishing waters of the state.

C. It is unlawful for a commercial fishing operation to possess or sell spotted seatrout for commercial purposes taken from joint fishing waters of the state from **midnight on Friday to midnight on Sunday each week**.

D. It is unlawful to set gill nets in the joint fishing waters of the state from **midnight on Friday to midnight on Sunday each week**.

E. The joint fishing waters of the following water bodies **are exempted from III. C. and D. above**:

Albemarle Sound - north and west of a line beginning at a point 35° 58.5887'N - 75° 51.7080' W near the east shore at the entrance to East Lake; running northeasterly to a point 36° 04.8280'N - 75° 47.4050'W near Point Harbor; (see map)

Currituck Sound - north of the Highway 158 Wright Memorial Bridge beginning at a point on the western shore at 36° 04.8280'N - 75° 47.4050'W; running easterly along the south side of the bridge to a point on the east shore at 36° 05.5770'N - 75° 44.5850'W. (see map).

III. GENERAL INFORMATION

A. This proclamation is issued under the authority of N.C.G. S. 113-170.4; 113-170.5; 113-182; 113-221.1; 143B-289.52 and N.C. Fisheries Rules 15A NCAC 03H .0103 and 03M .0512.

B. It is unlawful to violate the provisions of any proclamation issued by the Fisheries Director under his delegated authority pursuant to N.C. Marine Fisheries Rule 15A NCAC 03H .0103.

C. This action was taken to reduce overfishing following action by the North Carolina Marine Fisheries Commission (MFC) on the Spotted Seatrout Fishery Management Plan. The MFC directed the Director to implement these restrictions in the interim until the provisions of the Plan take effect in

February, 2014.

D. Joint fishing waters are managed jointly by the MFC and the Wildlife Resources Commission. Maps showing boundary lines can be found on the DMF website at: http://ncfisheries.net/maps/coastal_inland/index.html.

E. This proclamation supersedes Proclamation [FF-13-2012](#), dated February 23, 2012. It removes the suspension of authorizing rules that have been repealed and replaces the authority with the proper citation. **All restrictions remain unchanged.**

March 26, 2012
11:45 A.M.
FF-21-2012

FF-13-2012

PROCLAMATION

RE: SPOTTED SEATROUT COMMERCIAL

Dr. Louis B. Daniel III, Director, Division of Marine Fisheries, hereby announces that effective **12:01 A.M., Monday, February 27, 2012**, the following will apply to spotted seatrout for **commercial** purposes:

I. SPOTTED SEATROUT RULE SUSPENSION

North Carolina Marine Fisheries Rule 15A NCAC 03M .0504 (a) and (b) are suspended.

II. MINIMUM SIZE LIMIT

It is unlawful to possess spotted seatrout (speckled trout) less than **14 inches** total length.

III. HARVEST RESTRICTIONS

A. It is unlawful for a commercial fishing operation to possess more than **75 spotted seatrout per day**.

B. It is unlawful to possess more than four (4) spotted seatrout per person per day taken by hook and line in joint and coastal fishing waters of the state.

C. It is unlawful for a commercial fishing operation to possess or sell spotted seatrout for commercial purposes taken from joint fishing waters of the state from **midnight on Friday to midnight on Sunday each week**.

D. It is unlawful to set gill nets in the joint fishing waters of the state from **midnight on Friday to midnight on Sunday each week**.

E. The joint fishing waters of the following water bodies **are exempted from III. C. and D. above**:

Albemarle Sound - north and west of a line beginning at a point 35° 58.5887'N - 75° 51.7080' W near the east shore at the entrance to East Lake; running northeasterly to a point 36° 04.8280'N - 75° 47.4050'W near Point Harbor; (see map)

Currituck Sound - north of the Highway 158 Wright Memorial Bridge beginning at a point on the western shore at 36° 04.8280'N - 75° 47.4050'W; running easterly along the south side of the bridge to a point on the east shore at 36° 05.5770'N - 75° 44.5850'W. (see map).

IV. GENERAL INFORMATION

A. This proclamation is issued under the authority of N.C.G. S. 113-170.4; 113-170.5; 113-182; 113-221.1; 143B-289.52 and N.C. Fisheries Rules 15A NCAC 03H .0103, 03I .0102 and 03M .0512.

B. It is unlawful to violate the provisions of any proclamation issued by the Fisheries Director under his delegated authority pursuant to N.C. Marine Fisheries Rule 15A NCAC 03H .0103.

C. This action is being taken to reduce overfishing following action by the North Carolina Marine Fisheries Commission (MFC) on the Spotted Seatrout Fishery Management Plan. The MFC directed the Director to implement these restrictions in the interim until the provisions of the Plan take effect in February, 2014.

D. Joint fishing waters are managed jointly by the MFC and the Wildlife Resources Commission. Maps showing boundary lines can be found on the DMF website at: http://ncfisheries.net/maps/coastal_inland/index.html.

E. This proclamation supersedes Proclamation [FF-84-2011](#), dated December 15, 2011. It clarifies the possession limit for fish captured by hook and line. **All restrictions remain unchanged.**

February 23, 2012

8:45 A.M.

FF-13 -2012

FF-84-2011

PROCLAMATION

RE: SPOTTED SEATROUT COMMERCIAL

Dr. Louis B. Daniel III, Director, Division of Marine Fisheries, hereby announces that effective **12:01 A.M., Monday, December 19, 2011**, the following will apply to spotted seatrout for commercial purposes:

I. SPOTTED SEATROUT RULE SUSPENSION

North Carolina Marine Fisheries Rule 15A NCAC 03M .0504 (a) and (b) are suspended.

II. MINIMUM SIZE LIMIT

It is unlawful to possess spotted seatrout (speckled trout) less than **14 inches** total length.

III. HARVEST RESTRICTIONS

A. It is unlawful for a commercial fishing operation to possess more than **75 spotted seatrout per day**.

B. It is unlawful to possess more than four (4) spotted seatrout per person per day taken by hook and line in joint and coastal fishing waters of the state.

C. It is unlawful for a commercial fishing operation to possess or sell spotted seatrout for commercial purposes taken from joint fishing waters of the state from **midnight on Friday to midnight on Sunday each week.**

D. It is unlawful to set gill nets in the joint fishing waters of the state from **midnight on Friday to midnight on Sunday each week.**

E. The joint fishing waters of the following water bodies **are exempted from III. C. and D. above:**

Albemarle Sound - north and west of a line beginning at a point 35° 58.5887'N - 75° 51.7080' W near the east shore at the entrance to East Lake; running northeasterly to a point 36° 04.8280'N - 75° 47.4050'W near Point Harbor; (see map)

Currituck Sound - north of the Highway 158 Wright Memorial Bridge beginning at a point on the western shore at 36° 04.8280'N - 75° 47.4050'W; running easterly along the south side of the bridge to a point on the east shore at 36° 05.5770'N - 75° 44.5850'W. ([see map](#)).

IV. GENERAL INFORMATION

A. This proclamation is issued under the authority of N.C.G. S. 113-170.4; 113-170.5; 113-182; 113-221.1; 143B-289.52 and N.C. Fisheries Rules 15A NCAC 03H .0103, 03I .0102 and 03M .0512.

B. It is unlawful to violate the provisions of any proclamation issued by the Fisheries Director under his delegated authority pursuant to N.C. Marine Fisheries Rule 15A NCAC 03H .0103.

C. This action is being taken to reduce overfishing following action by the North Carolina Marine Fisheries Commission (MFC) on the Spotted Seatrout Fishery Management Plan. The MFC directed the Director to implement these restrictions in the interim until the provisions of the Plan take effect in February, 2014.

D. Joint fishing waters are managed jointly by the MFC and the Wildlife Resources Commission. Maps showing boundary lines can be found on the DMF website at: http://ncfisheries.net/maps/coastal_inland/index.html.

E. This proclamation supersedes Proclamation [FF-79-2011](#), dated November 23, 2011. It clarifies the possession limit for fish captured by hook and line. **All restrictions remain unchanged.**

December 15, 2011
12:30 P.M.
FF-84 -2011

FF-20-2012

PROCLAMATION

RE: SPOTTED SEATROUT RECREATIONAL

Dr. Louis B. Daniel III, Director, Division of Marine Fisheries, hereby announces that effective **12:01 A.M.**,

Sunday, April 1, 2012, the following will apply to spotted seatrout in the recreational fishery:

I. MINIMUM SIZE LIMIT

It is unlawful to possess spotted seatrout (speckled trout) less than 14 inches total length.

II. RECREATIONAL BAG LIMIT

It is unlawful to possess more than four (4) spotted seatrout per person per day by hook and line or for recreational purposes.

III. GENERAL INFORMATION:

A. This proclamation is issued under the authority of N.C.G. S. 113-170.4; 113-170.5; 113-182; 113-221.1; 143B-289.52 and N.C. Fisheries Rules 15A NCAC 03H .0103 and 03M .0512.

B. It is unlawful to violate the provisions of any proclamation issued by the Fisheries Director under his delegated authority pursuant to N.C. Marine Fisheries Rule 15A NCAC 03H .0103.

C. This action was taken following action by the North Carolina Marine Fisheries Commission on the Spotted Seatrout Fishery Management Plan. The MFC directed the Director to implement these restrictions in the interim until the provisions of the Plan take effect in February, 2014.

D. This proclamation supersedes Proclamation FF-12- 2012, dated February 23, 2012. It removes the suspension of authorizing rules that have been repealed and replaces the authority with the proper citation. **All restrictions remain unchanged.**

March 26, 2012
11:30 A.M.
FF-20-2012

FF-12-2012

PROCLAMATION

RE: SPOTTED SEATROUT RECREATIONAL

Dr. Louis B. Daniel III, Director, Division of Marine Fisheries, hereby announces that effective **12:01 A.M., Monday, February 27, 2012**, the following will apply to spotted seatrout in the recreational fishery:

I. SPOTTED SEATROUT RULE SUSPENSION

North Carolina Marine Fisheries Rule 15A NCAC 03M .0504 (a) and (b) are suspended.

II. MINIMUM SIZE LIMIT

It is unlawful to possess spotted seatrout (speckled trout) less than **14 inches** total length.

III. RECREATIONAL BAG LIMIT

It is unlawful to possess more than four (4) spotted seatrout per person per day by hook and line or for recreational purposes.

IV. GENERAL INFORMATION:

A. This proclamation is issued under the authority of N.C.G. S. 113-170.4; 113-170.5; 113-182; 113-221.1; 143B-289.52 and N.C. Fisheries Rules 15A NCAC 03H .0103, 03I .0102 and 03M .0512.

B. It is unlawful to violate the provisions of any proclamation issued by the Fisheries Director under his delegated authority pursuant to N.C. Marine Fisheries Rule 15A NCAC 03H .0103.

C. This action is being taken following action by the North Carolina Marine Fisheries Commission on the Spotted Seatrout Fishery Management Plan. The MFC directed the Director to implement these restrictions in the interim until the provisions of the Plan take effect in February, 2014.

D. This proclamation supersedes Proclamation [FF-75-2011](#), dated November 10, 2011.

February 23, 2012

8:30 A.M.

FF-12-2012

FF-75-2011

PROCLAMATION

RE: SPOTTED SEATROUT RECREATIONAL

Dr. Louis B. Daniel III, Director, Division of Marine Fisheries, hereby announces that effective **12:01 A.M., Monday, November 14, 2011**, the following will apply to spotted seatrout in the recreational fishery:

I. SPOTTED SEATROUT RULE SUSPENSION

North Carolina Marine Fisheries Rule 15A NCAC 03M .0504 (a) and (b) are suspended.

II. MINIMUM SIZE LIMIT

It is unlawful to possess spotted seatrout (speckled trout) less than **14 inches** total length.

III. RECREATIONAL BAG LIMIT

It is unlawful to possess more than four (4) spotted seatrout per person per day by hook and line or for recreational purposes.

IV. GENERAL INFORMATION:

A. This proclamation is issued under the authority of N.C.G. S. 113-170.4; 113-170.5; 113-182; 113-221.1; 143B-289.52 and N.C. Fisheries Rules 15A NCAC 03H .0103, 03I .0102 and 03M .0512.

B. It is unlawful to violate the provisions of any proclamation issued by the Fisheries Director under his delegated authority pursuant to N.C. Marine Fisheries Rule 15A NCAC 03H .0103.

C. This action is being taken following action by the North Carolina Marine Fisheries Commission on the Spotted Seatrout Fishery Management Plan. The MFC directed the Director to implement these

restrictions in the interim until the provisions of the Plan take effect in February, 2014.

D. This proclamation supersedes Proclamation FF-65- 2011, dated September 13, 2011.

November 10, 2011
9:45 A.M.
FF-75-2011

FF-65-2011

PROCLAMATION

RE: SPOTTED SEATROUT RECREATIONAL

Dr. Louis B. Daniel III, Director, Division of Marine Fisheries, hereby announces that effective **12:01 A.M., Thursday, September 15, 2011**, the following will apply to spotted seatrout in the recreational fishery:

I. SPOTTED SEATROUT RULE SUSPENSION

North Carolina Marine Fisheries Rule 15A NCAC 03M .0504 (a) and (b) are suspended.

II. MINIMUM SIZE LIMIT

It is unlawful to possess spotted seatrout (speckled trout) less than **14 inches** total length.

III. RECREATIONAL BAG LIMIT

It is unlawful to possess more than six (6) spotted seatrout per person per day by hook and line or for recreational purposes. Of those six, no more than two (2) shall be greater than 24 inches total length.

IV. GENERAL INFORMATION:

A. This proclamation is issued under the authority of N.C.G. S. 113-170.4; 113-170.5; 113-182; 113-221.1; 143B-289.52 and N.C. Fisheries Rules 15A NCAC 03H .0103, and 03M .0512.

B. It is unlawful to violate the provisions of any proclamation issued by the Fisheries Director under his delegated authority pursuant to N.C. Marine Fisheries Rule 15A NCAC 03H .0103.

C. On November 4, 2010, the Marine Fisheries Commission authorized interim management measures to ensure the viability of spotted seatrout until final approval of the Spotted Seatrout Fishery Management Plan.

D. This proclamation supersedes Proclamation [FF-57- 2011](#), dated June 6, 2011.

September 13, 2011
8:45 A.M.
FF-65-2011

South Carolina
Spotted Seatrout Fishery and Management Program
Compliance Report for the Year 2012



29 August 2013

Prepared by: Stephen A. Arnott and Eric Hiltz

Marine Resources Research Institute

Marine Resources Division

South Carolina Department of Natural Resources

I. Introduction

a. **Summary of 2012 (highlight any significant changes in monitoring, regulations, or harvest).**

Spotted Seatrout is a popular fish targeted by inshore recreational anglers in South Carolina. It is an estuarine-dependent Sciaenid species, with juveniles inhabiting sheltered shallows waters, and adults inhabiting estuarine and coastal areas such as creeks, marsh-front, oyster reefs, and barrier islands.

The general biology of Spotted Seatrout in South Carolina was summarized in a report by Wenner et al (1990)¹, and in a booklet published for anglers by Wenner & Archambault (1996)². Roumillat & Brouwer (2002)³ documented the reproductive dynamics of female Spotted Seatrout in South Carolina, and Collins et al (2001)⁴ and Saucier et al (1992)⁵ documented some of their spawning locations.

South Carolina Spotted Seatrout fisheries data for 2012 were available from the SCDNR Inshore Fisheries Section, the SCDNR Office of Fisheries Management, and the Marine Recreational Information Program (MRIP, run by the National Marine Fisheries Service). On March 1st 2013, the SCDNR Office of Fisheries Management took over the contract collecting data for MRIP. As a result, a similar SCDNR State Finfish Survey (based on interviews with anglers at boat slips) has been discontinued.

A general finding from SCDNR fishery independent surveys (in common with other regions along the Atlantic and Gulf coasts) is that Spotted Seatrout numbers tend to decline after severe winters. This is presumably related to the species' habit of remaining in shallow, estuarine waters during the winter, which exposes them to sudden drops in temperature as cold fronts pass by. During 2010 and 2011, South Carolina Spotted Seatrout population numbers declined following two consecutive severe winters. As a result, SCDNR requested anglers to voluntarily catch-and-release Spotted Seatrout during 2011, rather than harvest them. There was evidence of a population rebound

¹ Wenner CA et al. 2001 [Investigations into life history and population dynamics of marine recreational fishes in South Carolina](#).

² Wenner CA & Archambault J. 1996. [Spotted Seatrout: natural history and fishing techniques in South Carolina](#).

³ Roumillat WA & Brouwer MC. 2002. [Reproductive dynamics of Spotted Seatrout \(*Cynoscion nebulosus*\) in South Carolina](#). *Fish Bull.* 102: 473-487.

⁴ Collins MR et al 2001 [Spawning aggregations of recreationally important Sciaenid species in Savannah Harbor](#).

⁵ Saucier et al 1992. [Hydrophone identification of spawning sites of Spotted Seatrout *Cynoscion nebulosus* \(Osteichthys: Sciaenidae\) near Charleston, South Carolina](#). *Northeast Gulf Sci.* 12.2: 141-145.

during 2012, perhaps aided by this request, although MRIP data for 2011 do not show any major shift in the percent of B2 (live release) fish (it was already high at ~80%).

In the spring of 2013, two College of Charleston graduate students completed their Masters Projects working with SCDNR staff on Spotted Seatrout winter mortality. One of the projects studied low temperature tolerance of juvenile Spotted Seatrout under laboratory conditions. The other project studied genetic diversity of Spotted Seatrout populations along the Atlantic coast, including an analysis of the effects of severe winters on genetic diversity. Manuscripts from both projects have been submitted for publication.

In 2012, the Mariculture section of SCDNR began stocking Spotted Seatrout in the Charleston Harbor system (the first time the species has been stocked in the state). The contribution of stocked fish to the population is not yet known, but an extensive genetic monitoring program has been set up to identify stocked fish using a suite of available microsatellite markers. We anticipate initial results from this program in late 2013.

II. Request for *de minimis*, where applicable

- a. Not applicable

III. 2012 fishery and management program

a. Fishery dependent monitoring

Fishery dependent data for 2012 were available from five sources, listed below.

(i) State Finfish Survey⁶ (SFS)

The SFS is a fishery dependent survey designed to collect catch, effort and length data for certain species taken by private boat anglers in either South Carolina state waters or adjacent federal waters. Data are not collected for other fishing modes, and are available since 1988. The survey was discontinued in March 2013 when SCDNR took over the MRIP contract.

Among the 1,945 angler parties that were interviewed during 2012, 182 (9.4%) of them said they were primarily targeting Spotted Seatrout. These 182 parties had a statewide mean catch rate of 2.15 Spotted Seatrout per targeted fishing hour and caught a total of 931 Spotted Seatrout, of which

⁶ The SFS was discontinued on March 1, 2013 (see Section Ia).

337 (36%) were harvested. Together, all of the 1,945 angler parties that were interviewed (including those not targeting Spotted Seatrout) caught 1,457 Spotted Seatrout, harvesting 557 (38%) of them.

(ii) Marine Recreational Information Program

Data from the Marine Recreational Information Program⁷ indicate that the total recreational catch of Spotted Seatrout during 2012 in South Carolina state waters was the highest since records began in 1981, with a total catch of 1,025,123 fish (PSE = 18.1%) (**Fig. 4**). Of those fish caught, an estimated 804,920 (PSE = 20.4%) were released alive (79% of the catch), while the remaining 220,203 (21%) were harvested. The percentage of fish released alive has remained fairly stable in recent years after increasing substantially during the 1990s and early 2000s (**Fig. 5**).

(iii) Charter Vessel Trip Reporting

Since 1993, the Statistics Section of the Office of Fisheries Management at SCDNR has implemented a mandatory trip reporting system for participants in the charter boat fishery. The second most targeted species of the inshore component of the charters is Spotted Seatrout. In 2012, there were 425 active vessels licensed in South Carolina. The fishery is conducted throughout the year, and more charter boat activity occurs in the central and southern parts of the state (from Winyah Bay south) because there are many more large bays and sounds that provide appropriate habitat for Spotted Seatrout. Most captains either require, or strongly suggest, the practice of catch and release, even for legal-size fish.

Based on mandatory logbook reports, a total of 749 charter boat trips primarily targeting Spotted Seatrout took place during 2012 (out of a total of 12,195 charter boat trips). The targeted trips caught 11,114 Spotted Seatrout (mean of 16.8 Spotted Seatrout per targeted trip), of which 9,704 (87.3%) were released alive, 36 (0.3%) were released dead and 1,374 (12.4%) were harvested. Among all 12,195 trips (targeted or not), a total of 29,107 Spotted Seatrout were caught, of which 25,973 were released alive (89.2%), 57 were released dead (0.2%) and 3,075 were harvested (10.6%).

⁷ <http://www.st.nmfs.noaa.gov/st1/recreational/queries/>

Prior to 1999, only the total release rate was recorded (i.e. alive + dead releases). However, over the last decade the release rate of live Spotted Seatrout by charter boats has remained fairly steady (mean = 85.9%), as has the release rate of dead Spotted Seatrout (mean = 0.15%).

(iv) Tournament Program

During 2012, a total of 129 Spotted Seatrout were measured and sampled at fishing tournaments in the Charleston Harbor vicinity. Sizes of fish ranged between 346 and 584 mm total length, ages ranged between 1 and 5 years, and there were 18 males and 111 were females.

(v) Freezer Program

A total of 66 Spotted Seatrout were collected from the SCDNR freezer program. Sizes ranged between 343 and 502 mm total length, ages ranged between 1 and 3 years, and there were 3 males and 63 females.

b. Fishery independent monitoring

SCDNR uses two fishery independent surveys that monitor the abundance of Spotted Seatrout in South Carolina waters: (i) a trammel net survey, which catches Spotted Seatrout greater than ~250 mm total length in lower estuary, marsh-front habitats. (ii) an electrofishing survey, which catches Spotted Seatrout greater than ~50 mm total length in upper estuary nursery habitats. The trammel net survey has a much higher encounter rate with Spotted Seatrout than the electrofishing survey, and is therefore considered a better indicator of the population. Most Spotted Seatrout are released alive, but some are sacrificed for ageing, sex, maturity and parasite studies. During 2012, a small fin clip (~1 cm²) was taken from all fish collected in the Charleston Harbor system in order to genetically identify stocked Spotted Seatrout (see Section Ia).

(i) SCDNR Trammel Net Survey

The SCDNR trammel net survey began in late 1990. It uses a stratified random sampling design and initially covered two strata (Charleston Harbor and Wando River). Since then, the trammel net survey has expanded into most of the major estuaries of South Carolina: it currently covers two strata that are surveyed quarterly and seven strata that are surveyed monthly (**Fig. 1**). The quarterly strata include Colleton River and Broad River, both located in Port Royal Sound at the southern end of the state. The monthly strata include (from south to north) ACE Basin, lower Ashley River, lower Wando River, Charleston Harbor, Muddy & Bulls Bays, Cape Romain and Winyah

Bay. A total of 15,600 random trammel sets were made in these nine strata over the period January 1991 through December 2012, with 970 of them occurring in 2012.

During 2012, a total of 3,258 Spotted Seatrout were captured in random trammel net sets, with an overall mean catch per unit effort (CPUE) of 3.37 Spotted Seatrout per trammel set, and percent standard errors (PSEs) of between 8.4% and 15.6% in each stratum. Annual trends in CPUE have historically been highly synchronous across strata, with statewide population declines evident following years with severe winters (2001, 2010 and 2011; **Fig. 2**). During 2012, there was evidence of a population rebound following a mild winter. (This was not attributable to the newly introduced practice of stocking in 2012, since stocked fish were too small to be captured by the trammel net).

(i) SCDNR Electrofishing Survey

In 2001, SCDNR began a stratified random electrofishing survey of upper estuarine habitats. The survey uses a dedicated Smith-Root electrofisher boat, and it currently covers five strata per month (Combahee and Edisto Rivers, entering the ACE Basin in St. Helena Sound; Ashley and Cooper Rivers, entering Charleston Harbor; and Waccamaw River, entering Winyah Bay). From May 2001 through December 2012, a total of 3,388 fifteen minute random sets were made in these five strata, with 290 occurring in 2012.

During 2012, a total of just 50 Spotted Seatrout were captured by random electrofishing sets, with a mean overall CPUE of 0.24 Spotted Seatrout per set and PSEs of between 37% and 51% per stratum. CPUE has generally declined in the electrofishing survey since 2009 (**Fig. 3**), perhaps indicating that the recent population increase seen in the trammel net survey was attributable to higher overwinter survival of juveniles, rather than higher recruitment of juveniles.

c. Regulations during 2012 (reference specific compliance criteria mandated in the FMP)

Commercial harvest of Spotted Seatrout has been prohibited in South Carolina since 1987. Recreational regulations during 2012 were as follows:

- May only be taken by rod & reel or gig (no gigging December - February)
- Ten fish per person per day
- 14" total length minimum size

The chronology of some major regulation milestones is as follows:

- June 9, 1986 – minimum size limit of 12 inches set.

- February 17, 1987 – Spotted Seatrout becomes a state game fish (no commercial harvest)
- May 29, 1988 – may not be gilled in January and February
- April 29, 1991 – bag limit dropped from 20 to 15, and prohibition on gilling in December is added
- May 28, 1998 – new bag limit set at 10 and minimum size set at 13 inches
- June 15, 2007 – minimum size limit raised to 14 inches

d. Harvest

Commercial

There was no commercial harvest of South Carolina Spotted Seatrout in 2012. Commercial harvest has been prohibited since the species became a state game fish in 1987.

Recreational

The Marine Recreational Information Program estimated that the recreational harvest of Spotted Seatrout in south Carolina state waters during 2012 was 220,203 fish (see section III a, above, and **Fig. 4**).

e. Progress in implementing habitat recommendations.

Over three decades of experience, monitoring and research, SCDNR scientific and fisheries management staff has amassed a significant amount of general and specific knowledge pertaining to the different habitats of importance to the success of Spotted Seatrout in the state's estuarine and near-shore coastal waters. Much of this knowledge has been acquired through the significant efforts of the various on-going fisheries independent and fisheries dependent programs described above. However, no specific section, program or project within the SCDNR has been assigned responsibility for oversight or implementation of specific Spotted Seatrout related habitat conservation and restoration recommendations in the FMP. Current habitat development-focused projects, such as those responsible for the restoration of estuarine oyster reefs⁸, may provide some benefit to Spotted Seatrout.

The general condition of South Carolina's coastal habitats is assessed annually by the South Carolina Estuarine & Coastal Assessment Program (SCECAP). The program compiles overall habitat quality scores of 'good', 'fair' or 'poor' based on combined water quality, sediment quality

⁸[South Carolina Oyster Reef Restoration Program](#)

and benthic data. The latest report⁹ found that 84% of sites visited in South Carolina were good, 13% were fair, and 3% were poor.

IV. Planned management programs for the current calendar year

a. Regulations for 2013.

Unchanged from 2012 (see section III c, above).

b. Monitoring programs for 2013.

Plans for monitoring Spotted Seatrout during 2013 remained unchanged from 2012, with the following two exceptions:

1. The SCDNR State Finfish Survey has been discontinued due to SCDNR taking on the contract to acquire MRIP data.
2. Genetic analyses is being performed on fin clip samples to determine contributions from the SCDNR stocking program in the Charleston Harbor system (stocking began in 2012).

c. Changes from the previous year.

None.

⁹ [The condition of South Carolina's estuarine and coastal habitats during 2009-2010](#)

Fig. 1 SCDNR electrofishing and trammel net strata.

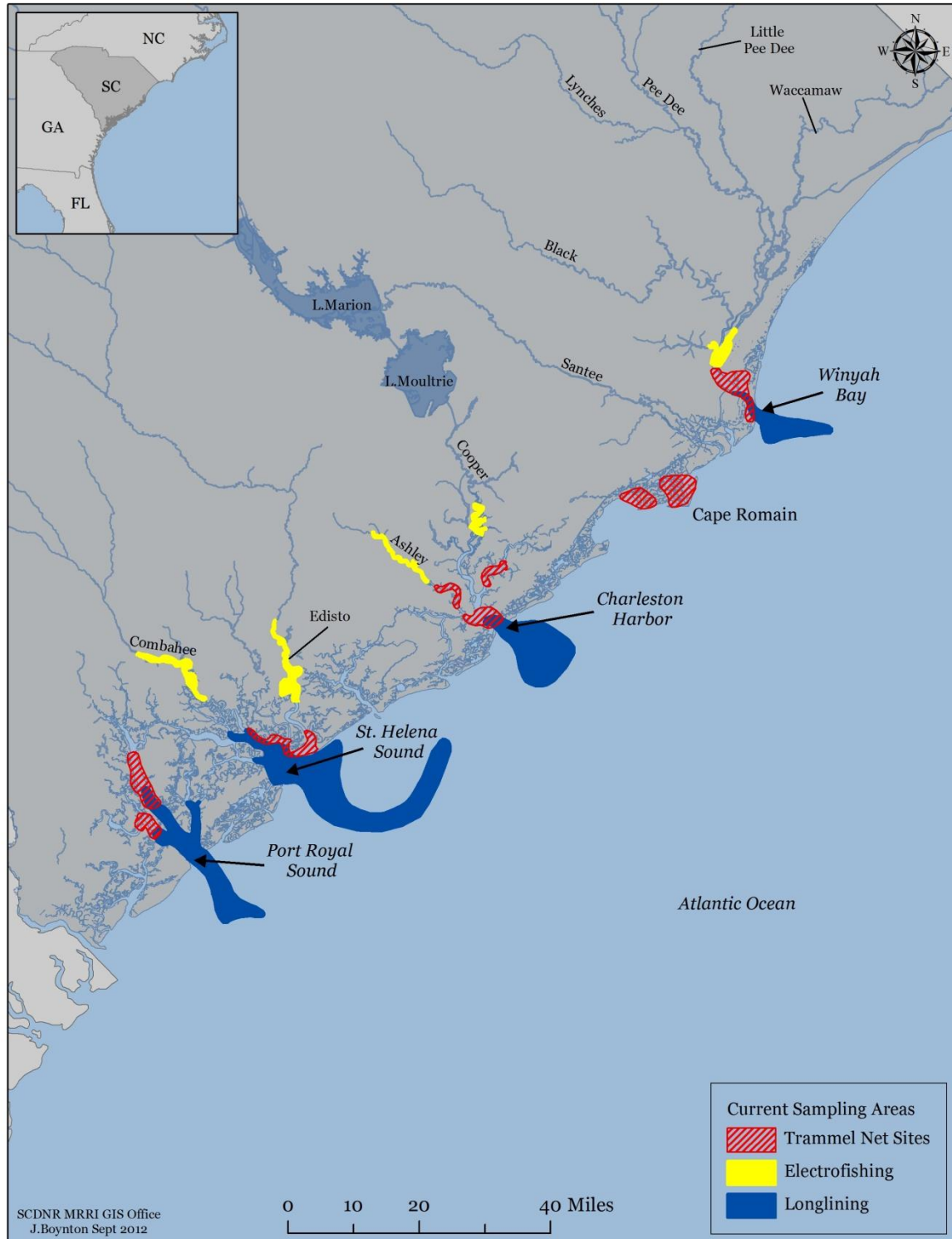


Fig. 2 Nominal mean catch per unit effort (\pm SE) of Spotted Seatrout in the SCDNR trammel net survey.

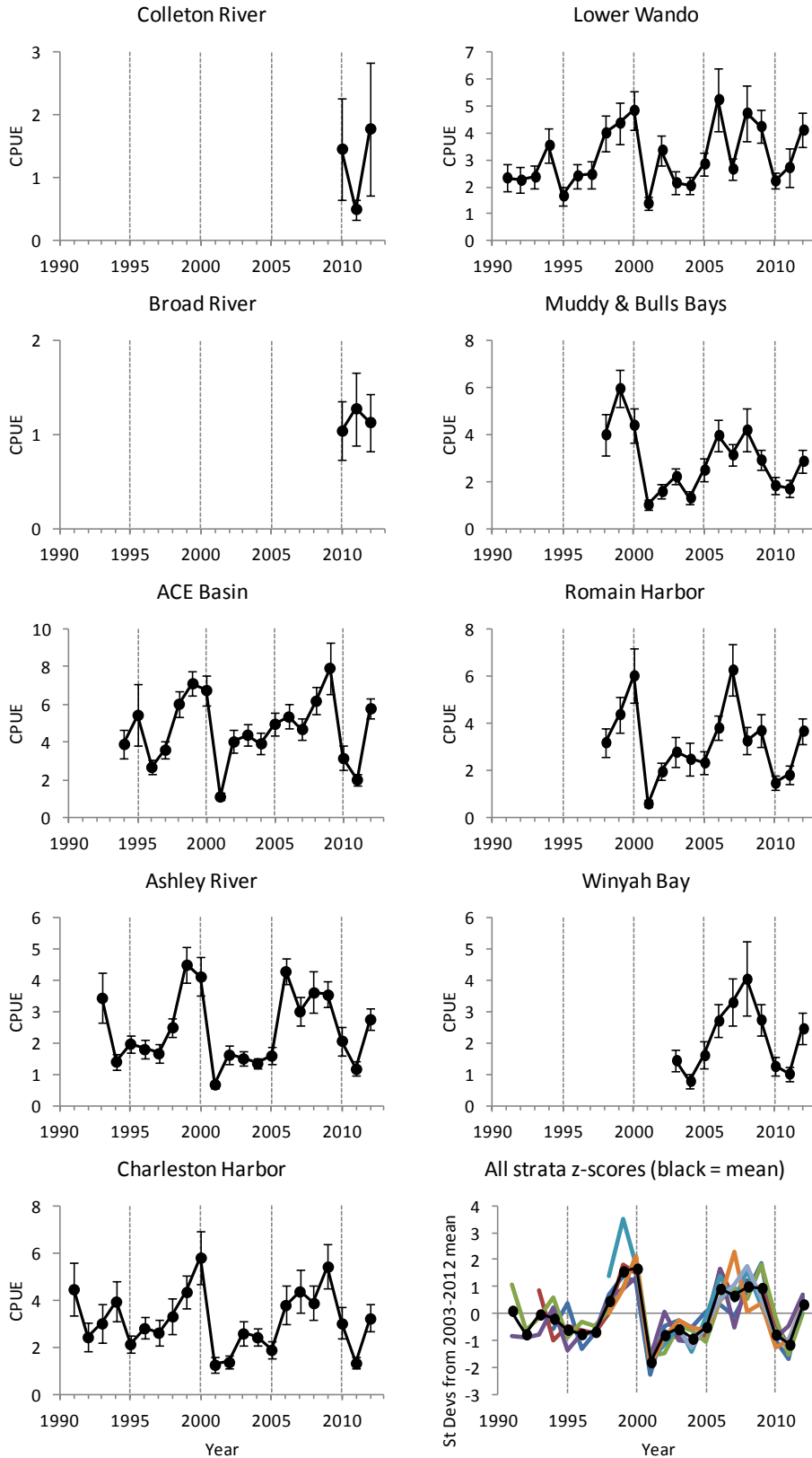


Fig. 3 Nominal mean catch per unit effort (\pm SE) of Spotted Seatrout in the SCDNR electrofishing survey.

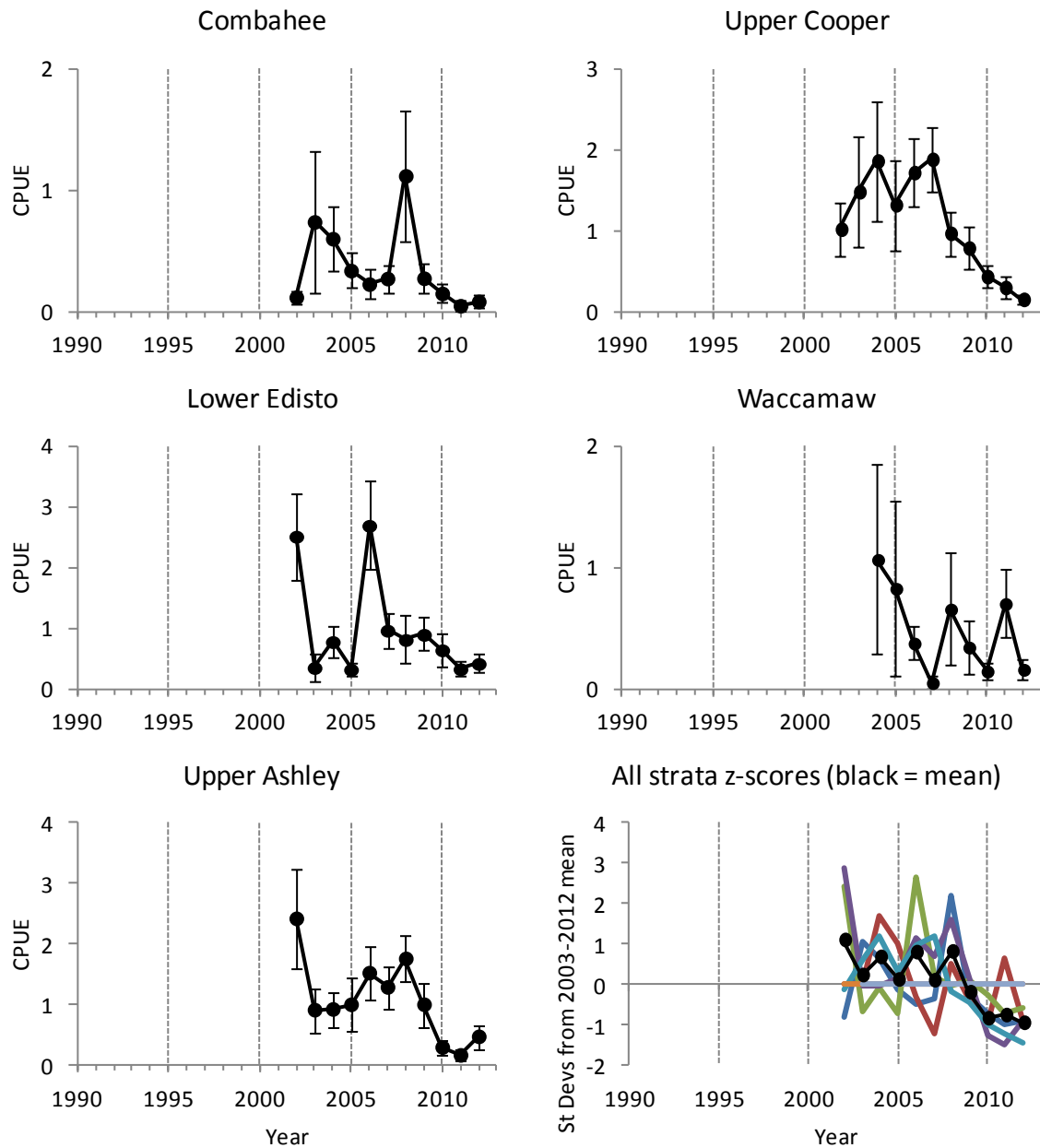


Fig. 4 Number of Spotted Seatrout caught by recreational anglers in South Carolina state waters. Error bars represent \pm SE for the total catch. Data source: Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division, 13 August 2013 (<http://www.st.nmfs.noaa.gov/st1/recreational/queries/>).

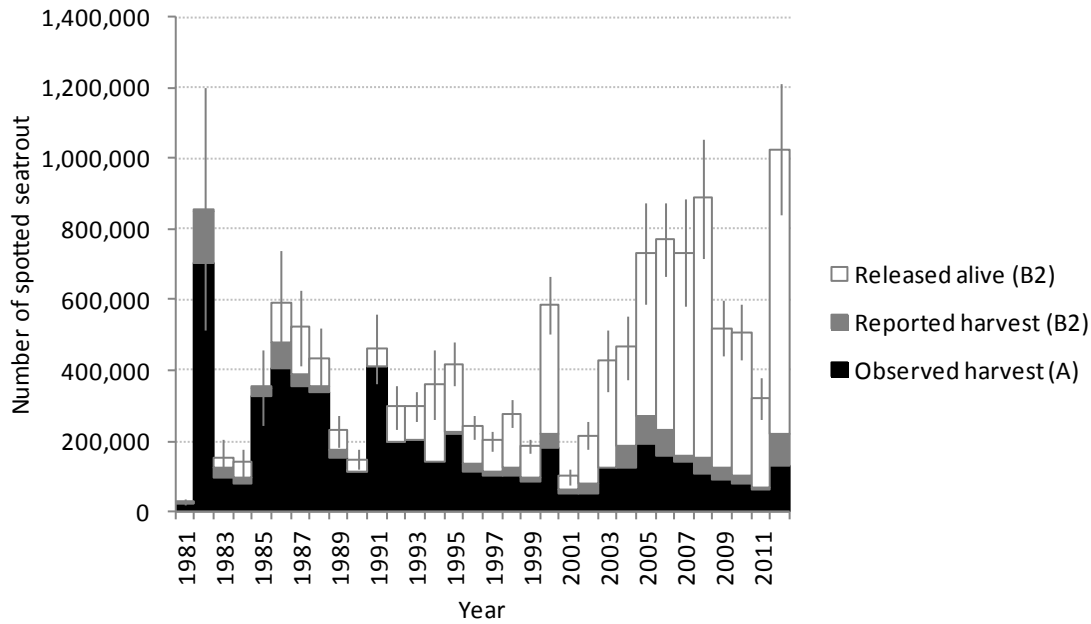
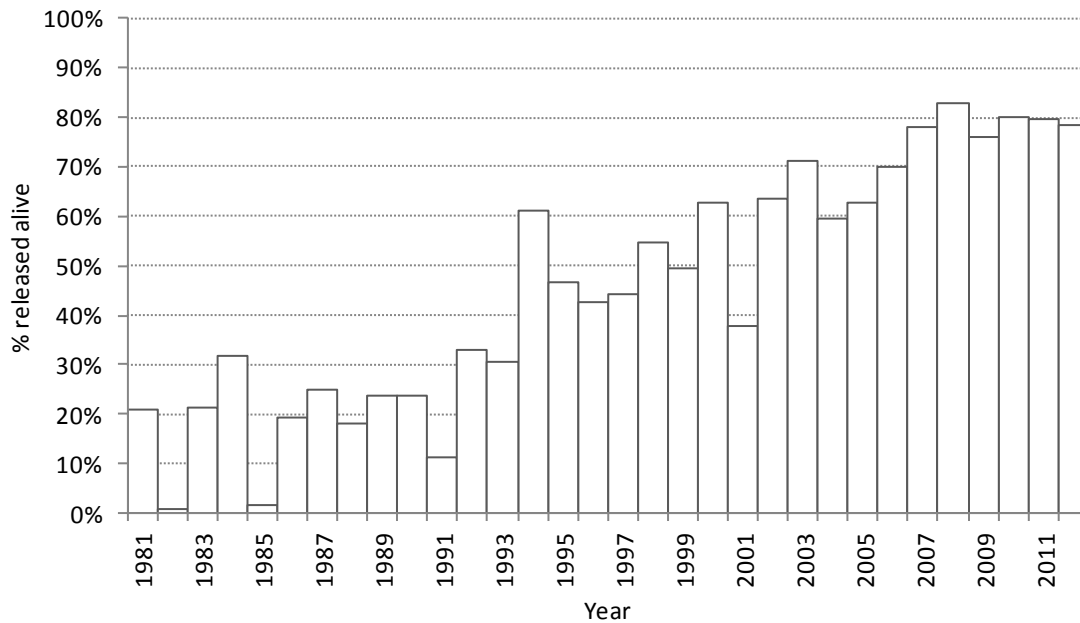


Fig. 5 Percent of Spotted Seatrout released alive by recreational anglers in South Carolina state waters. Data source: Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division, 13 August 2013 (<http://www.st.nmfs.noaa.gov/st1/recreational/queries/>).





MARK WILLIAMS
COMMISSIONER

A.G. 'SPUD' WOODWARD
DIRECTOR

August 23, 2013

Kirby Rootes-Murdy
FMP Coordinator
Atlantic States Marine Fisheries Commission
1050 N. Highland St., Suite 200 A-N
Arlington VA, 22201

Kirby:

Please find enclosed Georgia's 2012 Seatrout Compliance Report. Please let me know if you require additional information.

Sincerely,

Chris Kalinowsky
Marine Fisheries Section

cc: Pat Geer
Spud Woodward



MARK WILLIAMS
COMMISSIONER

A.G. 'SPUD' WOODWARD
DIRECTOR

1. Introduction: Summary of the year: highlight any significant changes in monitoring, regulations, or harvest.

The spotted seatrout is a resident species in estuarine and near-shore coastal waters along Georgia's coast. Although not a truly migratory species, spotted seatrout do make seasonal movements within the estuarine and coastal zones based on climatic conditions and reproductive and feeding behaviors. The species exhibits fractional spawning from April through September. Young-of-year spotted seatrout utilize small upper estuarine tidal creeks as nursery habitat. At approximately 6-8 inches, juveniles recruit to larger tributary and lower estuary habitats. Fish begin to mature in their second year of life (age 1), and all fish become mature within the third year (age 2). Growth is sexually dimorphic, with females being generally larger than males, and fish may reach lengths in excess of 20 inches. The species is relatively short-lived having a maximum reported age of 8 in Georgia. Spotted seatrout are predacious, feeding on a variety of forage finfish species and crustaceans.

Georgia currently has a minimum length limit of 13 inches, total length. The daily bag/creel limit is 15 fish per person.

Recreational Fishery

Spotted seatrout is the most often targeted recreational species in Georgia based on the Marine Recreational Information Program (MRIP). This fishery is prosecuted throughout the year by bridge, pier, private boat, and for-hire anglers, with a distinct peak in effort and landings during the autumn. Since 1990, annual estimated recreational harvest has fluctuated greatly from a high of 1.2 million fish in 1991 to a low of 167,000 in 1997, with no significant trend. However, mean annual harvest for the period (1990-2012) is 425,020 fish.

The spotted seatrout is typically ranked among the top three species targeted by recreational anglers in Georgia. As such, recreational harvest will continue to be monitored through the National Marine Fisheries Service's (NMFS) Marine Recreational Information Program (MRIP). CRD has been the contractor for the intercept portion of this survey since 2000.

Commercial Fishery

A directed commercial fishery does not exist for spotted seatrout in Georgia; however, commercial landings do appear for this species by way of recreational fishermen selling

their catch. Fishers who sell their spotted seatrout are restricted to recreational creel and length limits and must have a commercial license, as well as a commercial fishing vessel license, if a boat is used. From 2000 through 2012, the annual value of the reported commercial catch has not exceeded \$3,500 (GADNR commercial landings data). Reported landings have decreased, from approximately 8,000 pounds in 1997 to less than 200 pounds in 2011. There were no reported commercial landings in 2012. The Georgia Department of Natural Resources, Coastal Resources Division (CRD) has a trip ticket system for commercial fisheries that conforms to ACCSP standard data element requirements. Through this program, commercial harvest will be continuously monitored.

2. Request for *de minimis*, where applicable.

Georgia is not seeking *de minimis* status at this time.

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

a. Activity and results of fishery-dependent monitoring.

Finfish Carcass Recovery

The Marine Sportfish Carcass Recovery Project, a partnership with recreational anglers along the Georgia coast, is used to collect biological data from finfish such as red drum, spotted seatrout, southern flounder, sheepshead, and southern kingfish. Chest freezers are located at public access points along the Georgia coast. Each freezer is clearly marked and contains a supply of plastic bags, pencils, and data cards. Anglers place their filleted fish carcasses in plastic bags along with completed data cards in the freezer. CRD personnel collect the carcasses and process them to determine species, length, and sex. Sagittal otoliths are removed and processed to determine the age of the fish.

During 2012, a total of 4,428 fish carcasses were donated through this program. Of that 77% (3431) were seatrout, with an average length of 362.2 mm CL (minimum: 290 mm CL; maximum: 651 mm CL), which were reported from 16 recovery locations.

b. Activity and results of fishery-independent monitoring.

The Marine Sportfish Population Health Study (MSPHS) is a multi-faceted ongoing survey 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. Specific information collected includes age at length, growth, and sex ratio. Age and sex information is collected from a size-stratified subsample of the catch from select sampling events.

Gill Nets and Trammel

Between June and August, CRD conducts gillnet sampling for young-of-the-year red drum in the Altamaha river system and Wassaw estuary. During this activity, seatrout are often captured by the gear. Although this survey doesn't specifically target seatrout the information collected on seatrout is still valuable when considering relative abundance, seasonal trends, and location of occurrence. Centerline lengths are measured in millimeters and total numbers are recorded for each species (Table 1). All fish are then released.

Between September and November, fish populations in the Altamaha River system and Wassaw estuary are sampled 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 fall trammel net sampling, size-stratified sub-samples of seatrout are sacrificed to produce age-specific, fishery-independent indices of relative abundance. Each fish is measured, weighed, and sex is determined. Sagittal otoliths are removed. Whole ovaries are removed from each female, weighed and assigned a level of development based on macroscopic evaluation. All non-sacrificed fish are released.

Table 1. Annual trammel net and gill net data summarized by estuary, including effort, catch-per-unit-effort and length statistics for spotted seatrout, 2012.								
Gear	Sound	Effort	Geo. Mean	Arith. Mean	Total N	CL Mean (mm)	CL Min (mm)	CL Max (mm)
Trammel	Wassaw	75	0.51	0.96	72	362.4	279	450
	Altamaha	83	0.38	0.74	66	351.0	241	480
Gill	Wassaw	108	0.65	1.15	118	311.7	245	470
	Altamaha	107	0.37	0.68	73	309.6	248	454

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

Recreational Fisheries Management Measures

During 2012, Georgia's minimum length limit for seatrout was 13 inches, total length with a daily creel limit of 15 fish per person. (O.C.G.C. 27-4-10 and DNR Rule 391-2-4-.04 previously submitted)

Commercial Fisheries Management Measures

Commercial harvest of seatrout was limited to the recreational length and bag limits. A commercial fishing license was required to sell recreationally caught fish (O.C.G.A. 27-4-110 previously submitted).

Commercial Gear Restrictions

Hook and line was the only feasible method for harvesting seatrout in Georgia. Although the law allowed harvest with beach seines, purse seines, and cast nets, the recreational bag limit and the habitat preferences of this species makes it impractical to target seatrout with these gears. (O.C.G.A. 391-2-4-.12 previously submitted).

Data Collection and Reporting Requirements

Georgia is in full compliance with the ACCSP data collection and reporting requirements. Seafood dealers are required to maintain a record and report seafood purchased for commercial harvests in Georgia. Records must be submitted to the Department by the 10th day of the month subsequent to fishing. (O.C.G.A. 27-4-110 and 136 and DNR Rule 391-2-4-.09 previously submitted). Harvesters are required to maintain a logbook of fishing activity but at this time, are not required to report that activity (O.C.G.A. 27-4-118 previously submitted).

Vessel Registration System

All commercial vessels fishing in Georgia waters are required to purchase either a trawler or non-trawler boat license, dependent on fishing practices (27-2-8 previously submitted).

For-Hire Fisheries Management Measures

Georgia for-hire and charter boats are limited to the recreational harvest limits previously listed.

Data Collection and Reporting Requirements

If a for-hire captain sells his catch in Georgia, he is subject to the same reporting requirements as dealers and harvesters as noted above and he must have a commercial fishing license.

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

Commercial

Georgia's commercial landings continue to be minimal. No commercial landings of spotted seatrout were reported in 2012.

Recreational

Since 2000, CRD has been the contractor for the intercept portion of the NMFS Marine Recreational Information Program (MRIP). In 2012, survey clerks interviewed 1,826 anglers. It is estimated that 303,391 anglers (8.4% PSE) completed 892,417 trips (PSE 10.5). Coastal Georgia residents accounted for 44.1% (133,769 PSE 12.1) of the total anglers. Non-coastal residents accounted for 31.6% (95,887 PSE 14.4) and out of state anglers accounted for the remaining 24.3% (73,736 PSE 19.1). Expanded data are presented in tabular format below.

Table 2. Spotted seatrout (# fish) expanded NMFS data for Georgia, 2012.

FISHING AREA	MODE	Number of Angler Trips		A+B1 + B2		B2		A+B1	
		Total	PSE	Released + Harvest		Released Alive		Harvest	
		Total	PSE	Total	PSE	Total	PSE	Total	PSE
INLAND	CHARTER	15,663	10.8	65,797	17.3	48,976	22.1	16,821	21.0
	PRIVATE	469,527	13.8	1,434,510	16.1	947,983	21.4	486,527	22.4
	SHORE	228,634	23.9	33,821	46.3	15,391	81.5	18,430	50.9
INLAND Total		713,824	11.9	1,534,128	15.1	1,012,350	20.1	521,777	21.0
OCEAN (<= 3 MI)	CHARTER	1,144	23.6	49	100.1	49	100.1	0	0.0
	PRIVATE	14,793	32.6	2,542	62.3	1,888	76.4	654	99.9
	SHORE	147,617	26.7	19,179	45.8	15,007	57.0	4,172	48.5
OCEAN (<= 3 MI) Total		163,554	24.3	21,770	41.0	16,943	51.2	4,826	44.1
OCEAN (> 3 MI)	CHARTER	3,112	18.7	0	0.0	0	0.0	0	0.0
	PRIVATE	11,926	36.1	185	110.8	185	110.8	0	0.0
OCEAN (> 3 MI) Total		15,038	28.9	185	110.8	185	110.8	0	0.0
Grand Total		892,417	10.5	1,556,083	14.9	1,029,479	19.8	526,604	20.8

e. Review of progress in implementing habitat recommendations.

With over 2,344 linear miles of coastline and tidal marsh covering 378,000 acres, the entirety of Georgia's coast provides habitat for seatrout. CRD is involved in many activities related to the conservation and enhancement of Georgia's coastal habitat. The Georgia Coastal Management Program (GCMP) provides an overarching entity under which many activities related to habitat protection are conducted both by CRD staff and others who are funded with Coastal Incentive Grants.

Oyster reefs are considered essential fish habitat and their enhancement has numerous benefits. During this report period, oyster cultch materials have been deployed at

multiple sites along the Georgia coast to restore/enhance recreational shellfish harvest areas and provide essential habitat for many fish species.

Georgia's Coastal Marshland Protection Act requires permits from the Coastal Marshlands Protection Committee and the U.S. Corps of Engineers for all activities that alter the marsh. This includes oyster restoration / enhancement projects. Thus, the appropriate federal and state regulatory agencies are informed of all restoration / enhancement sites. This minimizes the potential of negative impacts to critical habitats.

4. Planned management programs for the current calendar year.

a. Summarize regulations that will be in effect.

During the 2012 General Assembly the Georgia legislature granted the Board of Natural Resources and the Commissioner of the Department of Natural Resources greater authority over the management of saltwater fishing, effective January 1, 2013,. Attached hereto are the rewritten code sections from Title 27 of the Official Code of Georgia, Annotated (O.C.G.A 27-4-10 and 27-4-130) and the resulting rewritten regulations (Board Rule 391-2-4-.04), as they pertain to spotted seatrout. Thus far, no changes to recreational (15 fish, 13 inch TL) or commercial fishing regulations have been made as a result to this change.

For 2013, harvest regulations for spotted seatrout will be 15 fish per person per day with a minimum length limit of 13 inches, total length.

b. Summarize monitoring programs that will be performed.

Monitoring described in Section 3 will continue throughout 2013.

c. Highlight any changes from the previous year.

There were no changes to spotted seatrout management in Georgia during 2012.

**Florida's Compliance Report under the Omnibus Amendment to the Fisheries Management
Plans for Spanish Mackerel, Spot, and Spotted Seatrout
(August 2011: Spotted Seatrout Amendment 2)**

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I. Introduction

Florida's Atlantic coast monitoring programs that include Spotted Seatrout have not changed during the 2012 calendar year. However, regulations for the Spotted Seatrout fisheries were changed in February 2012. Closed fishing seasons were eliminated for recreational anglers, the bag limit in Northeast Florida (Flagler County north) was increased from 5 fish to 6 fish, and the commercial fishing season was lengthened. These changes were based on a recent assessment (Murphy *et al.* 2011) and evaluation (Murphy 2011) that indicated Spotted Seatrout populations would continue to meet the Florida Fish and Wildlife Conservation Commission's stated management goal of 35% spawning potential ratio under the new regulatory regime.

Spotted seatrout recreational and commercial landings increased during the 2010-2012 time period. Fishery-independent monitoring indicates that recruitment increased during 2011 and 2012, mostly significantly in the Northeast region. Despite this, standardized total catch rates for anglers did not increase while fishing effort did.

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

Florida does not request *de minimis* status at this time.

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).

Fishery-dependent monitoring of Spotted Seatrout in Florida includes the collection of trip-specific, commercial landings records made through the Florida Marine Fisheries Information System or 'Trip Ticket' program. Commercial landings were about 62,000 pounds on Florida's Atlantic coast during 2012 (Table 1). Landings have been increasing since the 2008 minima of about 21,000 pounds, though the 2012 harvest is still far below the 362,000 pounds peak landings made in 1989. This fishery is currently heavily regulated (see Appendix A) and most of the recent changes seen in landings have been in response to management changes. The spotted seatrout commercial fisheries are also sampled for lengths and hard parts (otoliths) from landed Spotted Seatrout: 88 measured and 12 sampled for hard parts in 2012.

The recreational fishery is monitored under the Marine Fisheries Information Program's angler intercept survey and special for-hire surveys. During 2012, MRIP samplers conducted 12,661 trip interviews at Florida's Atlantic coast boat ramps, bridges, and other fishing sites, the lowest number of interviews made since 1997. Since 1999, the numbers of intercepts made have ranged from about 12,700 to 22,200 (Table 1). Data collected during these intercepts are used to estimate total recreational landings and catches, to identify patterns in average observed total-catch rates, and to describe the sizes of Spotted Seatrout landed by anglers. The angler landings of spotted seatrout along the Florida Atlantic coast during 2012 were estimated to be about 427,000 fish (Table 1). Given the very high number released (>3 million in 2012) the total recreational kill is estimated at about 670,000 fish when live-release mortalities are included. The estimated number of angler trips targeting spotted seatrout in 2012 was about 850,000 trips, a sharp increase since 2009. Despite the changes in effort, apparent total-catch rates have remained steady (Fig. 1). Volunteer angler logbooks were implemented in 2002 to collect length information from live-released Spotted Seatrout. This was recently (2011) changed to a 'postcard' program enlisting anglers encountered at sites visited during the MRIP angler intercept survey.

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

The Florida Fish and Wildlife Conservation Commission's Fish and Wildlife Research Institute (FWC-FWRI) has three field laboratories on the Atlantic coast whose staff conducts random, stratified sampling using 183-m haul seines. Two of these laboratories also utilize a 21.3-m, 3.2-mm mesh seine for young-of-the-year monitoring. Stratified random sampling for subadult abundance has been carried out in the northern Indian River Lagoon since 1990 and in the lower reaches of the St. Johns River since 2001. In these areas and in the Tequesta/southern Indian River Lagoon (since 1997), 183-m, 5-cm-stretched-mesh haul seines are used to monitor the abundance of larger fish (FWC-FWRI 2013). Trends in YOY Spotted Seatrout abundance on the Atlantic coast have been relatively stable with periods of strong recruitment evident (Fig. 2). Recent strong recruitment appears to have occurred in Northeast Florida but is not evident in the central and southern areas of Florida's Atlantic coast. In contrast, recent relative abundance of adults (>199 mm SL) have increased in the central and south but not in the north.

The fishery-independent program also samples captured adult spotted seatrout (> 199 mm SL) for lengths, reproductive condition, and hard parts. During 2012, 191 lengths were measured and 131 otolith pairs collected from adult-sized Spotted Seatrout during these Fishery-Independent Monitoring programs.

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

Appendix A contains the current regulations for managing Spotted Seatrout (Chapter 68B-37, Florida Administrative Code).

The only regulatory requirement listed in the Omnibus Amendment document for Spotted Seatrout is a: 12" TL minimum size with comparable mesh size requirements (both commercial and recreational). Current Spotted Seatrout regulation in Florida include a 15" total length minimum size limit for all fishers along with a 24-inch maximum limit for commercial fishers and a 20-inch maximum (with allowance for one larger) for recreational anglers. There are also additional regulations on the duration of the commercial Spotted Seatrout fishing season, commercial boat limit, and recreational angler bag limits (Appendix A)

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

The commercial harvest of spotted seatrout has been much lower than historic levels since the 1996 ban on the use of entangling gear in Florida waters. The majority of the harvest is made utilizing hook-and-line gear, though cast-net gear is also legal. More recently, this low level of harvest has hit peaks of 62,000 to 64,000 pounds (about 35,000 fish at 1.75 pound per fish) during the period 2011-2012.

Annual angler harvests (including 8% of live-release mortalities) of Spotted Seatrout on the Atlantic coast of Florida have fluctuated sharply with an underlying increasing trend since 1996. From a low of 189,000 Spotted Seatrout harvested in 1996 the harvest increased to nearly 720,000 fish in 2005, declined through 2009 before rebounded sharply to nearly 670,000 fish in 2012 (Table 1).

- e. Review of progress in implementing habitat recommendations.

No mandatory measures related to habitat or habitat protection has been implemented through the Omnibus Amendment. However, the ASMFC lists SAV as a Habitat Area of Particular Concern (HAPC) for spotted seatrout (ASMFC 1984). Other important habitat areas range over the entire estuarine system, from lower reaches of rivers to the inlets. Numerous government entities, including municipal, county, state, and federal, and numerous agencies, including water management districts, aquatic preserves, and national estuary programs, strive to protect and rehabilitate habitat utilized by Spotted Seatrout.

IV. Planned management programs for the current calendar year

- a. Summarize regulations that will be in effect (copy of current regulations if different from 3c).

Recreational fishers: 15-inch TL minimum size limit; 6-fish per day limit for anglers fishing in Flagler County northward, 5-fish limit south of this area; allowance for one of the fish in the bag to be greater than 20 inches long; season is open year-round; hook-and-line gear or cast net only.

Commercial fishers: 15-inch TL minimum size limit and 24-inch maximum; commercial vessel limit of 75 fish but 150 fish limit with two or more licensed

fishermen aboard; fishing season is June-November in the region from Flagler County northward and May-September south of this area along the Atlantic coast.

There are other 'minor' regulation included the complete description of Spotted Seatrout management (see Appendix 1).

- b. Summarize monitoring programs that will be performed.

Monitoring will remain the same during 2013 as it was in 2012 (see III b.).

- c. Highlight any changes from the previous year.

In February 2012, the management of Spotted Seatrout in Florida changed with the removal of recreational closed fishing seasons, an increase in the angler bag limit in the Northeast region, and the Atlantic and Gulf coast southern regions were defined. The commercial season length was increased, a 30-day post-season inventory sale period was allowed, and the vessel limit was increased for two-fisher-occupied vessels (2 x single vessel boast limit).

Literature

- Atlantic States Marine Fisheries Commission. 1984. Fishery Management Plan for Spotted Seatrout. Washington (DC): ASMFC. Fisheries Management Report 4. 101 p.
- Atlantic States Marine Fisheries Commission. 2011. Omnibus Amendment to the Interstate Fishery Management Plans for Spanish Mackerel, Spot, and Spotted Seatrout (Spanish Mackerel Amendment 1, Spot Amendment 1, Spotted Seatrout Amendment 2). ASMFC Fishery Management Report 143pp.
- FWC-FWRI-Fisheries Independent Monitoring Group. 2013 (In Prep.). Fisheries-independent monitoring program: 2012 annual data summary report. Compiled by the Fishery-Independent Monitoring Program staff, Fish and Wildlife Research Institute, Florida Fish and Wildlife Conservation Commission, St. Petersburg. FWRI In-House Report 2013-.
- Murphy, M.D. 2011. Evaluation of potential Spotted Seatrout management changes. Report to the Florida Fish and Wildlife Conservation Commission Division of Marine Fisheries Management from the Fish and Wildlife Research Institute, St. Petersburg. 18p.
- Murphy, M.D., D Chagaris, and D. Addis. 2011. An assessment of the status of spotted seatrout in Florida waters through 2009. Fish and Wildlife Research Institute, Florida Fish and Wildlife Conservation Commission, St. Petersburg. FWRI In-House Report 2011-002.

Table 1. Reported fishing effort and estimated pounds of Spotted Seatrout reported landed by the commercial fishery, total number of trip interviews made by the FWC-Marine Recreational Information Program's samplers, estimated number of recreational fishing trips directed at catching Spotted Seatrout, estimated number of Spotted Seatrout landed, released alive, and overall kill (which includes landings and 8% release mortality of fish released alive) for the recreational fishery on the Atlantic coast of Florida during 1982-2012. Directed trips were estimated as the total catch divided by the standardized catch per trip. All numbers for recreational landing and catch were derived from recently developed methods recommended for calibrating the old MRFSS estimates to the new MRIP program estimates.

	Commercial Trips	Commercial Landings (lbs.)	Recreational Trips Sampled	Directed Recreational Trips	Recreational Landings (no.)	Recreational Released Alive (no.)	Total Recreational Kill (no.)
1986	9,919	304,523	4,907	353,167	335,078	218,882	352,589
1987	9,530	317,367	4,659	293,323	387,740	250,417	407,773
1988	10,343	315,989	6,082	238,972	298,884	456,748	335,424
1989	9,962	362,094	5,381	337,261	206,778	273,998	228,698
1990	7,515	236,466	5,057	213,446	208,698	261,391	229,609
1991	6,919	225,808	6,018	252,160	494,955	800,575	559,001
1992	8,212	259,095	11,434	196,990	260,782	607,765	309,403
1993	8,003	224,072	13,395	211,623	238,934	674,353	292,882
1994	7,450	247,651	15,144	347,358	241,962	646,111	293,651
1995	4,679	184,121	14,039	356,884	298,298	1,075,626	384,348
1996	1,125	48,254	11,753	203,383	122,581	825,831	188,647
1997	1,229	57,316	12,225	240,473	160,183	1,011,232	241,082
1998	1,108	41,556	13,680	233,150	169,205	801,139	233,296
1999	1,330	61,802	18,029	363,829	305,122	1,280,874	407,592
2000	1,083	45,392	17,058	526,167	262,400	2,037,998	425,440
2001	802	30,234	19,728	381,813	172,867	1,607,808	301,492
2002	1,092	44,640	22,191	379,216	158,502	1,942,015	313,863
2003	691	27,075	19,833	480,051	174,915	1,734,662	313,688
2004	678	29,605	16,218	665,287	234,235	2,413,742	427,334
2005	761	36,762	16,697	921,892	379,546	4,245,920	719,220
2006	747	36,687	18,916	783,795	331,145	3,315,836	596,412
2007	873	46,838	17,817	736,904	277,858	3,094,164	525,391
2008	527	20,887	15,152	708,334	181,744	2,830,240	408,163
2009	946	46,297	14,665	463,915	171,666	1,641,702	303,002
2010	744	39,374	15,043	629,722	251,455	2,937,411	486,448
2011	1,132	63,592	13,255	628,755	286,501	2,141,212	457,798
2012	1,441	61,664	12,661	850,235	427,469	3,025,556	669,513

Florida Atlantic Coast

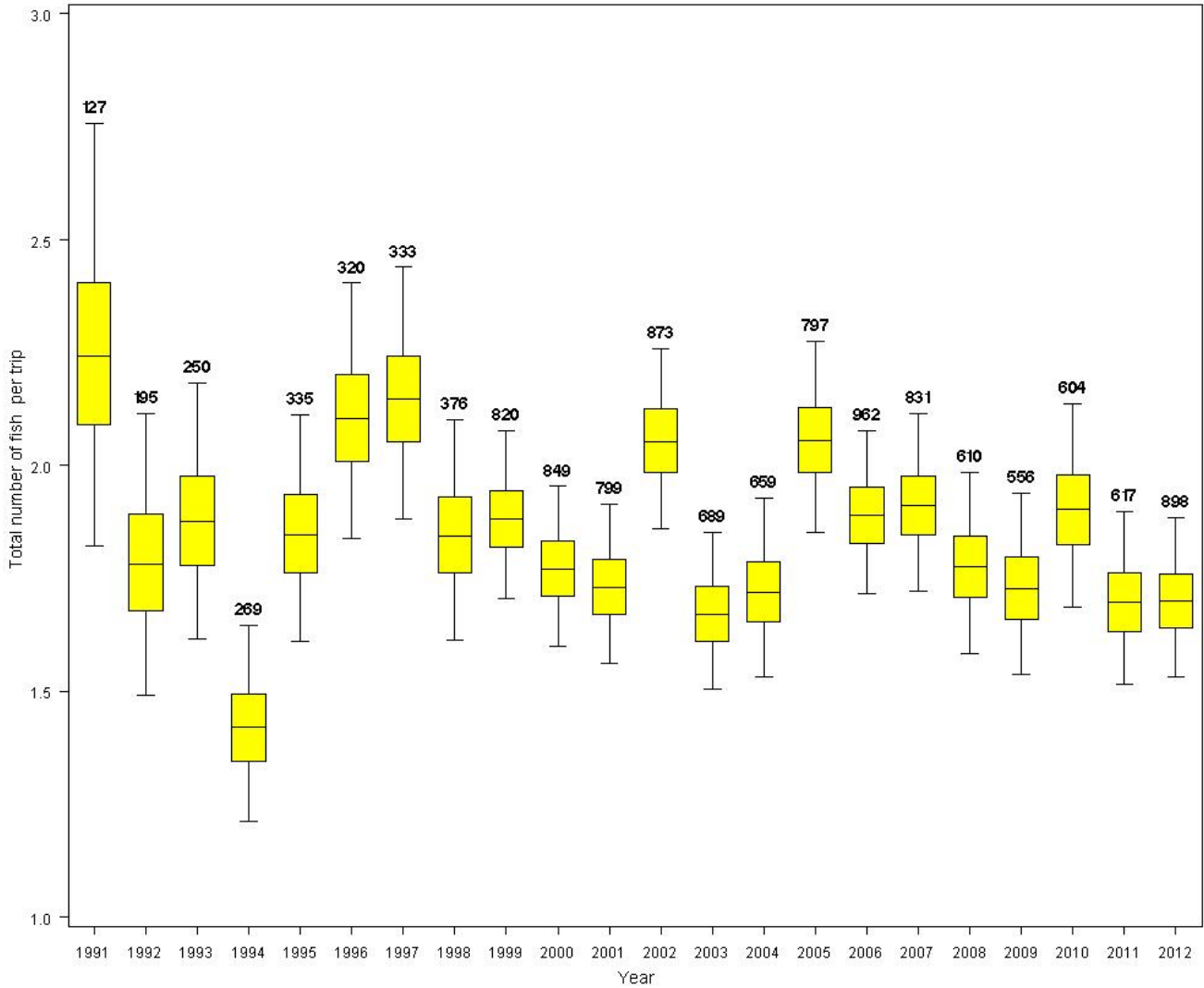
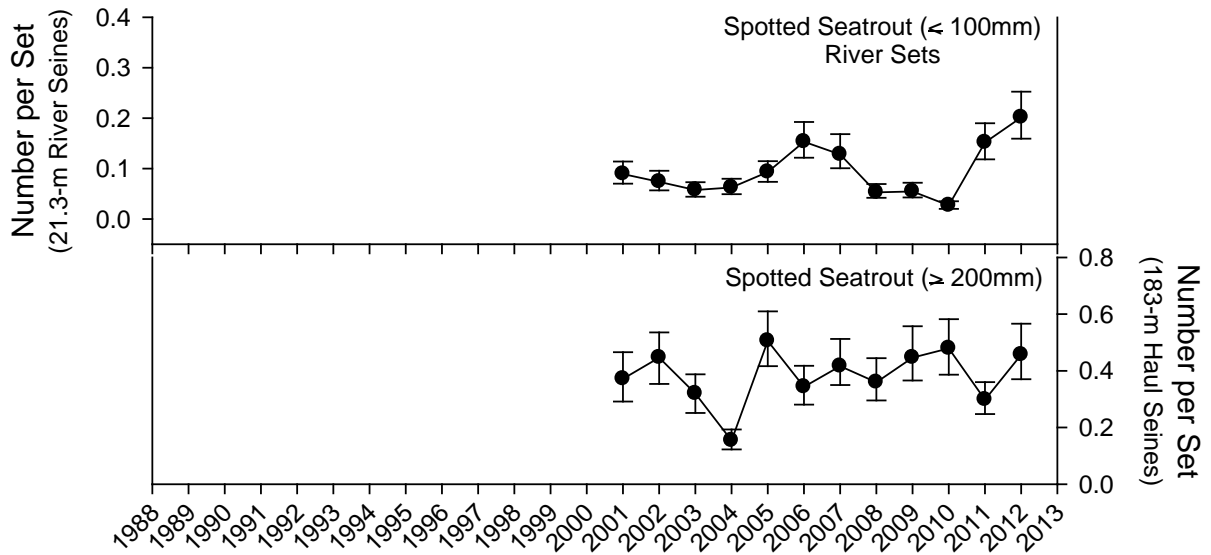


Figure 1. Standardized catch-per-trip for anglers catching and/or targeting Spotted Seatrout along Florida’s Atlantic coast during 1991-2012. A targeted trip is defined as those in which Spotted Seatrout were caught or where the angler indicated that Spotted Seatrout were being sought during the fishing trip. The distribution of the standardized estimates show the median (horizontal bar), the interquartile range (box) and the tails of the distributions to the 2.5th and 97.5th percentiles, and provide the annual number of intercepts used in the analysis.

E) Northeast Florida



F) Indian River Lagoon

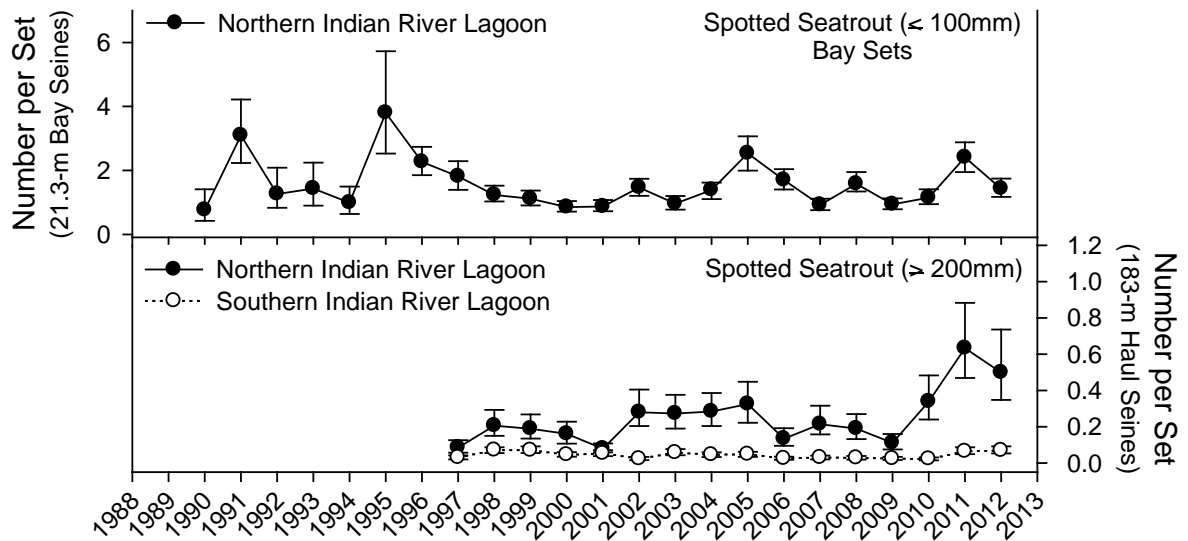


Figure 2. Standardized catch-per-set of Spotted Seatrout less than 101 mm SL (recruits) or greater than 199 mm SL (adults) captured during the FWC Fishery-Independent Surveys made along Florida’s Atlantic coast during 1990-2012. Recruit data were restricted to that collected during a recruitment ‘window’ of May through November. The adult abundance graphs include results from all 12 months. (graphs taken from FWC-FWRI-Fisheries Independent Monitoring Group (2013))

APPENDIX A.

CHAPTER 68B-37 SPOTTED SEATROUT

68B-37.001	Designation as a Restricted Species; Purpose and Intent
68B-37.002	Definitions
68B-37.003	Size Limits for Recreational and Commercial Harvest; Whole Condition Requirement
68B-37.004	Regional Recreational Bag Limits; Commercial Bag, Vessel, and Landing Limits
68B-37.005	Commercial Seasons
68B-37.006	Allowed and Prohibited Gear and Method of Harvest; Restriction on Simultaneous Possession of Spotted Seatrout and Certain Types of Gear
68B-37.007	Purchase and Sale Prohibitions

68B-37.001 Designation as a Restricted Species; Purpose and Intent.

(1) Designation as a Restricted Species – Spotted seatrout are hereby designated as a restricted species pursuant to Section 379.101(32), F.S.

(2) Purpose and Intent – The purpose and intent of this chapter are to protect and conserve Florida's spotted seatrout resources and assure the continuing health and abundance of those resources.

Rulemaking 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 11-1-89, Formerly 46-37.001, Amended 9-1-13.

68B-37.002 Definitions.

As used in Chapter 68B-37, F.A.C.:

(1) “Northeast Region” means all Florida Waters lying north of the Flagler-Volusia County Line to the Florida-Georgia border, and adjacent federal Exclusive Economic Zone waters.

(2) “Northwest Region” means all Florida Waters lying north and west of a line running due west from the westernmost point of Fred Howard Park Causeway (28°9.35'N., 82°48.398'W.), which is approximately 1.17 miles south of the Pasco-Pinellas County Line, to the Florida-Alabama border, and adjacent federal Exclusive Economic Zone waters.

(3) “Southeast Region” means all Florida Waters lying south of the Flagler-Volusia County Line and north of Miami-Dade-Monroe County Line at Card Sound, and adjacent federal Exclusive Economic Zone waters.

(4) “Southwest Region” means all Florida Waters lying south and west of the Miami-Dade-Monroe County Line at Card Sound and south of the southern boundary of the Northwest Region in the Gulf of Mexico in Pinellas County, as specified in subsection (2), and adjacent federal Exclusive Economic Zone waters.

(5) “Spotted seatrout” means a fish of the species *Cynoscion nebulosus*, or any part thereof.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History—New 11-1-89, Amended 1-1-96, 8-1-96, Formerly 46-37.002, Amended 7-1-00, 7-1-06, 2-1-12, 9-1-13.

68B-37.003 Size Limits for Recreational and Commercial Harvest; Whole Condition Requirement.

(1) Minimum and Maximum Size Limits –

(a) Recreational Minimum and Maximum Size Limits –

1. Except as provided in subparagraph (1)(a)2. a recreational harvester may not harvest or possess within or without Florida Waters or land a spotted seatrout that is less than 15 inches or greater than 20 inches in total length.

2. A recreational harvester may harvest and possess within or without Florida Waters and land only 1 spotted seatrout per day that is greater than 20 inches in total length. This provision will not be construed to authorize harvest or possession of spotted seatrout of any size in excess of the applicable bag limits.

(b) Commercial Minimum and Maximum Size Limit – A commercial harvester may not harvest or possess within or without Florida Waters or land a spotted seatrout that is less than 15 inches or greater than 24 inches in total length.

(2) Landed in Whole Condition Requirement – A person harvesting spotted seatrout within or without Florida Waters shall land each spotted seatrout in whole condition. A person may not possess within or without Florida Waters a spotted seatrout that has been beheaded, sliced, divided, filleted, ground, skinned, scaled, or deboned. This provision will not be construed to prohibit evisceration (gutting) of a spotted seatrout, or removal of gills from a spotted seatrout.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 11-1-89, Amended 1-1-96, 8-1-96, Formerly 46-37.003, Amended 7-1-00, 2-1-12, 9-1-13.

68B-37.004 Regional Recreational Bag Limits; Commercial Bag, Vessel, and Landing Limits.

(1) Recreational Bag Limits – A recreational harvester may not harvest or land per day from Florida Waters or possess at any time more spotted seatrout than the specified bag limit established in this subsection within the following identified regions:

- (a) Southeast and Southwest Regions – Four (4) spotted seatrout.
- (b) Northwest Region – Five (5) spotted seatrout.
- (c) Northeast Region – Six (6) spotted seatrout.

(2) Commercial Limits –

(a) Bag Limit – A commercial harvester may not harvest within or without Florida Waters or land more than 75 spotted seatrout per day or possess within or without Florida Waters more than 75 spotted seatrout.

(b) Vessel Limits –

1. Except as provided in subparagraph 2, no more than 75 spotted seatrout may be harvested within or without Florida Waters per day, possessed aboard a vessel within or without Florida Waters, or landed per day from a vessel fishing pursuant to a vessel saltwater products license.

2. No more than 150 spotted seatrout may be harvested within or without Florida Waters per day, possessed aboard a vessel within or without Florida Waters, or landed per day, from:

a. A vessel fishing pursuant to a vessel saltwater products license with at least one individually-licensed commercial harvester also aboard, or

b. A vessel with two or more individually-licensed commercial harvesters aboard.

(c) A person may not tow a vessel in order to exceed the commercial limits established in this subsection.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 11-1-89, Amended 1-1-96, 8-1-96, Formerly 46-37.004, Amended 7-1-00, 2-1-12, 9-1-13.

68B-37.005 Commercial Seasons.

(1) Commercial Seasons – The harvest of spotted seatrout for commercial purposes shall be limited each year to the period established in this subsection within the following identified regions:

- (a) Southwest Region and Northwest Region – Beginning June 1 and continuing through October 31.
- (b) Southeast Region – Beginning May 1 and continuing through September 30.
- (c) Northeast Region – Beginning June 1 and continuing through November 30.

(2) Spotted seatrout harvested for commercial purposes may only be landed within the boundaries of the regions that are open for commercial harvest.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 11-1-89, Amended 1-1-96, Formerly 46-37.005, Amended 2-1-12, 9-1-13.

68B-37.006 Allowed and Prohibited Gear and Method of Harvest; Restriction on Simultaneous Possession of Spotted Seatrout and Certain Types of Gear.

(1) Allowed Gear and Method of Harvest – A person may harvest or attempt to harvest a spotted seatrout within or without Florida Waters only by or with the use of a cast net or hook and line gear.

(2) Prohibited Gear and Method of Harvest –

(a) A person may not harvest a spotted seatrout within or without Florida Waters with gear or methods that are not expressly permitted in subsection (1).

(b) A person may not use a multiple hook in conjunction with live or dead natural bait to harvest or attempt to harvest spotted seatrout within or without Florida Waters.

(3) Simultaneous Possession – A person may not possess a spotted seatrout within or without Florida waters aboard a vessel with a gill net or entangling net on board.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 11-1-89, Amended 1-1-96, Formerly 46-37.006, Amended 2-1-12, 9-1-13.

68B-37.007 Purchase and Sale Prohibitions.

Sale of spotted seatrout shall adhere to the following restrictions.

(1) In a closed region, within the first 30 days following a regional closure, inventory of spotted seatrout may be possessed or sold, and all spotted seatrout in inventory must be reported to the Commission on the Closed Season Spotted Seatrout Declaration Form DMF-3700 (02/12), which is hereby incorporated by reference. Copies can be obtained by contacting the Fish and Wildlife Conservation Commission, Saltwater Licenses and Permits, 620 S. Meridian Street, Tallahassee, Florida 32399-1600 or at <http://www.flrules.org/Gateway/reference.asp?No=Ref-00808>. Form DMF-3700 (02/12) must be submitted to the Commission by the seventh day after a regional closure and a copy shall be held at the place of business through the 30 days following a regional closure. After 30 days following a regional closure, no spotted seatrout may be possessed in a closed region, except as provided for in paragraph (c).

(2) For purposes of form DMF-3700 (02/12), the following counties are included in the regions:

(a) Northeast Region includes Baker, Clay, Duval, Flagler, Nassau, Putnam, and St. Johns Counties;

(b) Southeast Region includes Brevard, Broward, Dade, Indian River, Lake, Martin, Okeechobee, Orange, Osceola, Palm Beach, Seminole, St. Lucie, and Volusia Counties;

(c) Southwest Region includes Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Hillsborough, Lee, Manatee, Monroe, Pinellas, Polk, and Sarasota Counties;

(d) Northwest Region includes Alachua, Bay, Bradford, Calhoun, Citrus, Columbia, Dixie, Escambia, Franklin, Gadsden, Gilchrist, Gulf, Hamilton, Hernando, Holmes, Jackson, Jefferson, Lafayette, Leon, Levy, Liberty, Madison, Marion, Okaloosa, Pasco, Santa Rosa, Sumter, Suwannee, Taylor, Union, Wakulla, Walton, and Washington Counties.

(3) A wholesale dealer or retailer may import spotted seatrout from outside Florida. However, the burden shall be upon any person possessing imported spotted seatrout to establish the chain of possession from the initial transaction after harvest, by appropriate receipt(s), bill(s) of sale, or bill(s) of lading, and to show that such spotted seatrout originated from a point outside Florida, and entered the state in interstate commerce. Failure to maintain such documentation or to promptly produce same at the request of any duly authorized law enforcement officer shall constitute a violation of this rule.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 9-1-13.



COMMONWEALTH of VIRGINIA

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Douglas W. Domenech
Secretary of Natural Resources

Jack G. Travelstead
Commissioner

January 22, 2014

TO: Kirby Rootes-Murdy, ASMFC Fisheries Management Plan Coordinator

FROM: Robert L. O'Reilly, Chief of Fisheries Management

SUBJECT: Virginia 2014 Commercial Fishery Management for Red Drum

This proposal is in response to a request by Virginia's commercial fishing industry to reduce regulatory discards and potential waste. Pursuant to the requirements of Amendment 2 of the Interstate Fishery Management Plan for Red Drum, the Commonwealth of Virginia requests approval from the South Atlantic Board to consider modifications to its management program for red drum.

As provided by Section 4.2 of Amendment 2, all states shall maintain their current level of restrictions. Exceptions to this requirement are provided by Section 4.2.2 of Amendment 2. Alternatively, the South Atlantic Board may grant an exception as described in Section 4.5 of this amendment.

Currently, Virginia's regulations provide that it shall be unlawful for any person, to take, catch or possess any red drum less than 18 inches in length or greater than 26 inches in length. The possession limit for any person, is 3 red drum. These restrictions apply to recreational and commercial fisheries.

Section 4.2.2 of Amendment 2 provides a range of minimum and maximum size limits (18 inches to 27 inches), in combination with a range of bag limits (1 to 5 fish), for the northern region (North Carolina through New Jersey), to maintain a static spawning potential ratio of greater than 40%. Virginia proposes to lower its commercial maximum size limit, from 26 inches to 25 inches, maintain the commercial minimum size limit at 18 inches, and increase the Virginia commercial possession limit, from 3 fish to 5 fish, as allowed by the provisions of Section 4.2.2. This proposal maintains management measures for a static spawning potential ratio greater than 40%.

An Agency of the Natural Resources Secretariat

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Although the commercial fishing industry is not directly targeting red drum for harvest, the incidental take of red drum does occur infrequently throughout the summer and fall months. Upon approval by the South Atlantic Board, the Virginia Marine Resources Commission would hold a public hearing to either adopt the proposed modification or to maintain the current state regulation pertaining to the commercial harvest of red drum.

If you need additional information on this proposal, please contact Joe Grist at (757) 247-2236.

RO :jdg
FM

cc : Jack G. Travelstead